

Evaluation Title: Thematic Evaluation on Digital Transformation Programs under UNDP-MCIT Strategic Partnership

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Country: Egypt

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Evaluation Consultant/team: Dr Mohamed Kholief

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Acronyms

UNDP	United Nations Development Assistance Plan	NLP	Natural Language Processing
TIEC	Technology Innovation and Entrepreneurship Center	MCIT	Ministry of Communications and Information Technology
NTRA	National Telecom Regulatory Authority	ITI	Information Technology Institute
DT4SDE	Digital Transformation for Sustainable Development in Egypt	PWDs	Persons with Disabilities
AIC	Applied Innovation Center	NGOs	Non-Governmental Organizations
MERC	Maximizing Egypt's Resources and Capabilities	ToC	Theory of Change
ICT	Information and Communication Technology	UNSDCF	United Nations Sustainable Development Cooperation Framework
ROI	Return on investment	SDG	Sustainable Development Goal
ITI	Information Technology Institute	CPD	Country Programme Document
GIZ	German Cooperation for International Development		

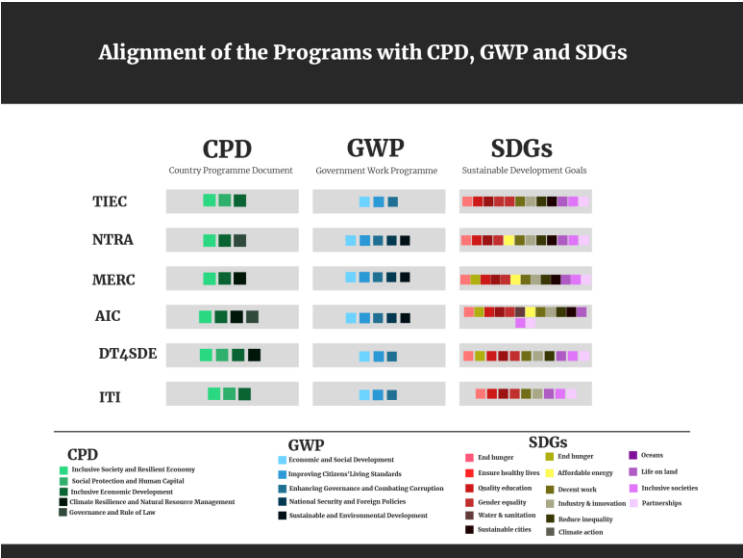
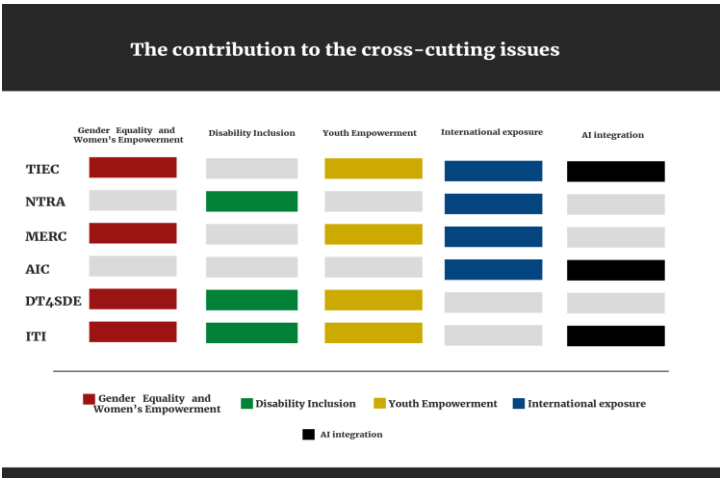
The Executive summary

The UNDP-MCIT program in Egypt plays a transformative role in advancing digital inclusion, innovation, and social development. By focusing on key areas such as human capital development, gender equality, and sustainable economic growth, it supports Egypt's Vision 2030 and the UN's Sustainable Development Goals. Through strategic partnerships with local and international entities, the program addresses critical national priorities, empowering marginalized groups and fostering entrepreneurship. This collaborative effort drives Egypt’s digital transformation while promoting social justice and environmental sustainability. The program’s comprehensive approach aims to create lasting, inclusive change across the country.

The UNDP aims to focus on social inclusion, human capital development, innovation, climate resilience, and governance reforms through partnerships between UNDP and MCIT with local and international entities. This partnership is designed to support the government's ambitious plans, aligning with the objectives and aspirations outlined in the Government Work Programme to address national priorities comprehensively across all sectors.

To advance these objectives, the **UNDP-MCIT program is thematically evaluated. This evaluation assesses the projects' alignment with shared goals, measuring their contributions to sustainable development, human capital building, and Egypt’s digital transformation** while providing recommendations to enhance their impact and collaboration.

The UNDP-MCIT established a program comprised on six projects with (TIEC, ITI, NTRA, MERC¹, DT4SDE and AIC) is



¹ ‘Maximizing Egypt’s Resources and Capabilities through ICT (MERC-ICT) Project Annual Report: The Report covers the period January 1, 2024 to October 31, 2024’ (2024).

aligned with the CPD, and the Egyptian Government Work Programme 2024 shares a unified vision aligned with Egypt Vision 2030 in addition to cross-cutting issues like women empowerment, AI integration as well as International exposure and positioning. This is emphasising sustainable economic growth, social justice, governance, environmental sustainability, innovation, and digital transformation. The thematic evaluation covered not only the alignment check with the CPD, GWP, and SDG² but also cross-cutting issues.

The UNDP-MCIT program in Egypt, encompassing six key projects (TIEC, ITI, MERC, DT4SDE, AIC, NTRA), plays a crucial role in advancing Egypt's development by aligning with the United Nations Sustainable Development Goals (SDGs). The program addresses key cross-cutting issues, including gender equality, women's empowerment, disability inclusion, and AI integration.

Gender empowerment is a central theme across the initiatives, with TIEC supporting 400 women entrepreneurs and DT4SDE training 1,500 women and persons with disabilities in digital marketing and entrepreneurship. These efforts enhance women's economic participation and boost their confidence and economic activity. AI integration is also pivotal, with projects like AIC developing AI tools for healthcare, such as early disease detection, and ITI embedding AI in its ICT training programs, preparing youth for the digital economy.

The program's focus on inclusivity extends to marginalized groups, such as persons with disabilities. Tailor-made training and digital services are provided through platforms like Taheel and initiatives by NTRA. Youth empowerment is also prioritised, with ITI training 30,000 young people annually and TIEC nurturing over 500,000 youth in entrepreneurship.

Furthermore, these projects align with Egypt's national priorities, such as economic development, digital inclusion, and sustainable growth, ensuring that no one is left behind in the country's digital transformation.

² 'The 2030 Agenda for Sustainable Development's 17 Sustainable Development Goals (SDGs)' (2020). UN.

The UNDP-MCIT program's thematic evaluation, covering six projects (TIEC, ITI, MERC, DT4SDE, AIC, NTRA), assessed performance based on six key criteria: Relevance, Coherence, Effectiveness, Efficiency, Sustainability, and Impact.

The programs align well with national priorities and SDGs, though some gaps in reaching underserved populations limit their overall relevance. While some efforts are well-coordinated, others face

integration challenges and missed opportunities for synergy, reducing coherence. Resource shortages, technical delays, and bureaucratic hurdles hinder efficiency, affecting broader outreach.

Sustainability is a major concern, as most programs rely heavily on government funding, threatening their long-term viability. Without more diversified financial strategies, sustainability remains uncertain, and including the private sector and partnerships with international donors and funds are among the most important efforts that need more attention. There is a limited comprehensive tracking of Impact across all the UNDP-MCIT to reflect integration between different projects and harmonizing and synergising all these projects together. An example is a startup that receives support from one project that needs to be tracked across the whole program to see the impact and present role models for newcomers.

Despite achieving key milestones, the programs face challenges in data collection and visualisation, which need better handling to increase effectiveness and outreach, which could improve success. While the programs contribute positively, there are significant areas for improvement in integration, efficiency, and sustainability to maximise their future success.

The evaluation of the six UNDP-MCIT programs highlights their significant contributions to Egypt's digital transformation, innovation, and social inclusion. These programs have made strides in areas such as education, healthcare, economic growth, and environmental sustainability, aligning with Egypt Vision 2030 and the United Nations SDGs. Key achievements include fostering entrepreneurship, digital skills development, and technological innovation, with a strong focus on empowering marginalized groups, including women, youth, and people with disabilities. However, despite these successes, several challenges persist. Efficiency issues, such as administrative delays and resource allocation problems, were noted in programs. Additionally, while the programs prioritized marginalized groups, there were gaps that need more attention in accessibility, especially for rural populations and those with limited internet access.



In conclusion, while the UNDP-MCIT programs have made a solid impact in advancing Egypt's digital and inclusive economy, addressing the identified challenges will be crucial for ensuring these initiatives' long-term success and scalability. The programs can better align with Egypt's long-term development goals by enhancing coordination, improving logistical efficiency, and investing in sustainability strategies. Expanding inclusivity and ensuring broader access to resources will ensure that the benefits reach all segments of society. Several recommendations are put forward to optimize the impact and sustainability of these programs. The most important thing is enhancing international and local collaborations to ensure programs address community-specific needs, attract funding, and provide access to global expertise. Developing robust measurement frameworks is also critical for tracking impact on the most demanding national priorities such as job creation, skill improvement, and startup performance, allowing programs to align better with development goals. Centralising data management under would facilitate more efficient data collection, analysis, and forecasting of key metrics, utilizing AI to improve alignment with national priorities. Diversifying revenue sources by involving private sector partners and international donors is recommended for long-term sustainability. Finally, promoting green practices and leveraging AI can drive innovation, efficiency, and sustainability across the programs. These strategies will ensure that the programs remain effective, scalable, and aligned with Egypt's national development goals and global sustainable development targets

1.0 Introduction:

1.1 Background

The **UNDP Country Programme Document (CPD)** and the **Egyptian Government Work Programme 2024** share a unified vision for inclusive, sustainable development aligned with **Egypt Vision 2030**. Both focus on economic resilience, social justice, governance, and environmental sustainability. This alignment forms the basis for evaluating six major technological innovation and entrepreneurship projects in Egypt.

UNDP Country Programme Document (CPD)³

The CPD prioritizes transformative and sustainable development through:

1. Inclusive Society and Resilient Economy:

- . Recovery from global crises through inclusive economic systems.
- . Empowerment of women, youth, and persons with disabilities in education, entrepreneurship, and social protection.

2. Human Capital Development:

- . Building capacity through training and up-skilling initiatives.
- . Promoting equitable access to resources to empower vulnerable groups.

3. Sustainable Economic Growth:

- . Driving innovation, supporting MSMEs, and fostering digital inclusion.
- . Expanding export-oriented sectors and knowledge-based economies.

4. Climate Resilience and Environmental Sustainability:

- . Promoting renewable energy, urban sustainability, and biodiversity conservation.
- . Encouraging nature-based solutions and sustainable resource management.

5. Governance and the Rule of Law:

- . Enhancing institutional efficiency through e-governance and transparency.
- . Supporting anti-corruption efforts and improving access to justice.

6. Partnerships for Development:

- . Collaborating with governmental, non-governmental, and international entities to achieve the Sustainable Development Goals (SDGs).

³ 'Executive Board of the United Nations Development Programme, the United Nations Population Fund and the United Nations Office for Project Services' (2022). Cairo, Egypt: UNDP.

Egyptian Government Work Programme 2024

The Work Programme⁴ reflects Egypt's ambition to achieve national development through:

1. Economic and Social Development:

- . Promoting sustainable and diversified economic growth.
- . Enhancing infrastructure and public services.
- . Supporting investments, the private sector, and SMEs.

2. Improving Citizens' Living Standards:

- . Delivering high-quality healthcare and education.
- . Supporting vulnerable groups through social protection.
- . Achieving social justice through structural reforms.

3. Enhancing Governance and Combating Corruption:

- . Improving administrative efficiency and rationalizing public spending.
- . Strengthening transparency and accountability.

4. National Security and Foreign Policies:

- . Developing defense and security policies to address regional and international challenges.
- . Strengthening Egypt's role in the region through partnerships and diplomacy.

5. Sustainable and Environmental Development:

- . Addressing climate challenges and promoting renewable energy.
- . Improving resource management and encouraging sustainable practices.

Key Fact about the projects evaluated :

1. **TIEC** enhances entrepreneurship by training over 534,000 individuals, supporting 2,432 startups, and creating nearly 76,000 jobs⁵. Programs like *Heya Raeda* empower women, while innovation hubs foster a thriving entrepreneurial ecosystem⁶.
2. **NTRA** strengthens telecommunications infrastructure, enabling advanced technologies like 5G and IoT, and bolsters cybersecurity with tools like *EG | Shield*⁷. It also promotes digital inclusion through customer services for persons with disabilities and expanded mobile broadband access⁸.
3. **MERC** supports Egypt's transition to a knowledge-based economy by establishing ICT hubs, global data centers, and technology parks. It promotes financial inclusion, digital transformation, and climate resilience, aligning closely with SDG 9

⁴ 'Egyptian Government Work Programme 2024-2027' (2024). Cairo, Egypt: Egyptian Cabinet.

⁵ 'Monitoring & Evaluation Nov 2024: TIEC' (2024). Cairo, Egypt: TIEC.

⁶ 'Board Meeting of MCIT projects: TIEC' (2024). MCIT.

⁷ 'Supporting the Implementation of NTRA Strategy - 2022-2026' (2022). UNDP-NTRA.

⁸ 'Board Meeting of MCIT projects: NTRA' (2024). MCIT.

(Industry, Innovation, and Infrastructure)⁹. MERC also works closely with all the projects, providing expertise and leadership to empower them in delivering high-quality outcomes¹⁰.

4. **AIC** drives applied innovation by developing localized solutions, including AI-driven healthcare tools for early disease detection and natural language processing (NLP) for Egyptian colloquial Arabic. These innovations address national challenges in healthcare, governance, and cultural preservation¹¹.
5. **DT4SDE** focuses on inclusive digital transformation, training over 1,500 women and persons with disabilities in digital marketing and entrepreneurship. Its 81 telemedicine nodes provided over 96,000 consultations, improving healthcare access in underserved areas¹²¹³.
6. **ITI** bridges the ICT skills gap by training 30,000 individuals annually in advanced digital skills, achieving an 85% pre-graduation employment rate. Its hybrid model ensures accessibility for youth across urban and rural regions¹⁴.

Key Achievements

1-Increased Access to Digital Training and Skills

- ITI trained over 30,000 participants annually, achieving an 85% employment rate prior to graduation. Similarly, DT4SDE provided digital skills training to over 1,500 women and individuals with disabilities, fostering economic empowerment and inclusivity.

2-Empowerment of Women and Marginalized Groups

- TIEC empowered 400 women entrepreneurs through the "Heya Raeda" program, exceeding its target and highlighting its focus on gender equality. Similarly, DT4SDE achieved 35% female participation in its initiatives and introduced the Qodwa.Tech

⁹ 'Monitoring and Evaluation Meeting: Maximizing Egypt's Resources and Capabilities through ICT (MERC) MCIT and UNDP Project' (2024). MCIT.

¹⁰ 'Board Meeting of MCIT projects: MERC' (2024). MCIT.

¹¹ 'AIC Project Document' (2021). UNDP-AIC.

¹² 'Cooperation between MCIT and UNDP "Digital Transformation for Sustainable Development in Egypt" (DT4SDE) Project' (2024). MCIT.

¹³ 'Board Meeting of MCIT projects: DT4SDE' (2024). MCIT.

¹⁴ 'Board Meeting of MCIT projects: ITI' (2024). MCIT.

platform, creating additional opportunities for women to participate in digital and entrepreneurial activities.

3-Support for Startups and Innovation

- TIEC supported over 488 startups, leading to the creation of more than 75,000 jobs and promoting entrepreneurial development. MERC complemented these efforts by developing technology parks, offering a conducive environment for ICT startups and driving innovation within the entrepreneurial ecosystem.

5-Advancements in Healthcare

- DT4SDE facilitated healthcare access in underserved areas by establishing 81 telemedicine nodes, which enabled over 96,000 remote consultations. AIC supported advancements in healthcare through the development of AI-driven tools for breast cancer detection, in collaboration with the Baheya Foundation, addressing critical medical needs in vulnerable communities.

6-Infrastructure Development

- NTRA enhanced spectrum management to facilitate the rollout of 5G and IoT technologies, advancing connectivity and innovation. MERC upgraded ICT infrastructure and established global data centers, positioning Egypt as a regional digital hub and supporting technological growth and international competitiveness.

7-Promotion of Sustainability

- DT4SDE transitioned its training programs to online platforms, reducing its carbon footprint by minimizing travel and paper usage. MERC implemented green ICT practices and e-waste recycling initiatives, supporting environmentally sustainable technological development.

8- Fostering Regional and International Collaboration

- AIC established partnerships with global institutions to support research and innovation, contributing to the development of advanced solutions. Similarly, NTRA collaborated with African and Arab countries to promote knowledge sharing and enhance regional ICT capabilities.

9-Creation of Employment Opportunities

- ITI developed over 90 job profiles aligned with market demands, achieving a 94% employment rate for participants within six weeks post-graduation. TIEC supported the development of startups, contributing to job creation and supporting economic opportunities.

10-Promotion of Digital Literacy and Financial Inclusion

- DT4SDE raised awareness about digital tools and financial technology, particularly among rural populations, enhancing their access to modern financial resources. Similarly, NTRA expanded mobile wallet services, contributing to increased digital financial inclusion and bridging the gap for underserved communities.

11-Driving Economic Growth and Innovation

- MERC boosted ICT export contributions to GDP by successfully attracting foreign investments, strengthening Egypt's position in the global technology market. TIEC complemented these efforts by focusing on the development of innovative solutions across key sectors, including artificial intelligence and fintech, driving technological advancement and economic growth.

1.2 Evaluation Purpose, Scope and Objectives

1.2.1 Purpose of the Evaluation

The evaluation examines six technological innovation and entrepreneurship projects to determine their alignment with the objectives outlined in the **CPD** and the **Government Work Programme**. It assesses how these projects contribute to technological innovation, entrepreneurship, and Egypt's digital transformation, while addressing broader goals such as sustainable development and human capital building.

The evaluation focuses on effectiveness, efficiency, coherence, relevance, impact, and sustainability. It highlights achievements, identifies areas for improvement, and provides recommendations for scaling initiatives and enhancing collaboration. By aligning ongoing and future projects with Egypt's development goals, the evaluation aims to optimize resources, strengthen implementation, and maximize contributions to national priorities and the SDGs.

1.2.2 Evaluation Objectives and scope

The evaluation has the following objectives:

- Assess the progress toward achieving thematic area objectives and outcomes as outlined in the CPD, focusing on the impact achieved to date.
- Identify enabling and hindering factors influencing the achievement of objectives and derive lessons from the interventions to guide current and future programming.
- Evaluate the impact of the thematic area on gender equality and women's empowerment through the implemented activities.
- Collect and analyze data to provide quantitative measurements against targets and assess the thematic area's contribution to the UNDP Egypt CPD.
- Offer actionable recommendations for an effective and realistic future phase of cooperation with UNDP, considering potential challenges and opportunities.
- Develop key recommendations for a new phase of the CPD in consultation with partners.

- Evaluate contributions to cross-cutting issues, including gender equality, women's empowerment, disability inclusion, youth engagement, Leaving No One Behind (LNOB), and environmental sustainability. The evaluation focused on six key projects, assessing their objectives, outcomes, and aspirations in alignment with the broader strategic goals for sustainable development in Egypt. These projects were analyzed for their contributions to national priorities, as outlined in the CPD and the Egyptian Government Work Programme 2024-2027, with a forward-looking perspective that considers their potential impact and alignment with national and global development objectives up to 2024. This comprehensive evaluation ensures that the projects' efforts remain relevant and effective in achieving inclusive growth, innovation, and sustainability.

1.2.3 Evaluation Criteria:

i. Relevance:

Assesses how well the outcomes of the projects align with the evolving needs and priorities outlined in the CPD, including those of stakeholders, partners, and beneficiaries. It evaluates how the projects meet the development goals of the target population within the broader national context.

ii. Coherence:

Examines the compatibility of the interventions with related projects and initiatives, both within UNDP and with external partners. It evaluates the integration of project components and their synergy in achieving shared objectives.

iii. Effectiveness:

Evaluates the extent to which the objectives of the projects, aligned with CPD priorities, were achieved or are on track to be achieved. This criterion assesses how well the interventions addressed the intended issues and delivered their desired outcomes.

iv. Efficiency:

Measures the cost-effectiveness of the resources utilized (funds, expertise, and time) in achieving the desired outcomes. It considers whether inputs were used efficiently to deliver the intended results in alignment with CPD priorities.

v. Impact:

Analyzes the long-term effects and changes resulting from the projects, particularly their contributions to CPD outcomes. It evaluates their influence on target groups, the broader community, and the country's development goals, considering both direct and indirect impacts.

vi. Sustainability:

Assesses the ability of stakeholders to sustain the benefits of the projects after external funding ends. It evaluates whether the outcomes and systems established during the projects' implementation phase can be maintained using local resources and capacities, ensuring long-term alignment with CPD goals.

1.2.4 Evaluation Questions

Relevance

- To what extent is the thematic area in line with the UNDP mandate, national priorities, and the requirements of targeting women, men, and vulnerable groups?
- To what extent is UNDP support relevant to the achievement of the SDGs in the country?
- To what extent did UNDP adopt gender-sensitive, human rights-based, and conflict-sensitive approaches?
- To what extent is UNDP engagement a reflection of strategic considerations, including the role of UNDP in a particular development context and its comparative advantage?
- To what extent was the method of delivery selected by UNDP appropriate to the development context?
- To what extent was the theory of change presented in the outcome model a relevant and appropriate vision on which to base the initiatives?

Coherence

- How well do the digital transformation interventions align with the digitalization strategy and the CPD? Were the interventions compatible with inclusion?
- How well are the digital initiatives integrated across the CPD components? Were any interlinkages established? Did the design take into consideration complementarity? Is there coherence in the implementation tools and processes?
- To what extent is external coherence taken into consideration? What are the opportunities for future partnerships to enhance the sustainability of the benefits and the level of achievements?

Effectiveness

- To what extent has progress been made toward outcome achievement? What has been the UNDP contribution to the observed change?

- What have been the key results and changes attained for men, women, and vulnerable groups?
- How has the delivery of the digital transformation interventions' outputs led to CPD outcome-level progress?
- Have there been any unexpected results achieved beyond the planned outputs and outcomes?
- To what extent has UNDP improved the capacities of national implementing partners to advocate on environmental issues, including climate change issues and disaster risk reduction?
- To what extent has UNDP partnered with civil society and local communities to promote environmental and disaster risk awareness in the country?
- To what extent have the results at the outcome and output levels generated results for gender equality and the empowerment of women and youth employment?
- To what extent have marginalized groups benefited?
- To what extent have triangular and South-South cooperation and knowledge management contributed to the results attained?
- Which program areas under the digital transformation thematic are the most relevant and strategic for UNDP to scale up or consider going forward?
- To what extent did UNDP promote development innovation under this thematic area?

Efficiency

- To what extent was the thematic area as outlined in the CPD efficient in generating the expected results?
- To what extent were resources used to address inequalities in general, and gender issues in particular?
- To what extent have the UNDP program implementation strategy and execution been efficient and cost-effective?
- To what extent has there been an economical use of financial and human resources? Have resources (funds, male and female staff, time, expertise, etc.) been allocated strategically to achieve outcomes?
- To what extent have resources been used efficiently? Have activities supporting the strategy been cost-effective?
- To what extent have the thematic area funds and activities been delivered in a timely manner?
- To what extent do the M&E systems utilized by UNDP ensure effective and efficient thematic area management?

Sustainability

- To what extent will targeted men, women, and vulnerable people benefit from the thematic area interventions in the long term?
- To what extent will financial and economic resources be available to sustain the benefits achieved by the thematic area?
- Are there any financial risks that may jeopardize the sustainability of thematic area outputs affecting women, men, and vulnerable groups? Are there any social or political risks that may jeopardize the sustainability of the thematic area outputs and the thematic area contributions to country program outputs and outcomes?
- Do the legal frameworks, policies, and governance structures and processes within which the thematic area operates pose risks that may jeopardize the sustainability of the thematic area benefits?
- To what extent did UNDP actions pose an environmental threat to the sustainability of the thematic area outputs, possibly affecting the thematic area beneficiaries (men and women) in a negative way? What is the chance that the level of stakeholder ownership will be sufficient to allow for the thematic area benefits to be sustained?
- To what extent do mechanisms, procedures, and policies exist to allow primary stakeholders to carry forward the results attained on gender equality, empowerment of women, human rights, and human development?
- To what extent do stakeholders (men, women, vulnerable groups) support the thematic area long-term objectives?
- To what extent are lessons learned documented by projects supporting digitalization and the thematic area team on a continuous basis and shared with appropriate parties who could learn from the projects?
- To what extent do UNDP interventions have well-designed and well-planned exit strategies that include a gender dimension?

Impact

- What have the effects of the intervention on the targeted communities been until now? Have the interventions contributed or are they likely to contribute to improving digital skills?
- What is the lasting change brought about by the thematic area?

Gender Equality

- To what extent have gender equality and women's empowerment been addressed in the design, implementation, and monitoring of the thematic area?
- Does the assigned gender marker represent reality?
- To what extent has the thematic area promoted positive changes regarding gender equality and women's empowerment? Did any unintended effects emerge for women, men, or vulnerable groups?

Disability

- Were persons with disabilities consulted and meaningfully involved in program planning and implementation?
- What proportion of the beneficiaries of a program were persons with disabilities?
- What barriers did persons with disabilities face?
- Was a twin-track approach adopted?

1.2.5 Purpose of the Evaluation Questions

The evaluation aimed to address key questions to measure the effectiveness, relevance, and impact of six major technological innovation and entrepreneurship projects in Egypt. These questions sought to assess:

Alignment with CPD Objectives: To what extent do these projects align with the objectives outlined in the Country Programme Document (CPD)?

Contribution to Growth: How effectively have the projects fostered innovation, entrepreneurship, and digital transformation in Egypt?

Advancement of Sustainable Development: What role have the projects played in promoting sustainable development and building human capacity?

Alignment with National Strategy: Are the outcomes of these projects consistent with Egypt's national development strategy?

These questions are critical for understanding the direct impact of the interventions and ensuring efficient utilization of resources in achieving Egypt's development objectives. They also help to evaluate the projects' contributions to the SDGs and identify areas for improvement.

1.2.6 Standards of Measure

The evaluation employs a comprehensive approach to assess the performance of the six projects against key criteria, ensuring alignment with the objectives outlined in the UNDP CPD, the Egyptian Government Work Programme 2024, and the SDGs. A standardized five-point rating scale is used to evaluate **relevance, coherence, effectiveness, efficiency, impact, and sustainability**:

Criteria	1- Very Poor	2- Poor	3- Satisfactory	4- Good	5- Excellent
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Relevance	Misaligned with objectives, no stakeholder benefit, no measurable impact.	Limited alignment, minimal outputs, lacks integration with goals.	Clear alignment with objectives, moderate progress but some gaps.	Strong alignment, measurable progress, minor issues.	Fully aligned, exceeds expectations, significant and transformative impact.
Coherence	Lacks integration or synergy with other projects, operates in isolation.	Lacks integration or synergy with other projects, operates in isolation.	Limited synergy, weak connection to broader frameworks.	Well-integrated, strong synergy with complementary programs, minor areas for improvement.	Seamless integration with other initiatives, creates synergy that amplifies overall impact.
Effectiveness	No outcomes achieved, major gaps in implementation and results.	Outputs achieved but far below expectations, critical issues hinder objectives.	Objectives mostly achieved, but notable gaps remain.	Significant objectives achieved with minor setbacks.	Objectives fully achieved or exceeded, innovative approaches deliver transformative outcomes.
Efficiency	Resources poorly utilized, major delays or failures in implementation.	Resources used but with notable inefficiencies, frequent delays.	Resources utilized moderately well, some inefficiencies noted.	Resources utilized efficiently, timely delivery with minor setbacks.	Exemplary resource utilization, highly cost-effective, innovative strategies maximize results.
Impact	No measurable change or contribution to development goals.	Limited impact, weak contribution to intended results.	Some positive impact achieved, though gaps remain in reaching broader goals.	Significant impact visible, contributing meaningfully to long-term goals.	Outstanding and measurable impact on intended outcomes, scalable and replicable results.

Sustainability	Outcomes unlikely to continue post-project, no mechanisms for local ownership.	Outcomes partially sustained but heavily reliant on external funding or support.	Some sustainability mechanisms in place but not robust.	Strong mechanisms for sustainability, outcomes likely to continue with minor support needed.	Outcomes fully sustainable with local ownership and robust systems ensuring long-term benefits without reliance.
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1.3 Evaluation Approach and Methods

1.3.1 Theory of Change Approach

The evaluation adopts a Theory of Change (TOC) approach to assess the contributions of six key projects to the objectives outlined in the CPD, the Egyptian Government Work Programme 2024, and the SDGs. It examines how project outputs drive outcomes, focusing on measurable changes in institutional performance, individual behaviour, and societal impact.

This approach evaluates the projects' alignment with national priorities, including economic growth, innovation, and sustainability. It identifies enabling and hindering factors, highlights incremental progress, and ensures recommendations are grounded in evidence to optimise program efficiency and long-term impact.

1.4 Data Sources

The evaluation relied on two primary sources of information:

1. **Document Review:** Key documents, including strategic plans, program reports, performance data, and other relevant materials from the UNDP-MCIT program, were reviewed. These documents provided foundational insights into objectives, activities, and outcomes.
2. **Stakeholder Interviews:** Semi-structured interviews were conducted with project owners associated with UNPD-MCIT. The rationale for selecting these stakeholders was their direct involvement and firsthand experience with programs and services, which provided valuable qualitative and quantitative data addressing the evaluation questions.

1.4.2 Primary Audience of the Evaluation

The primary audience of the evaluation includes:

1. **Government bodies** such as the Ministry of Communications and Information Technology (MCIT), the National Telecom Regulatory Authority (NTRA), and other relevant agencies that oversee technological development and innovation policies in Egypt.
2. **Project implementers** such as the UNDP, Technology Innovation and Entrepreneurship Center (TIEC), Applied Innovation Center (AIC), and the Information Technology Institute (ITI), who are responsible for executing the projects.

These stakeholders want to learn:

- Whether the projects are achieving their intended objectives.
- How well the projects align with national strategies for technological innovation and entrepreneurship.
- The impact of these projects on sustainable development and the capacity-building of Egypt's workforce.

The evaluation results will guide these stakeholders in refining strategies, improving implementation, and making informed decisions for future initiatives.

2.0 Intervention Being Evaluated

The intervention being evaluated for UNPD-MCIT consists of six key projects related to technological innovation and entrepreneurship in Egypt:

1. **Technology Innovation and Entrepreneurship Center (TIEC)**
2. **National Telecom Regulatory Authority (NTRA)**
3. **MERC Project**
4. **Applied Innovation Center (AIC)**
5. **Digital Transformation for Sustainable Development in Egypt (DT4SDE) Project**
6. **Information Technology Institute (ITI)**

These projects aim to foster technological advancements, innovation, and entrepreneurship in Egypt, in line with the country's vision for digital transformation and sustainable development.

2.1 Structure and Contents of the Report

The report is structured to first provide an overview of the projects under evaluation and the context of their alignment with the CPD goals. It will then delve into the assessment of each project's contribution to technological innovation, entrepreneurship, and sustainable

development, based on key performance indicators. The evaluation will also address challenges encountered during the implementation of these projects and highlight best practices.

The contents of the report will meet the evaluation's purpose by providing detailed insights into the effectiveness of the projects, addressing the questions of alignment with national development objectives, and offering recommendations for future action. The findings will satisfy the information needs of the intended users by enabling them to make informed decisions regarding project implementation and adjustments for better outcomes

2.2 Description of the Unified Intervention

2.2.1 Overview and Purpose

The unified intervention, under the auspices of the United Nations Development Programme (UNDP), combines six flagship projects aimed at fostering technological innovation, entrepreneurship, and digital transformation to achieve sustainable development in Egypt. These projects collectively address systemic challenges, including limited access to technology, skill gaps, lack of entrepreneurial support, and insufficient integration of marginalized groups.

By addressing these challenges holistically, the intervention not only aims to contribute to Egypt's Vision 2030 and the Sustainable Development Goals (SDGs) but also aligns strategically with the Country Programme Document (CPD) objectives.

2.2.2 Integrated Projects

1. **Technology Innovation and Entrepreneurship Center (TIEC):** Established in 2010, TIEC supports startups, entrepreneurs, and innovators by offering tailored programs such as InnovEgypt and the Heya Raeda initiative for women entrepreneurs. It provides mentorship, funding, and access to resources aimed at nurturing scalable businesses and creating job opportunities.
2. **National Telecom Regulatory Authority (NTRA):** NTRA focuses on modernizing Egypt's telecommunications infrastructure through initiatives like spectrum management and governance enhancement. With significant financial investments, it aims to foster innovation, ensure fair competition, and protect consumer rights while enabling next-generation technologies such as 5G and IoT.
3. **Maximizing Egypt's Resources and Capabilities (MERC):** MERC leverages Egypt's natural, human, and technological resources to promote sustainable growth. It emphasizes skill development, renewable energy, and the establishment of smart cities to enhance Egypt's global competitiveness.

4. **Applied Innovation Center (AIC):** AIC addresses critical challenges in healthcare, governance, and urban development through innovative technologies such as AI-based healthcare solutions, natural language processing (NLP) for Arabic, and geospatial planning tools. It seeks to position Egypt as a regional hub for applied research and development.
5. **Digital Transformation for Sustainable Development in Egypt (DT4SDE):** This project harnesses digital technologies to improve healthcare, education, and environmental sustainability. It focuses on empowering marginalized groups, particularly women and persons with disabilities (PwDs), through digital inclusion initiatives.
6. **Information Technology Institute (ITI):** ITI develops Egypt's human capital by providing advanced ICT training to youth, graduates, and professionals. Its programs align with market demands and promote freelancing and remote work opportunities, achieving high employment rates among participants.

2.2.3 Beneficiaries of the Projects

The unified intervention under the UNDP umbrella targets a wide range of beneficiaries, ensuring inclusivity and equity across various demographic and professional groups. The key beneficiaries are:

1. Youth and Graduates:

- . Young individuals and recent graduates benefit from programs that provide advanced digital skills, entrepreneurship training, and mentorship opportunities, enhancing their employability and readiness for the evolving job market.
- . Projects like ITI and TIEC¹⁵ focus on preparing youth for careers in ICT and entrepreneurship.

2. Women:

- . Women are empowered through tailored initiatives, such as the Heya Raeda program by TIEC, which supports women entrepreneurs in starting and scaling their businesses.
- . Other projects, including DT4SDE and MERC, aim to bridge gender gaps by creating opportunities for women in technology and innovation sectors.

3. Persons with Disabilities (PwDs):

- . Programs within DT4SDE and MERC focus on the inclusion of PwDs by providing accessible digital tools, skills training, and employment opportunities, addressing barriers to participation in the digital economy.

4. Entrepreneurs and Startups:

¹⁵ 'Creativa Hubs: Success Stories' (2024).

- . Early-stage startups and aspiring entrepreneurs gain access to funding, mentorship, incubation programs, and networks to accelerate the growth of their businesses.
 - . TIEC and MERC play pivotal roles in supporting entrepreneurial ventures and creating a robust innovation ecosystem.
- 5. Small and Medium Enterprises (SMEs):**
- . SMEs benefit from initiatives aimed at integrating technology into business operations, improving efficiency, and scaling their impact.
 - . Programs like AIC provide technological solutions tailored to the needs of SMEs, fostering their growth and competitiveness.
- 6. Telecommunication Sector Stakeholders:**
- . Telecom service providers benefit from streamlined spectrum allocation and enhanced regulatory frameworks through NTRA's initiatives, ensuring fair competition and improved service quality.
 - . Consumers, in turn, enjoy better access to reliable telecommunications and internet services.
- 7. General Public:**
- . The broader population benefits from improved public services, including digitalized healthcare, education, and governance systems enabled by DT4SDE and AIC.
 - . Initiatives targeting environmental sustainability, such as smart irrigation and renewable energy projects under MERC, improve quality of life and promote long-term social and environmental well-being.
- 8. Government Entities and Institutions:**
- . Various government bodies benefit from enhanced governance frameworks, capacity-building programs, and technological advancements provided by projects like NTRA and AIC, enabling more efficient and effective public service delivery.
- 9. Marginalized and Rural Communities:**
- . Rural and underserved communities gain access to digital technologies, educational resources, and entrepreneurial opportunities, reducing disparities and promoting inclusive growth.
 - . DT4SDE and MERC emphasize bridging the digital divide to ensure equitable development.

By addressing the needs of these diverse beneficiary groups, the projects collectively aim to foster innovation, drive economic growth, and ensure sustainable development across Egypt, in line with the UNDP's mission and the CPD's objectives.

3.0 Theory of Change and Implementation Strategies

3.1 The Theory of Change (ToC) for this unified intervention under the UNDP umbrella provides a comprehensive framework to explain how the integrated activities of six flagship projects – **TIEC, MERC, NTRA, AIC, DT4SDE, and ITI** – are designed to achieve long-term impacts on Egypt’s economic, social, and environmental development. By leveraging innovation, technology, entrepreneurship, and digital transformation, these projects collectively aim to address systemic challenges while driving progress towards **Egypt’s Vision 2030** and the **Sustainable Development Goals (SDGs)**.

Activities

The activities of these projects are strategically designed to deliver high-impact outputs and outcomes:

1. Capacity Building and Training:

- **ITI:** Conducts over 30 specialized training programs annually in areas such as software development, mobile app creation, cybersecurity, and data analytics, producing 30,000 skilled graduates each year.
- **TIEC:** Initiatives like InnovEgypt and Heya Raeda focus on equipping youth and women with entrepreneurial and digital skills. InnovEgypt trained approximately 3,770 individuals, while Heya Raeda trained around 400 women in 2024.
- **DT4SDE:** Delivers online training in eco-friendly practices, FinTech, pharmacogenomics, and personalized medicine, targeting underserved populations.

2. Entrepreneurship and Innovation Support:

Theory of Change

The Theory of Change (ToC) for this unified intervention under the UNDP umbrella provides a comprehensive framework to explain how the integrated activities of six flagship projects – TIEC, MERC, NTRA, AIC, DT4SDE, and ITI – are designed to achieve long-term impacts on Egypt’s economic, social, and environmental development.



- . **TIEC:** Provides startups with mentorship, seed funding, and market access through programs like Start IT and pre-incubation services.
 - . **MERC:** Expands technology parks and offers consultancy services to foster SME growth.
 - . **DT4SDE:** Promotes digital marketing and FinTech training tailored for women entrepreneurs and persons with disabilities (PwDs).
- 3. Digital Transformation and Infrastructure Development:**
- . **NTRA:** Modernizes telecommunications through automated spectrum management, enabling technologies like 5G, IoT, and Wi-Fi 6E.
 - . **DT4SDE:** Establishes 81 telemedicine nodes, enabling remote healthcare consultations and diagnoses.
- 4. Advanced Technology Deployment:**
- . **AIC:** Develops AI tools for judicial decision-making, cancer detection, and urban development monitoring using satellite imagery.
 - . **MERC:** Leverages GIS for urban planning, agriculture optimization, and environmental protection.
- 5. Sustainability and Social Inclusion:**
- . **DT4SDE:** Integrates marginalized groups into the digital economy through tailored programs, focusing on women and PwDs.
 - . **MERC:** Promotes renewable energy adoption and green ICT practices across industries.

Outputs

The integrated efforts of these projects produce tangible and measurable results:

- 1. Training and Capacity Development:**
 - . Over 30,000 individuals annually acquire advanced ICT skills through ITI programs.
 - . Thousands of entrepreneurs, including women and PwDs, are empowered through training and mentorship programs under TIEC and DT4SDE.
- 2. Infrastructure and Accessibility:**
 - . Establishment of telemedicine nodes providing 96,000 medical diagnoses annually.
 - . Creation of inclusive digital platforms such as Qodwa.Tech (for women) and Taheel (for PwDs).
- 3. Startup and SME Ecosystem Growth:**
 - . Thousands of startups supported through funding, mentorship, and infrastructure, contributing to economic diversification and job creation.

- . Development of technology parks and global data centers, strengthening Egypt's position as a regional innovation hub.
- 4. Sustainability Metrics:**
- . Integration of renewable energy systems and adoption of green ICT practices.
 - . Deployment of AI-driven tools for environmental monitoring and resource optimization.
- 5. Inclusion Metrics:**
- . 35% female participation and 10-15% PwD engagement across training and entrepreneurship initiatives.
 - . Broader access to healthcare and educational resources for underserved populations.

Outcomes

The collective outcomes of the six projects include:

- 1. Economic Transformation:**
 - . Increased competitiveness of Egypt's ICT and innovation sectors on a global scale.
 - . Enhanced entrepreneurial ecosystem contributing to GDP growth and sustainable development.
- 2. Social Inclusion and Equity:**
 - . Empowerment of women, youth, and marginalized groups through education, training, and employment opportunities.
 - . Improved access to quality public services such as healthcare and education.
- 3. Technological Advancement:**
 - . Strengthened readiness for emerging technologies, including AI, IoT, and FinTech.
 - . Modernized telecommunications and digital infrastructure driving innovation and connectivity.
- 4. Governance and Institutional Strengthening:**
 - . Transparent and efficient regulatory practices through NTRA reforms.
 - . AI-powered tools enhancing decision-making in judicial and governance systems.

Long-Term Impacts

The long-term impacts of the intervention are transformative and aligned with Egypt's Vision 2030 and the SDGs:

1. Sustainable Development:

- . Economic resilience driven by innovation and diversified industries.
- . Environmental sustainability through green ICT practices and renewable energy adoption.

2. Global Recognition:

- . Egypt positioned as a leader in entrepreneurship and innovation in the MENA region.
- . Attraction of foreign investments in ICT and digital transformation projects.

3. Social Progress:

- . Reduced disparities in economic participation and access to essential services.
- . Empowered communities benefiting from inclusive and sustainable growth.

4. Institutional Growth:

- . Robust governance frameworks and institutional capacities enabling effective service delivery.
- . Enhanced collaboration among government, private sector, and international stakeholders.

3.2 Implementation Strategies

1. Capacity Building and Training:

- . Deliver targeted programs (e.g., InnovEgypt, ITI specialized tracks) combining online and face-to-face learning with a focus on practical applications.
- . Train underserved groups, including PwDs and women, in entrepreneurship and digital skills (DT4SDE).

2. Mentorship and Support:

- . Offer tailored mentorship through TIEC's Pre-Incubation and Start IT programs, providing strategic guidance to early-stage startups.
- . Expand AIC's partnerships with healthcare organizations for AI-driven tools and diagnostics.

3. Strategic Partnerships:

- . Collaborate with global companies like Microsoft, Amazon, and IBM to provide essential resources (cloud computing, tech infrastructure) and global market access.

4. Access to Funding:

- . Facilitate equity-free seed grants and venture capital through partnerships with investors.
- . Leverage programs like Start IT to provide funding for early-stage startups.

5. Digital Transformation:

- . Implement automated spectrum management systems through NTRA to enable next-generation technologies (5G, IoT).

- . Establish telemedicine nodes under DT4SDE to provide remote healthcare services.
- 6. Sustainability and Social Inclusion:**
- . Promote green ICT practices and renewable energy adoption through MERC.
 - . Develop inclusive platforms like Qodwa.Tech for women and Taheel for PwDs, ensuring equitable access to resources.
- 7. Monitoring and Evaluation:**
- . Establish mechanisms to track long-term success, including startup impact metrics, skill development benchmarks, and healthcare outcomes.

4.0 Application of UNDP Priorities and Partnerships to the Projects

The **United Nations Development Programme (UNDP)** in Egypt focuses on transformative, inclusive, and sustainable development, aligned with **Egypt Vision 2030**. These priorities aim to create an equitable society, resilient economy, and environmentally sustainable future, addressing systemic challenges in governance, economic development, social inclusion, and climate resilience. Below is a summary of the key priorities:

1. Inclusive Society and Resilient Economy

Application:

- **TIEC (Technology Innovation and Entrepreneurship Center):**
 - Provides equitable access to entrepreneurship resources, including training, mentorship, and funding for women, youth, and persons with disabilities (PwDs).
 - Promotes inclusion through programs like **Heya Raeda** for women entrepreneurs and **Start IT** for early-stage startups, ensuring participation in Egypt's innovation ecosystem.
- **DT4SDE (Digital Transformation for Sustainable Development in Egypt):**
 - Establishes telemedicine nodes to provide remote healthcare services to marginalized communities.
 - Focuses on empowering rural women and PwDs through digital marketing, FinTech, and entrepreneurial training programs.
- **ITI (Information Technology Institute):**
 - Offers specialized ICT training to 30,000 individuals annually, targeting youth, women, and underserved populations to improve employability in a knowledge-based economy.

Partnership Alignment:

- Collaboration with **Ministry of Social Solidarity** to integrate entrepreneurship into social protection initiatives.
- Partnerships with **UNICEF, UN-Women, and ITU** to enhance digital inclusion and skills-building for vulnerable populations.

2. Human Capital Development

Application:

- **ITI:**
 - Builds human capital through re-skilling and up-skilling programs, focusing on freelancing, remote work, and specialized ICT tracks.
- **TIEC:**
 - Runs programs like **InnovEgypt**, which provides foundational entrepreneurial skills to students and fresh graduates.
 - Offers tailored mentorship through **Pre-Incubation and Incubation Programs**, ensuring startups are equipped to succeed in competitive markets.
- **DT4SDE:**
 - Delivers e-learning programs targeting eco-friendly practices, personalized medicine, and FinTech to build technical skills among underserved groups.

Partnership Alignment:

- **Ministry of Communications and Information Technology (MCIT):** Supports digital literacy and employment programs.
- **GIZ and NilePreneurs:** Assist in delivering entrepreneurship and training programs tailored to Egypt's market needs.

3. Sustainable Economic Development

Application:

- **MERC (Maximizing Egypt's Resources and Capabilities):**
 - Focuses on developing renewable energy, smart cities, and technology parks, contributing to a sustainable and diversified economy.
 - Supports SMEs through consultancy services, ensuring their integration into global markets.

- **TIEC:**
 - Drives innovation and entrepreneurship through sector-specific initiatives (e.g., AI, FinTech, Healthcare) that align with high-demand sectors in Egypt.
- **NTRA (National Telecom Regulatory Authority):**
 - Modernizes Egypt's telecommunications infrastructure by enabling technologies like 5G, IoT, and Wi-Fi 6E, facilitating economic growth in digital industries.
- **AIC (Applied Innovation Center):**
 - Develops AI-driven tools to address national challenges in healthcare, agriculture, and governance, fostering innovation in key economic sectors.

Partnership Alignment:

- Collaboration with **Ministry of Planning and Economic Development** to support MSMEs and enhance innovation in export-oriented industries.
- Partnerships with global technology firms like **Amazon, Microsoft, and Cisco** to provide critical resources for startups and SMEs.

4. Climate Resilience and Natural Resource Management

Application:

- **MERC:**
 - Promotes green ICT practices, renewable energy adoption, and sustainable urban planning to address climate change challenges.
 - Leverages GIS and satellite data for agricultural optimization, reducing environmental impact and increasing efficiency.
- **DT4SDE:**
 - Implements eco-friendly awareness programs and integrates sustainability into training initiatives, fostering environmentally conscious communities.
- **AIC:**
 - Uses AI for environmental monitoring and resource optimization, contributing to climate-smart solutions for urban and agricultural planning.

Partnership Alignment:

- Collaboration with **FAO, UNESCO, and WFP** to enhance sustainable agricultural practices and biodiversity conservation.
- Integration with Egypt's **Waste Management Law** initiatives to promote waste-to-energy systems.

5. Governance and the Rule of Law

Application:

- **NTRA:**
 - Strengthens governance through policy and institutional reforms, improving accountability and service delivery in the telecommunications sector.
 - Establishes international partnerships to adopt best practices in telecom regulation.
- **AIC:**
 - Develops AI-powered judicial tools to improve decision-making efficiency and reduce case backlogs.
 - Implements digital systems for urban planning, ensuring transparent governance in land and resource management.

Partnership Alignment:

- Collaboration with **Ministry of Justice** to digitalize judicial services and improve access to justice.
- Partnerships with **UNDP Accelerator Lab** to pilot and scale governance-focused innovations.

6. Digital Transformation

Application:

- **NTRA:**
 - Implements automated spectrum management systems to support next-generation digital technologies, driving Egypt's digital economy.
- **DT4SDE:**
 - Expands e-government services, enabling digital access to healthcare, education, and entrepreneurship resources.
- **ITI:**
 - Provides remote and in-person training programs using digital tools, promoting digital literacy and inclusion.

Partnership Alignment:

- Collaboration with **MCIT** to improve digital access and skills development.

- Partnerships with **ITU and UNESCO** under the United Nations Joint Team for Digital Transformation and Innovation.

5.0 Context: Social, Political, Economic, Institutional, and Geographical Factors

5.1 Social Context

- **Youth Population:**
 - Over 60% of Egypt's population is under 30, representing a large talent pool for entrepreneurship and innovation.
 - TIEC, ITI, and DT4SDE focus on equipping youth with digital and entrepreneurial skills.
- **Gender Equality:**
 - Women face significant barriers in entrepreneurship and access to resources.
 - Programs like Heya Raeda and Qodwa.Tech aim to empower women but require ongoing advocacy to overcome cultural and systemic challenges.
- **Digital Divide:**
 - Limited access to technology in rural areas.
 - Projects like DT4SDE and AIC focus on bridging this gap through telemedicine nodes and NLP for colloquial Arabic.

5.2 Political Context

- **Government Support:**
 - Strong alignment with Egypt Vision 2030 and UN SDGs ensures political backing for digital transformation and innovation initiatives.
- **Regulatory Environment:**
 - Challenges in navigating regulations, intellectual property laws, and tax systems for startups.
 - TIEC and NTRA provide advisory services to address these hurdles.

5.3 Economic Context

- **Economic Challenges:**
 - Inflation, unemployment, and limited access to venture capital pose challenges to entrepreneurship.
 - Programs like MERC and TIEC address these gaps by fostering SMEs and providing funding opportunities.
- **Growth Potential:**

- Sectors like AI, FinTech, and renewable energy offer substantial growth opportunities.
- Initiatives like AIC's AI-driven tools and MERC's green ICT practices tap into these emerging markets.

5.6 Institutional Factors

- **Institutional Cooperation:**
 - Collaboration with ministries, universities, and private sector partners is essential for scaling initiatives.
 - Bureaucratic inefficiencies and resource constraints can hinder project execution.

5.7 Geographical Landscape

- **Urban vs. Rural Divide:**
 - Cairo and Alexandria dominate innovation ecosystems, while rural areas face challenges in accessing resources and infrastructure.
 - Programs like TIEC and DT4SDE aim to expand their reach to underserved regions.
- **Infrastructure Gaps:**
 - Limited internet connectivity, power supply, and transport in remote areas affect project implementation.

5.8 Challenges and Opportunities

Challenges

1. **Access to Funding:**
 - . Limited venture capital for early-stage startups.
 - . Programs like TIEC and DT4SDE address this through grants and seed funding, but gaps remain.
2. **Regulatory and Bureaucratic Hurdles:**
 - . Lengthy processes and unclear regulations delay project timelines.
3. **Technological Divide:**
 - . Uneven access to technology limits participation from rural and marginalized communities.
4. **Talent Recruitment:**
 - . Global competition for skilled professionals in AI, data science, and emerging fields.

Opportunities

1. Government Alignment:

- . Strong political support under Egypt Vision 2030 facilitates project scaling and funding.

2. Youth Empowerment:

- . Large youth population represents an opportunity for skill development and entrepreneurship.

3. Global Partnerships:

- . Collaboration with international organizations like UNDP, GIZ, and ITU enhances technical expertise and financial sustainability.

4. Technological Advancements:

- . Advances in mobile and cloud technologies enable scalable solutions for remote areas.

6.0 Weaknesses and Implementation Constraints

Intervention Logic

A notable weakness across the evaluated programs is the lack of synergy between overlapping initiatives. For instance, multiple projects, such as those under TIEC, ITI, and DT4SDE, focus on entrepreneurship, digital inclusion, and skill development. However, these efforts often operate independently, leading to resource duplication and reduced efficiency. For example, TIEC's incubation programs and ITI's ICT training initiatives share similar objectives but lack a unified framework, which limits their combined impact. Consolidating these efforts under a single umbrella could optimize resources and create a more streamlined and cohesive approach.

Theory of Change Weaknesses

- **Limited Consideration of External Factors**

The current design of many initiatives under the UNDP-MCIT program does not adequately account for external influences such as fluctuating market conditions, technology leaps, and cultural resistance, particularly in underserved rural areas. For example, entrepreneurial support initiatives face issues related to cultural and local economic conditions hindering the creation of startups in underserved areas, and although this has been tackled through preincubation programs, more efforts that can be customized to fulfil these gaps are needed, and allocation of more funds for these areas may be necessary. Additionally, assumptions about outcomes—such as the automatic scalability of startups or the long-term impact of training programs—are not always supported by evidence-based approaches or tailored strategies for different contexts.

- **Absence of Robust Measurement Frameworks**

The UNDP-MCIT program is playing a transformative role in Egypt's future, and this has to

be materialized and evidence-based using the robust realisation of the measurement framework. In skill development efforts, there is a greater need for baseline data or post-training evaluation to gauge the progress of participants or the effectiveness of training on employability and skill enhancement through the full value chain. The same should be for startups supported through the program; comprehensive metrics to track their lifecycle—such as survival rates, revenue growth, or the long-term impact of funding—are absent. This gap in data collection makes it difficult to identify strengths, address weaknesses, or replicate successful models.

- **Over-reliance on Assumptions Without Evidence**

The program's interventions need more verified assumptions about the design of outcomes, such as the self-sustaining nature of startups or the scalability of digital solutions. These assumptions lack sufficient evidence and context-specific strategies, reducing the program's effectiveness in achieving better transformative change. Addressing this requires integrating iterative learning and adaptive strategy to refine and enhance the program's approach.

7.0 Evaluation Approach and Methods

7.1 Theory of Change Approach

The approach adopted in this mid-term evaluation is based on the **Theory of Change** (TOC), which aims to achieve sustainable development goals within the framework of the UNDP's priorities for Egypt. This theory is designed to reflect how the transition to an inclusive society and resilient economy can be realized, while fostering innovation and sustainable development in line with the challenges and priorities outlined in **Egypt Vision 2030**.

The program's Theory of Change is built on several key pillars to drive transformation in Egypt, including:

- **Inclusivity:** Ensuring that all groups, particularly women, youth, and persons with disabilities, benefit from development programs. This includes building capacity for access to social services such as insurance schemes and employment opportunities.
- **Digital Transformation and Green Economy:** Achieving a sustainable transition toward a knowledge-based, technology-driven economy, promoting innovation, and being environmentally conscious. UNDP will support the digital transition and improve access to data to create effective social protection mechanisms.
- **Governance and Social Justice:** Strengthening transparency, accountability, and institutional reforms to improve the delivery of public services and facilitate access to information, including the optimal use of technology and digital governance.
- **Community Empowerment:** UNDP works with national partners, including ministries and local institutions, to enhance community participation in economic and political

decision-making, including the development of policies aimed at supporting vulnerable groups and achieving equitable economic and social development.

This evaluation tracks these activities and outputs to analyze how they contribute to positive changes in the outcomes at the individual, community, and institutional levels. The relationship between these activities and outputs will be analyzed to ensure maximum benefit for the target groups, with a focus on how well **gender issues** and **disability empowerment** have been integrated into outputs and results.

Through this **Theory of Change**, the evaluation aims to highlight how these priorities align with the national development strategy and assess the impact of different practices on beneficiaries, including improvements in institutional and community capacities, and the effect on economic and social opportunities for the targeted groups.

7.2 Evaluation Criteria and Final Scoring for Project Performance

The evaluation was conducted based on six internationally recognized criteria to assess the performance and outcomes of the programs under review. These criteria include **Relevance**, **Coherence**, **Effectiveness**, **Efficiency**, **Sustainability**, and **Impact**. They were selected to ensure a holistic evaluation of the initiatives' alignment with national and international goals, including their contribution to the **Country Programme Document (CPD)** objectives.

The score guides is based on the following scale:

Very Poor: The criterion is not met at all. There is a significant gap or failure in meeting the requirement

Poor: The criterion is partially met, but there are notable deficiencies or shortcomingsA lot of improvement is needed

SatisfactoryThe criterion is mostly met, with only a few minor issues or areas for improvement. Meets expectations in most aspects

Good: The criterion is largely met, with only small areas for improvement. There is a high level of satisfaction in meeting the requirement

Excellent: The criterion is fully met, and in some cases, exceeded. Outstanding alignment with the requirement

	Very Poor	Poor	Satisfactory	Good	Excellent	
Relevance				✓		<p>Achievements</p> <ul style="list-style-type: none"> • Fostering Economic Diversification: The UNDP-MCIT program has contributed to Egypt Vision 2030 by supporting the creation of 488 startups, which in turn generated 75,956 jobs, advancing economic diversification and innovation. • Promoting Gender Equality: Aligned with SDG 5 (Gender Equality), the program empowered 1,000 women through initiatives like Qodwa.Tech, enabling them to enhance their skills and economic participation. • Advancing Healthcare through AI: Addressing SDG 3 (Good Health and Well-being), the program developed AI tools for early cancer detection in collaboration with key healthcare stakeholders. These tools have shown promise, particularly in breast cancer diagnostics, contributing to improved health outcomes. • Mitigating Youth Unemployment: By training 30,000 participants annually and achieving an 85% employment rate for graduates, the program has made significant strides in tackling youth unemployment, aligning with SDG 8 (Decent Work and Economic Growth). <p>Opportunities for Improvement</p> <ul style="list-style-type: none"> • Enhancing Regional Inclusivity: While the program has driven innovation and job creation, increasing outreach to underserved regions could broaden its impact and ensure equitable opportunities across Egypt. • Scaling Support for Underserved Women: Efforts to empower women through platforms like Qodwa.Tech have been successful but remain concentrated. Expanding these initiatives to reach

						<p>more women in rural and underserved areas is essential.</p> <ul style="list-style-type: none"> • Expanding AI Adoption in Healthcare: The AI tools developed for cancer detection are impactful, but their adoption across the broader healthcare system is still limited. Increasing their integration and accessibility in diverse healthcare settings would enhance their reach. • Improving Accessibility for Marginalized Communities: Training initiatives have achieved high employment rates, but extending their reach to rural and marginalized communities remains a key area for growth, ensuring broader inclusivity and relevance.
Coherence			✓			<p>Achievements</p> <ul style="list-style-type: none"> • Expanding Spectrum Management: The UNDP-MCIT program advanced digital transformation by supporting projects such as empowering spectrum management capabilities for 5G and IoT technologies, creating opportunities for startups supported under the program to leverage advanced technologies. • Global data centres established through the program support have strengthened capacity-building efforts, enabled enhanced training in cloud computing and cybersecurity, promoted technological growth and aligned with national development goals. • Collaborative efforts have improved rural digital literacy, addressed key gaps in digital inclusion, and enhanced opportunities for underserved populations to participate in the digital economy. • The program fostered entrepreneurship in AI and healthcare by supporting initiatives that bridge innovation and critical sectors, contributing to sustainable development and job creation. <p>Opportunities for Improvement</p> <ul style="list-style-type: none"> • While the program has improved rural digital literacy, stronger integration with infrastructure projects could enhance the accessibility and effectiveness of these initiatives in remote areas. • Promoting entrepreneurship in AI and healthcare has shown promise, but developing deeper synergies between different program components

						could amplify their impact and foster more cohesive outcomes.
Efficiency			✓			<p>Achievements</p> <ul style="list-style-type: none"> • Through targeted efforts, the UNDP-MCIT program has successfully supported the graduation of 30,000 students annually, contributing significantly to workforce development in critical technology sectors. • The program played a key role in supporting the implementation of 81 telemedicine nodes, which improved healthcare accessibility and addressed essential needs in underserved regions. • The program supported the development of natural language processing (NLP) tools for Egyptian Arabic, demonstrating its commitment to enhancing accessibility and preserving cultural identity through AI-driven innovations. • By supporting the establishment of ICT parks, the program has strengthened Egypt's position as a regional technology hub, attracting foreign investment and promoting economic growth. • The program's pre-incubation initiatives have supported 600 entrepreneurs, driving innovation and contributing to developing a robust entrepreneurial ecosystem. <p>Opportunities for Improvement</p> <ul style="list-style-type: none"> • The program's efforts in workforce development have been impactful, but enhancing trainer availability would allow for greater reach into rural and underserved areas, further improving efficiency and inclusivity. • The program's support for AI and NLP tools has been transformative, but addressing high costs and improving administrative efficiency would facilitate faster expansion and broader adoption of these innovations. • The program's pre-incubation and incubation support has empowered many entrepreneurs, but simplifying processes to grant in-kind resources would further enhance efficiency and enable faster scaling of entrepreneurial ventures.
Sustainability		✓				<p>Achievements</p>

						<ul style="list-style-type: none"> • The UNDP-MCIT program has backed efforts to achieve self-sustainability in projects like those generating revenue through service delivery, contributing to financial independence and operational efficiency. • The program has supported the transition to online training models, reducing carbon footprints and aligning with global sustainability goals. <p>Opportunities for Improvement</p> <ul style="list-style-type: none"> • While efforts toward self-sustainability have been initiated, projects remain heavily dependent on government funding. Diversifying funding sources and strengthening revenue-generating mechanisms would enhance financial stability and reduce vulnerability to economic fluctuations.
Impact			✓			<p>Achievements</p> <ul style="list-style-type: none"> • The UNDP-MCIT program has supported the creation of 488 startups, fostering significant economic growth and innovation. This contribution has strengthened the entrepreneurial ecosystem and advanced Egypt's position in regional markets. • With a 94% employment rate for graduates within six weeks of completing training, the program has successfully tackled youth unemployment, equipping young professionals with skills that align with market demands. • The program has empowered 1,500 women and PwDs through entrepreneurial training programs, enhancing their economic participation and advancing inclusivity. • The program has positioned Egypt as a regional ICT hub by attracting international investments and supporting the development of infrastructure and technological capacity. • By developing AI-driven tools for early disease detection, the program has improved access to healthcare solutions, particularly in critical areas like breast cancer detection, showcasing the potential of technology in addressing health challenges. <p>Opportunities for Improvement</p> <ul style="list-style-type: none"> • While the program has supported the creation of numerous startups, establishing mechanisms to

						<p>track their long-term sustainability and broader economic contributions would enhance its overall impact.</p> <ul style="list-style-type: none"> • The program's efforts to address youth unemployment have been impactful, but a stronger focus on extending training opportunities to rural regions is essential to ensure equitable access and broader national impact. • The entrepreneurial training for women and PwDs has shown promise, but scalability to a broader audience is needed to amplify its reach and foster greater inclusivity. • Attracting international investments has been a critical achievement, but comprehensive evaluations of these investments' long-term economic and technological impacts will provide deeper insights into their effectiveness.
Effectiveness			✓			<p>Achievements</p> <ul style="list-style-type: none"> • The UNDP-MCIT program supported the delivery of remote healthcare consultations, addressing gaps in healthcare access and improving service delivery for underserved populations. • The UNDP-MCIT program enabled the growth of entrepreneurship by supporting thousands of innovators, strengthening the innovation ecosystem, and contributing to the national economy. • The UNDP-MCIT program expanded access to technical training in rural areas, reducing regional disparities and creating pathways for skill development in underserved communities. <p>Opportunities for Improvement</p> <ul style="list-style-type: none"> • The UNDP-MCIT program can improve the strategic planning of telemedicine projects to ensure broader and more effective deployment in underserved regions, enhancing their overall effectiveness. • Strengthening the implementation framework for AI-driven governance tools by integrating clear metrics and evaluation processes could maximise their effectiveness.

						<ul style="list-style-type: none"> The program could boost engagement in flagship training programs by refining international outreach strategies and aligning efforts with the national needs as well as rural and underrepresented communities.
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The evaluation was conducted based on six internationally recognized criteria to assess the performance and outcomes of the programs under review. These criteria include Relevance, Coherence, Effectiveness, Efficiency, Sustainability, and Impact. They were selected to ensure a holistic evaluation of the initiatives' alignment with national and international goals, including their contribution to the Country Programme Document (CPD) objectives for UNDP-MCIT partnership.

Relevance: score 4/5

The UNDP-MCIT programs demonstrate strong alignment with national priorities and global goals, but certain gaps reduce their overall relevance. TIEC supports Egypt Vision 2030 by creating 488 startups and providing 75,956 jobs, promoting economic diversification. However, the efforts have not sufficiently addressed entrepreneurship in rural areas, where opportunities remain limited. DT4SDE aligns with SDG 5 (Gender Equality) by empowering 1,000 women in digital marketing through the Qodwa.Tech platform, but its reach remains restricted in underserved and remote regions. AIC contributes to SDG 3 (Health) by collaborating with the Baheya Foundation to develop AI tools for early cancer detection, yet these tools are not widely integrated into the national healthcare system. ITI addresses SDG 8 (Decent Work) with an 85% employment rate for its 30,000 annual graduates, tackling youth unemployment. However, there is room for increased efforts to address rural and marginalised communities. Also, increasing partnerships with international and local entities is needed to align with the job market and improve job fair programs' impact. While the UNDP-MCIT programs address key socio-economic needs, there is still room to expand access to underserved populations and enhance program inclusivity with a new set of programs and initiatives.

Coherence: score 3/5

The UNDP-MCIT programs demonstrate some alignment with each other and national strategies, but there are notable gaps in integration, resulting in some duplicated efforts and missed opportunities for synergy. The expansion of spectrum management for 5G and IoT technologies creates potential for advanced tech startups supported by other projects. Still, this connection remains underutilised, as there is no clear framework to link these efforts systematically. While there is a notable contribution to data centres and enhanced capacity as well as cybersecurity, there is limited collaboration to align these efforts with entrepreneurial support from other program areas to promote further integration with the entrepreneurship

world; most activities remain siloed, with overlapping objectives that could be streamlined for greater impact. The lack of overarching integration between projects reduces their overall coherence. It limits their ability to leverage the efforts done by the program and address Egypt's development challenges in the best way it can.

Efficiency: score 3/5

While UNDP-MCIT programs deliver significant outcomes, challenges persist that limit their overall efficiency. The training programs under the initiative graduate thousands of students annually but face trainer shortages, which restrict their ability to expand outreach in rural areas. Remote healthcare services efforts have made progress with the implementation of nodes to improve healthcare access; however, there is a need for better infrastructure development to leverage all these efforts. AI-driven tools, including those for natural language processing in Egyptian Arabic, have been developed but remain constrained by the high costs of wider implementation that require further support and may attract foreign investment through technology transfer. The overall achievements need substantial maintenance to sustain momentum. Similarly, entrepreneurship support programs have benefited hundreds of entrepreneurs but need to be materialised more and more into successful companies, which may require some regulatory support or other types of support outside the program's scope and require more collaboration and use of resources in a more efficient way to achieve targets.

Sustainability: score 2/5

Sustainability remains a key challenge for many initiatives under the UNDP-MCIT program due to their significant reliance on external funding, primarily from the government budget, which impacts their long-term viability. Efforts are being made to enhance self-sufficiency through revenue generation from program services, but there is still a need for more progress in reducing dependency on public funding. This reliance exposes the programs to potential budgetary constraints, limiting their ability to operate independently and consistently.

Some initiatives have made strides in integrating sustainable practices and have shown promise, but their financial sustainability remains heavily tied to governmental funding. The absence of diversified self-funding mechanisms raises concerns about the continuity of these efforts. Similarly, while cybersecurity tools have been implemented effectively and contribute to national resilience, their long-term success depends on maintaining stable economic conditions to ensure consistent funding.

These challenges underscore the importance of adopting robust, diversified financial strategies. Engaging private sector stakeholders through CSR initiatives and sponsorships could provide supplementary funding for areas that can benefit from external investment. While financial sustainability requires further attention, the projects promote best practices in various areas and

demonstrate the potential for impactful contributions to the broader UNDP-MCIT program objectives.

Impact: score 3/5

The UNDP-MCIT programs have made significant contributions to Egypt's development; however, the absence of comprehensive strategic and digitized impact measurement mechanisms limits the ability to assess their long-term impact. While the program has supported the creation of hundreds of startups, fostering economic growth and innovation, there is a need for a robust follow-up system to evaluate the sustainability and broader economic contributions of these ventures. Similarly, although the training initiatives have achieved high employment rates for graduates within a short period, the absence of evaluations on long-term career progression and job retention leaves critical success factors unmeasured.

Efforts to empower women and persons with disabilities through entrepreneurial training have enabled their participation in the economy, yet there is a need to track whether these participants transition into sustainable income-generating activities. Additionally, initiatives to position Egypt as a regional ICT hub by attracting international investments demonstrate promise, but further analysis is needed to evaluate their enduring economic and technological impacts.

AI-driven tools developed under the program have introduced innovative solutions for early disease detection, yet their adoption and consistent use across the healthcare system remain areas requiring further attention. Without systematic data collection and analysis, understanding these initiatives' true reach and transformative potential becomes challenging, potentially limiting their perceived impact and opportunities for improvement. Strengthening data-driven evaluation mechanisms will be key to maximising the effectiveness and scalability of these efforts.

Effectiveness: score 3/5

The evaluation highlights that while the UNDP-MCIT programs have achieved key milestones, significant challenges remain, particularly in planning and leveraging AI-driven data strategies to enhance their overall effectiveness. For instance, delivering 96,000 remote healthcare consultations has addressed critical needs in underserved areas. However, the absence of comprehensive showcasing of the success aligned with the broader program objectives has limited the initiative's potentially huge impact.

Support for thousands of entrepreneurs has contributed significantly to Egypt's innovation ecosystem, but without cohesive integration into the wider strategy, the outcomes may not fully align with long-term national goals.

Addressing these challenges through better strategic planning, leveraging AI-driven insights, and fostering greater integration across initiatives will enhance the overall effectiveness and long-term success of the programs.

7.3 Cross-Cutting Issues, CPD, GWP, SDGs Alignment with UNDP-MCIT Program:

7.3.1 Cross-Cutting Issues related to Gender Equality and Women's Empowerment, International Exposure and AI Integration

The UNDP-supported programs have significantly contributed to promoting gender equality and empowering women. **TIEC** supported 400 women entrepreneurs through the *Heya Raeda* program and included women in its *InnovEgypt* initiative to enhance entrepreneurial skills.

DT4SDE trained 1,500 women and persons with disabilities in digital marketing, FinTech, and entrepreneurship through the *Qodwa.Tech* platform, where women accounted for 40% of the beneficiaries, with 70% reporting increased confidence and economic activity. **ITI** also encouraged female participation in ICT training programs, ensuring substantial representation of women in their initiatives.

Disability Inclusion

Programs have been designed to include persons with disabilities (PwDs) and provide them with tailored support. **DT4SDE** provided digital training and entrepreneurial skills to 500 PwDs via platforms like *Taheel*. **ITI** offered specialized programs, including sign language courses, to support individuals with hearing disabilities, thereby ensuring inclusive training. Additionally, **NTRA** contributed by providing customer services specifically tailored to enhance digital inclusion for PwDs.

Youth Empowerment

Empowering youth remains a central objective across programs. **ITI** trained 30,000 young people annually in ICT skills, achieving an 85% employment rate before graduation. **TIEC** trained 534,396 youth through initiatives like *InnovEgypt*, focusing on building their

entrepreneurial capacity. **MERC** played a vital role in engaging youth by developing ICT hubs and innovation parks, fostering a dynamic ecosystem for their growth.

Leaving No One Behind (LNOB)

To ensure inclusivity, **DT4SDE** established 81 telemedicine nodes, delivering 96,000 consultations to underserved communities, and expanded digital education and healthcare access in rural areas. **MERC** addressed the digital divide by improving ICT infrastructure in marginalized communities. Similarly, **NTRA** promoted digital inclusion by expanding broadband services in rural regions, ensuring that no one is left behind in the journey toward digital transformation.

Cross-Cutting Issue related to International Exposure

The programs' international collaborations have significantly expanded Egypt's global presence. **NTRA** partnered with African and Arab countries to enhance knowledge sharing and build regional ICT capabilities. **AIC** collaborated with global institutions to advance research and innovation in AI and emerging technologies. **MERC** positioned Egypt as a regional ICT hub, attracting international investments and fostering global recognition of Egypt's technological advancements.

Cross-Cutting Issue related to AI Integration

AI integration plays a pivotal role across several UNDP-supported projects, enhancing their effectiveness and alignment with Egypt's development priorities. AI integration is crucial in advancing the UN's Sustainable Development Goals (SDGs) by enhancing data processing, automating tasks, and offering predictive insights. It supports national strategies and public policies by improving decision-making and resource management. AI can drive economic prosperity, foster innovation, and optimize the use of resources. It contributes to tackling global challenges like poverty, health, and climate change. Additionally, AI can promote social equity through inclusive technologies. AI fosters societal well-being and supports long-term prosperity by aligning with national development strategies. As part of the UNDP-MCIT program, The Applied Innovation Center (AIC) leads in AI-driven solutions, developing tools for early disease detection and natural language processing (NLP) tailored to Egyptian Arabic. These innovations support healthcare advancements and governance systems by improving accessibility and public service efficiency. The Digital Transformation for Sustainable Development in Egypt (DT4SDE) project leverages AI to deliver telemedicine services, facilitating 96,000 consultations and improving healthcare access in underserved areas. The Information Technology Institute (ITI) integrates AI into its training programs, equipping youth with advanced skills in data science and AI technologies to meet market demands. Similarly, **MERC** employs AI-driven data hubs to optimize resource allocation and align initiatives with national and international goals. These applications highlight AI's transformative potential in

addressing critical challenges in healthcare, education, and governance, while promoting inclusivity and sustainability across projects.

7.3.2 Alignment of the UNDP-MCIT Program with CPD (Country Programme Document)

The six projects under UNDP-MCIT program align with the priorities outlined in Country Programme Document (CPD), focusing on fostering an inclusive society, building a resilient economy, ensuring social protection, enhancing human capital development, and promoting climate resilience and governance. TIEC supports inclusive economic development and governance by nurturing innovation and entrepreneurship across various sectors. Through initiatives like startup incubators and capacity-building programs, TIEC empowers youth and women, enabling them to contribute effectively to the national economy. NTRA plays a critical role in advancing digital inclusion and governance. By expanding broadband access, particularly in underserved areas, NTRA bridges the digital divide, ensuring equitable access to technology. Moreover, its efforts in modernizing digital infrastructure align with the CPD's emphasis on enhancing governance and promoting sustainable economic growth. MERC contributes to climate resilience and natural resource management by integrating green ICT practices into its projects. Through initiatives in renewable energy and e-waste recycling, MERC ensures that technological advancements in Egypt are environmentally sustainable, aligning with the CPD's priority of safeguarding natural resources. AIC focuses on enhancing governance through the development of digital tools and innovative solutions. By leveraging AI and advanced analytics, AIC addresses challenges in governance, urban planning, and national security, supporting the CPD's vision of improved administrative systems and governance structures. DT4SDE supports inclusive societies and social protection through its focus on digital transformation. By enabling digital literacy, promoting telemedicine, and providing targeted support to women and persons with disabilities, DT4SDE addresses societal disparities and strengthens social protection mechanisms. Finally, ITI is pivotal in fostering human capital development by equipping individuals with ICT and digital skills needed in the modern workforce. With a particular focus on youth and underrepresented groups, ITI's training programs align with the CPD's priority of empowering human capital to drive Egypt's socio-economic growth.

7.3.3 Alignment of the UNDP-MCIT Program with GWP (Government Work Programme)

The six projects under UNDP-MCIT program demonstrate strong alignment with Egypt's Government Work Programme (GWP), which emphasizes economic and social development, improving citizens' living standards, enhancing governance and combating corruption, national security and foreign policies, and sustainable and environmental development. TIEC drives innovation to foster economic and social development by supporting startups and training entrepreneurs, creating jobs, and advancing the entrepreneurial ecosystem in Egypt. NTRA

contributes to improving citizens' living standards by modernizing digital infrastructure and expanding connectivity in rural and underserved areas, enabling equitable access to technology and online services. MERC advances sustainable and environmental development through green ICT practices, such as promoting renewable energy projects and e-waste recycling, ensuring environmental sustainability in Egypt's technological growth. AIC leverages AI-driven solutions to enhance governance and address national security challenges. By developing advanced tools for resource management and public administration, AIC supports Egypt's efforts in combating corruption and improving governance efficiency. DT4SDE promotes digital transformation to achieve social equity and improve living standards by enabling digital access for marginalized groups, including persons with disabilities and women, and by enhancing access to healthcare services through telemedicine. ITI plays a pivotal role in fostering economic sustainability and development by equipping individuals with future-ready ICT skills, directly contributing to job creation and reducing unemployment. Together, these programs embody the GWP's vision of a prosperous, equitable, and sustainable Egypt.

Category	TIEC	NTRA	MERC	AIC	DT4SDE	ITI
Economic and Social Development	Supports entrepreneurship through 2,432 startups and 76,000 jobs, fostering MSMEs and innovation hubs.	Strengthens telecom infrastructure (5G, IoT) and digital inclusion, enabling economic growth.	Develops ICT hubs, global data centers, and technology parks, promoting financial inclusion and innovation.	Provides AI-driven solutions for governance and healthcare, aiding economic resilience.	Advances digital transformation through entrepreneurship training and telemedicine access.	Trains 30,000 individuals annually in ICT, bridging the skills gap for economic growth.
Improving Citizens' Living Standards	Empowers women through Heya Raeda and supports individuals with innovative resources.	Promotes digital inclusion for persons with disabilities and expands broadband access.	Enhances access to digital services and fosters inclusivity in financial systems.	Improves healthcare with AI-driven early disease detection tools.	Provides healthcare access via 81 telemedicine nodes and entrepreneurship training for marginali	Enhances ICT skills among youth, improving employability and access to opportunities.

					zed groups.	
Enhancing Governance and Combating Corruption	Strengthens governance through innovation hubs fostering transparent entrepreneurship.	Improves regulatory transparency and strengthens governance through telecom policy reforms.	Promotes efficient governance by integrating digital services and modern infrastructure.	Develops AI tools for judicial efficiency and urban governance.	Supports digital governance through e-government services and inclusion initiatives.	Enhances governance by providing skilled ICT professionals to public and private sectors.
National Security and Foreign Policies	-	Strengthens national security through advanced cybersecurity tools like EG Shield.	Aligns with regional and international ICT strategies, enhancing Egypt's global role.	Addresses national challenges with AI for governance, aligning with strategic priorities.	-	-
Sustainable and Environmental Development	-	Promotes green ICT practices and supports sustainable tech development.	Advances climate resilience through sustainable tech parks and renewable energy.	Uses AI for environmental monitoring and resource optimization.	Encourages low-carbon digital solutions and eco-friendly practices.	-

The six evaluated projects play a vital role in advancing Egypt's national priorities, as outlined in the Egyptian Government Work Programme 2024. These priorities focus on fostering economic and social development, improving citizens' living standards, enhancing governance, strengthening national security, and promoting sustainable and environmental development. Each project contributes uniquely to these pillars through targeted interventions and innovative solutions, aligning with the broader vision of sustainable and inclusive growth. Below is an analysis of how these projects address each priority area.

Economic and Social Development

Fostering sustainable and diversified economic growth involves creating opportunities across sectors and improving infrastructure and public services. **TIEC** supports this goal by nurturing entrepreneurship, training over 534,000 individuals, and facilitating the growth of 2,432 startups, generating 76,000 jobs. It empowers SMEs and promotes innovation hubs, essential for sustainable development. **NTRA** contributes by enhancing telecom infrastructure, including 5G and IoT, which are critical for economic advancement and digital inclusion. **MERC** furthers economic development by establishing ICT hubs, global data centers, and technology parks, facilitating financial inclusion and innovation while driving Egypt's transition to a knowledge-based economy. **AIC** aligns with these goals by developing AI-driven tools that provide practical solutions for governance and healthcare, fostering economic resilience. **DT4SDE** advances economic development through digital transformation initiatives, including telemedicine and entrepreneurship training, creating opportunities for underserved groups. **ITI** closes the ICT skills gap by training 30,000 individuals annually, improving employability and ensuring a steady supply of skilled professionals to support economic growth.

Improving Citizens' Living Standards

Improving access to essential services like healthcare and education, supporting vulnerable populations, and promoting social justice are key priorities. **TIEC** addresses these needs by empowering women through the Heya Raeda program and offering resources to support individuals in innovative industries. **NTRA** ensures digital inclusion by improving access to mobile broadband and creating tailored services for persons with disabilities. **MERC** facilitates access to digital financial systems and public services, fostering inclusivity. **AIC** significantly enhances healthcare through AI-driven early disease detection tools, improving accessibility and efficiency in medical services. **DT4SDE** directly impacts underserved communities through its 81 telemedicine nodes, providing over 96,000 consultations and offering entrepreneurial training to marginalized groups. **ITI** ensures youth and rural populations access high-quality ICT education, enhancing employability and improving living standards.

Enhancing Governance and Combating Corruption

Improving state efficiency, rationalizing public spending, and strengthening transparency are essential steps toward better governance. **TIEC** fosters transparent entrepreneurship by supporting innovation hubs that encourage accountability and governance. **NTRA** enhances governance by reforming telecom policies to promote regulatory transparency and better service delivery. **MERC** integrates digital solutions into public administration, streamlining processes and improving institutional efficiency. **AIC** develops AI tools for judicial systems, enabling efficient decision-making and reducing case backlogs, which supports transparency and governance. **DT4SDE** advances digital governance through e-government initiatives,

ensuring inclusivity and improving public service delivery. **ITI** supports governance by supplying ICT professionals who can contribute to the modernization of public and private sectors.

National Security and Foreign Policies

Strengthening defense and security, enhancing international relationships, and maintaining Egypt's strategic role are key objectives. While **TIEC**, **DT4SDE**, and **ITI** primarily focus on economic and social innovation, they lack direct contributions to national security. However, **NTRA** strengthens national security by deploying advanced cybersecurity tools like EG | Shield, safeguarding critical digital infrastructure. **MERC** aligns with this objective by establishing global ICT hubs and contributing to regional and international digital strategies, reinforcing Egypt's global role. **AIC** addresses national challenges with AI-driven governance tools, aligning with strategic priorities that indirectly support national security.

Sustainable and Environmental Development

Addressing climate challenges, improving natural resource management, and adopting renewable energy are crucial for sustainability. **NTRA** promotes green ICT practices, supporting environmentally sustainable technological development. **MERC** establishes tech parks designed to incorporate renewable energy and climate-resilient strategies. **AIC** uses AI for environmental monitoring and resource optimization, offering scalable solutions for sustainable urban and agricultural planning. **DT4SDE** encourages low-carbon digital practices, such as eco-friendly digital transformation solutions. While **TIEC** and **ITI** focus primarily on economic and social innovation, their contribution to environmental sustainability is limited, with no direct emphasis on renewable energy or resource management.

7.3.4 Alignment of the UNDP-MCIT Program with SDGs (Sustainable Development Goals)

The UNDP-supported programs in Egypt align strongly with the Sustainable Development Goals (SDGs), addressing key development areas. For health (SDG 3), the **DT4SDE** program established 81 telemedicine nodes, providing 96,000 consultations to underserved areas, while the **AIC** developed AI tools for early disease detection, such as breast cancer diagnosis. In education (SDG 4), **ITI** trains approximately 30,000 individuals annually in ICT skills, with tailored programs for youth, women, and persons with disabilities.

In gender equality (SDG 5), **TIEC** supported 400 women entrepreneurs through the "Heya Raeda" program, while **DT4SDE** trained 1,500 women in digital marketing and FinTech through the "Qodwa.Tech" platform. To promote sustainable energy (SDG 7), **MERC** encouraged renewable energy use and environmentally friendly practices.

For economic growth (SDG 8), TIEC trained over 534,000 individuals in digital and entrepreneurial skills, creating around 75,000 jobs by supporting 488 startups. ITI achieved an 85% employment rate for its graduates. In innovation and infrastructure (SDG 9), MERC established ICT hubs and technology parks, enhancing Egypt's regional leadership, while TIEC and NTRA supported industrial innovation.

To reduce inequalities (SDG 10), DT4SDE provided tailored training and employment opportunities for 500 persons with disabilities, while NTRA expanded broadband access to rural areas. For sustainable cities (SDG 11), AIC developed AI-based urban planning tools to optimize resource management and foster inclusive development.

These programs collectively advance multiple SDGs, reflecting UNDP's commitment to inclusive growth, sustainability, and innovation in achieving the 2030 Agenda for Sustainable Development.

The table below presents a comprehensive mapping of six major programs in Egypt to the 17 Sustainable Development Goals (SDGs). Each program – NTRA, MERC, AIC, TIEC, ITI, and DT4SDE – is aligned with specific SDGs based on their initiatives, focus areas, and impacts. The mapping highlights how these programs contribute to national and global development priorities by addressing key issues such as education, healthcare, gender equality, economic growth, and environmental sustainability.

SDGSDG	TIEC	MERC	DT4SDE	NTRA	ITI	AIC
1. End poverty	Startup funding, job creation	Tech parks for economic uplift	Digital inclusion initiatives	Affordable digital services	Employment through ICT training	Cost-effective AI solutions
2. End hunger	-	GIS for agriculture	Rural tech access	-	-	Satellite imagery for agriculture
3. Ensure healthy lives	Health startups	E-health development	Telemedicine (96,000 consultations)	Cybersecurity in health data	Personalized medicine e-courses	AI in health screening
4. Quality education	Entrepreneurship training	Innovation hubs for youth	E-learning for 3,500+	Accessible digital content	ICT skill-building for 30,000 youth	NLP for e-learning
5. Gender equality	Heya Raeda (empowered 400 women)	Inclusive ICT programs	Targeted training for women	Accessible services for women	Gender-inclusive training programs	Women-focused AI applications

6. Water & sanitation	-	-	-	-	-	Satellite-based water monitoring
7. Affordable energy	-	Green ICT practices in tech parks	-	Low-energy spectrum management	-	Energy-efficient AI systems
8. Decent work	488 startups, 75,956 jobs	81 ICT hubs	Empowered women & PwDs	Digital economy support	85% graduate employment rate	AI-based job efficiency
9. Industry & innovation	Startup ecosystem	Data centers, tech parks	Digital infrastructure upgrades	Spectrum for 5G, IoT	ICT skill-building	AI & NLP innovations
10. Reduce inequality	Rural entrepreneurship	Digital equity in rural regions	Inclusive platforms for PwDs	Accessible ICT services	Targeted programs for underprivileged	AI for social equity
11. Sustainable cities	Smart city startups	GIS for urban planning	-	Digital services accessibility	-	Satellite monitoring for urban growth
12. Sustainable consumption	-	E-waste management programs	Eco-friendly practices	Green spectrum technology	-	AI for resource optimization
13. Climate action	Green tech startups	Green ICT practices	Low-carbon digital solutions	Digital efficiency initiatives	-	Climate-resilient satellite applications
14. Oceans	-	-	-	-	-	-
15. Life on land	-	Environmental monitoring systems	Sustainability campaigns	-	-	AI for biodiversity studies
16. Inclusive societies	Collaborative platforms	Digital governance	Governance through digital tools	Regulatory transparency	Digital inclusion programs	AI in judicial systems
17. Partnerships	Global partnerships	International collaborations	Partnered with GIZ, NilePreneur	African & Arab partnerships	Collaborated with global tech leaders	Regional AI knowledge sharing

The six evaluated projects under UNDP-MCIT align strongly with several of the United Nations Sustainable Development Goals (SDGs), showcasing their contribution to Egypt's sustainable growth and development strategy. Each project uniquely addresses critical global priorities:

- **TIEC** promotes innovation and entrepreneurship, directly contributing to SDG 8 (Decent Work and Economic Growth) by creating 488 startups and over 75,956 jobs. It also aligns with SDG 5 (Gender Equality) through programs like "Heya Raeda," which empowered 400 women entrepreneurs, surpassing its target. Additionally, TIEC supports SDG 9 (Industry, Innovation, and Infrastructure) by fostering a robust startup ecosystem and encouraging green technology initiatives linked to SDG 13 (Climate Action).
- **MERC** enhances Egypt's technological landscape with ICT hubs and innovation centers, advancing SDG 9. Its efforts in green ICT practices and e-waste management address SDG 12 (Responsible Consumption and Production) and SDG 13. MERC's GIS applications contribute to SDG 11 (Sustainable Cities) by supporting urban planning and SDG 2 (Zero Hunger) through agricultural applications.
- **DT4SDE** ensures healthcare access (SDG 3) through 81 telemedicine nodes, enabling over 96,000 remote consultations. It aligns with SDG 4 (Quality Education) by providing e-learning for over 3,500 individuals and SDG 5 by empowering women and PwDs through targeted training. The project also addresses SDG 10 (Reduced Inequalities) by creating inclusive digital platforms and promoting eco-friendly practices under SDG 13.
- **NTRA** contributes to SDG 9 through its spectrum management for emerging technologies like 5G and IoT, promoting digital infrastructure. It aligns with SDG 16 (Peace, Justice, and Strong Institutions) by ensuring regulatory transparency and improving access for underserved populations (SDG 10).
- **ITI** supports SDG 4 and SDG 8 by training 30,000 individuals annually in ICT skills, achieving an 85% employment rate pre-graduation. Its inclusive approach, particularly for women and youth, reflects a commitment to SDG 5 and SDG 10.
- **AIC** focuses on SDG 3 and SDG 9 through innovations like AI-driven healthcare solutions and NLP tools. It advances SDG 15 (Life on Land) and SDG 11 by leveraging satellite technology for environmental and urban monitoring, while promoting equity under SDG 10.

These projects collectively embody Egypt's commitment to achieving the SDGs, emphasizing economic empowerment, digital inclusion, innovation, and environmental sustainability. Their synergy demonstrates a coherent strategy toward fostering a sustainable, inclusive future.

8.0 Findings :

The program faced number of challenges and the thematic evaluation identified number of these key challenges impacting program effectiveness and sustainability. Accessibility and inclusivity remain significant issues, with limited outreach to rural and underserved areas and insufficient support for people with disabilities. Administrative hurdles, including bureaucratic delays in funding and complex application processes for startups, further complicate program implementation. Sustainability is another concern, with heavy reliance on external funding and limited diversification of revenue sources, posing risks to long-term viability.

Monitoring and evaluation systems lack the robustness needed to measure long-term impact and consistently track program outcomes. Infrastructure and capacity constraints, such as trainer shortages and outdated technology, alongside delays in infrastructure development, hinder program delivery. Engagement with marginalized groups, particularly women and youth in remote areas, faces challenges due to limited programs addressing intersecting vulnerabilities.

Scalability issues also emerge, with successful models not being expanded to meet broader demand, while resource constraints limit replication efforts. Addressing these challenges through strategic interventions can significantly enhance the programs' overall impact and sustainability.

The evaluation presents findings from the UNDP-MCIT program, which represents its 6 projects running with the size entities (TIEC, ITI, NTRA, MERC, DT4SDE, AIC), showcasing their contributions and alignment with CPD, SDGs, GWP, Cross-Cutting Issues, Egypt Vision 2030, and the Sustainable Development Goals (SDGs).

The UNDP-MCIT program has made notable strides in fostering entrepreneurship, innovation, digital transformation, and workforce development. However, challenges such as administrative inefficiencies, limited outreach to marginalized groups, and reliance on external funding highlight areas for improvement. Addressing these issues through strategic planning, inclusive implementation, and diversified funding models will enhance the sustainability and scalability of the program, reinforcing its alignment with Egypt Vision 2030 and the Sustainable Development Goals.

1. Empowering Entrepreneurs and Fostering Innovation

The UNDP-MCIT program has achieved significant milestones in promoting entrepreneurship and innovation. Initiatives under this program have supported thousands of entrepreneurs, exceeding targets in areas such as women's empowerment and digital skills training. These efforts have contributed to the establishment of hundreds of

startups, creating tens of thousands of jobs and fostering a culture of innovation aligned with SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation, and Infrastructure).

Despite these successes, challenges remain. Administrative delays in fund disbursement have impacted startups' ability to scale effectively, while the absence of comprehensive long-term tracking mechanisms has limited the evaluation of sustained outcomes. Additionally, outreach to rural and underserved areas requires enhancement to ensure broader inclusivity.

2. Advancing Digital Transformation and Infrastructure

The program has supported advancements in digital transformation through the implementation of automated systems for spectrum management, enabling efficient allocation for emerging technologies such as 5G and IoT. Cybersecurity tools have strengthened national defenses, while broadband expansion has improved connectivity in rural areas.

However, delays in spectrum allocation and a dependence on external funding have posed challenges to the efficiency and sustainability of these initiatives. Additionally, limited mechanisms to measure long-term impact hinder a thorough evaluation of their effectiveness.

3. Supporting Inclusive Economic Growth

The program has focused on initiatives such as ICT park development and global data centers, positioning Egypt as a regional ICT hub. Efforts to empower women and persons with disabilities through dedicated platforms have enhanced economic participation and inclusion, aligning with SDG 8 and SDG 9.

Nevertheless, logistical challenges, including the need to improve the quality of internet access in rural areas and build up pipelines of technical experts to support scaling in all rural areas, are indeed a challenge. Also, the dependency on government funding continues to raise concerns about long-term program sustainability.

4. Leveraging AI and Emerging Technologies

AI has been a focal area within the program, driving advancements in healthcare, governance, and education. AI-driven diagnostic tools and natural language processing engines for Egyptian Arabic have enhanced accessibility and contributed to cultural preservation. However, the program in this direction needs more buy-in from the government and other stakeholders to technically, administratively and financially support these initiatives to make wider implementation effective. On the other hand, bureaucratic delays and resistance to change are affecting the scaling

5. Transforming Healthcare and Education through Digital Tools

The program has improved healthcare access in underserved areas by establishing digital platforms and applications to help support thousands of remote consultations. Also, Digital platforms have also empowered women and persons with disabilities through skills training, contributing to SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), and SDG 5 (Gender Equality).

Challenges in this area include limited connectivity in rural regions, delays in infrastructure development, and relatively low participation rates among persons with disabilities. The program's reliance on government funding partnerships presents additional risks to long-term sustainability.

6. Equipping Youth with Future-Ready Skills

Through specialized training tracks in AI, cybersecurity, and freelancing, the program has prepared youth for emerging job markets. With high employment rates among graduates, these efforts align with SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth).

However, resource constraints, particularly in rural areas, have limited accessibility and scalability. Financial sustainability is also a concern due to the program's dependence on government funding.

9.0 Conclusions, Recommendations and Lessons Learned

9.1 Conclusion

The evaluation of the six programs demonstrates their significant contributions to Egypt's digital transformation, innovation, and social inclusion. Each program aligns with **Egypt Vision 2030** and the **UN SDGs**, addressing key national priorities in education, healthcare, economic growth, and environmental sustainability. Together, they have driven advancements in digital skills development, entrepreneurship, and technological innovation, benefiting diverse groups, including women, youth, and people with disabilities (PwDs).

Despite their successes, there are several cross-cutting challenges that persist:

Inclusivity groups Challenges: Although many efforts have been made in this direction, more can be done to reach out to women and people with disabilities in rural areas. Furthermore, in urban digital areas, platforms have been a source of constraint and promotion in areas with low internet penetration.

Sustainability Concerns: Dependence on governmental funding is not sustainable in the long run. The lack of integration of sustainable models and diverse sources of income further risks the continuity of some initiatives.

Impact Measurement: The lack of real-time and efficient monitoring and evaluation digital systems has not allowed for effective assessment of long-term effects. This gap prevents the ability to change strategies and ensure that they are aligned with the overall development goals. It is also affecting the capability to raise funding from different sources.

These initiatives have made significant progress towards the realization of a digital and inclusive economy in Egypt. However, the challenges need to be addressed to guarantee the durability of their effects and to ensure that the acquired benefits are shared equally among all members of society. To strengthen their contributions and bring them into closer alignment with Egypt's long term development objectives, coordination needs to be enhanced, logistical efficiency needs to be improved, and sustainability strategies need to be promoted.

Recommendations for Program Enhancement

1. **International & Local Collaboration and Capacity Building**

Strengthening collaboration and capacity building is essential for optimising the impact and sustainability of the UNDP-MCIT program. Building strong partnerships with local and international entities ensures that programs effectively address community-specific needs. Investing in human capital such as trainers and consultants will increase the number of people who can be touched, as well as the quality of all the projects offered, especially in underserved areas. Global alliances with international organisations and technology leaders offer access to advanced tools, funding, and expertise to help meet the goals of both global and local development.

2. **Measurements and Data-Driven Program Optimization**

Developing comprehensive measurement frameworks is essential for evaluating and improving program outcomes. Clear metrics for assessing job creation, skill development, and beneficiary performance ensure alignment with strategic goals and provide actionable insights. Centralising data management under a dedicated framework enhances data collection, analysis, and forecasting, enabling better alignment with national priorities and future needs. Integrating overlapping initiatives fosters synergy and avoids redundancy, while simplifying administrative procedures increases accessibility for participants. Scaling proven models of training and telemedicine initiatives extends their benefits to underserved regions, ensuring impactful interventions.

3. **Inclusive Access, Financial Empowerment, and Sustainability**

Digital portals and localized outreach campaigns should be used to expand access to ensure that beneficiaries and marginalized groups can effectively participate in programs. Financial inclusion efforts, such as financial literacy training and digital banking tools, empower underserved populations to engage in the digital economy. Having private sector partners and international donors helps to diversify funding sources for sustainable financial support. Promoting gender equality through targeted initiatives helps overcome barriers to women's participation in leadership and entrepreneurship and promotes inclusive and equitable opportunities.

4. **Integrating Artificial Intelligence for Program Effectiveness**

Artificial Intelligence (AI) should be central to program design, implementation, and evaluation. Process performance data can be analyzed, patterns identified, outcomes predicted, and actionable solutions recommended using AI-driven tools. This supports data-driven decision making, resource optimization, and real time impact measurement. AI also facilitates advanced forecasting to enable the alignment of initiatives with national and global priorities, thus allowing for adaptation to emerging trends. Moreover, AI-powered platforms can help with automated administrative processes, enhance participant engagement, and provide personalized learning and development experiences. Leveraging AI puts programs on the cutting edge of technology while promoting sustainable and inclusive outcomes.

5. **Encourage Green Practices**

Incorporating sustainable practices into program frameworks aligns with global climate goals and fosters long-term environmental sustainability. Initiatives like e-waste recycling and energy-efficient technology adoption can significantly reduce the environmental impact of digital transformation. Programs should promote green ICT practices, such as reducing energy consumption in data centers, utilizing renewable energy, and adopting sustainable procurement processes. Raising awareness and providing training on eco-friendly practices among stakeholders encourages environmental accountability and creates opportunities in green industries, supporting the broader sustainable development agenda.

6. **AI and Sustainable Development Summit**

Organizing an international summit on Artificial Intelligence and Sustainable Development fosters collaboration among experts, stakeholders, and policymakers. This platform would drive innovation, facilitate partnerships, and accelerate the integration of AI into development strategies while promoting global knowledge exchange. The summit should address several pressing issues to ensure its relevance and impact. A key focus should be on the impact of AI on jobs, examining both the opportunities it creates and the challenges it poses. Discussions should explore strategies to upskill the workforce for AI-driven roles, mitigate job displacement risks, and support inclusive economic growth. Addressing issues related to sustainable development is equally vital, including how AI can contribute to climate action, resource efficiency, and eco-friendly technologies while minimizing its environmental footprint. The summit should also tackle the growing tech concentration gap by fostering collaboration across diverse regions, ensuring equitable access to AI technologies, and promoting inclusivity in AI research and application. Attracting investments in AI innovation and infrastructure should be another priority, with discussions on creating favourable ecosystems for AI-driven startups and scaling projects that align with sustainable development goals. By addressing these critical topics, the summit can be a transformative platform for leveraging AI to advance sustainable, equitable, and economically viable development worldwide.

7. **Study Tours and International Exposure Programs**

Facilitating study tours and international exposure programs for startups and officials introduces participants to global best practices, trends, emerging technologies, and successful innovation models. Providing opportunities to network with international investors, accelerators, and mentors supports startups' growth and scalability while fostering partnerships that enhance innovation and entrepreneurship.

8. **Enhancing the Organizational Excellence through Strategic Innovation:** To enhance the organisational excellence of the execution entities, it is crucial to adopt strategic innovation as a foundational approach. This involves conducting a comprehensive assessment of the current organisational structures, workflows, and capacities to identify areas for improvement and innovation. Entities can leverage Artificial Intelligence (AI) as a key enabler to develop innovation-based frameworks that foster adaptability, efficiency, and creativity. AI-driven tools can play a pivotal role in analysing existing processes,

predicting future needs, and optimising decision-making, aligning institutional practices with the program's vision, objectives, and desired results. Additionally, integrating AI-powered management systems can streamline operations, enhance resource allocation, and support continuous learning within the organisation. Building institutional capacity through targeted training programs and knowledge-sharing initiatives further reinforces entities' ability to implement innovative solutions effectively. By embedding a culture of continuous improvement and leveraging strategic innovation, the UNDP-MCIT Program execution can better align with program goals and realize sustainable, impactful outcomes that strengthen their overall institutional capacity.

9. Program interventions should move from relying on unverified assumptions to adopting iterative learning and adaptive strategies. This approach involves piloting and testing scalable solutions, refining methodologies based on data-driven insights, and continuously validating the sustainability of outcomes, including startup viability and the scalability of digital solutions. Additionally, it is essential for the UNDP-MCIT program to evolve its assessment of entrepreneurial efforts to ensure stronger alignment with national challenges and priorities in critical sectors such as education, agriculture, manufacturing, transportation, healthcare, and finance.

Conclusion

These recommendations provide a strategic roadmap for enhancing the effectiveness, inclusivity, and sustainability of UNDP-MCIT program. These initiatives can achieve transformative and scalable outcomes by fostering collaboration, leveraging data-driven approaches, adopting green practices, and fully integrating AI across all facets of program operations. Implementing these measures aligns with national and global development priorities, ensuring impactful and future-ready interventions.

Lessons Learned:

- **Inclusivity Drives Impact:** Programs that emphasize inclusivity demonstrate more substantial and more sustainable outcomes and enhance economic and social participation for marginalized groups, contributing to the achievement of national and international development goals.
- **Strategic Outreach is Key:** Effective engagement with rural and underserved populations requires meticulous logistical planning and robust partnerships with local entities, the private sector, and NGOs. One example of the necessity to have such a partnership is the reach out in these communities, which has been proven challenging due to the need for more support to raise the minimum par to provide support services such as the necessary pretraining and support to provide sufficient prerequisites for different projects that provide capacity building and entrepreneurial activities. In general
- **Collaboration Boosts Results:** Partnerships with both local and international organisations have significantly amplified program efficiency and impact. Collaborations, such as those between UNDP and MCIT, have facilitated resource-sharing, knowledge transfer, and technical support, enabling programs to align with national priorities while benefiting from global expertise.
- **Monitoring Ensures Sustainability:** The lack of comprehensive monitoring systems for data collection and integration hindered the ability to measure long-term impacts effectively and expose success stories more efficiently. Real-time feedback loops and data-driven adjustments are crucial for improving program relevance and ensuring that interventions adapt to changing contexts. Standardised monitoring frameworks, including building integrated digital platforms to support centralized data collection and reporting, are critical for future collaboration. They will allow easier monitoring and control, enhance accountability, and provide actionable insights for future planning as well as faster resolution of issues strategically. The data-driven approaches, particularly through AI and centralized data hubs can significantly improve overall program outcomes. By collecting and analyzing performance data, programs can identify gaps, optimize resource allocation, and predict future needs, ensuring that interventions remain effective and aligned with national and global priorities.
- **Address Bureaucratic Delays:** Bureaucratic inefficiencies remain significant barriers, especially in funding disbursement and resource allocation. Some projects have faced delays due to complex administrative procedures, limiting their ability to respond to on-ground demands. Streamlining these processes and introducing flexible contractual mechanisms can enhance efficiency and user experience.
- **Sustainability Needs Diverse Funding:** Heavy reliance on government funding poses risks to program longevity. Developing alternative funding models, such as public-private partnerships or revenue-generating services, is critical. Some projects may be able to monetise services and add value for better sustainable revenue streams to support the funding objectives of projects.

- **Empowerment Drives Change:** projects that emphasise entrepreneurship, mentorship, and skill-building to foster long-term economic independence and have showcased the transformative power of empowering individuals with the tools to succeed.
- **Environmental Focus is Necessary:** Incorporating green ICT practices into program frameworks aligns with global sustainability goals while opening up economic opportunities in emerging green industries.
- **Scalability Requires Planning:** Many successful initiatives have demonstrated strong localised impacts. However, their scalability has been limited by resource constraints and a lack of strategic design for broader implementation. Developing phased rollouts and leveraging shared resources can ensure these models reach a wider audience. The collaboration here between different stakeholders from other ministries might be critical to long-term impact.
- **Local and International Exposure:** Continuous engagement in conferences, studies, exhibitions, seminars, and other relevant activities is not a luxury but a necessity for achieving the long-term impact of programs. These efforts are essential to maintaining a winning collaboration between partners, such as UNDP and MCIT, ensuring that all projects under the program's umbrella are fully supported, deliver the desired results, and remain aligned with global trends. For example, integrating AI deeply into all activities is vital for enhancing efficiency and effectiveness and sustaining the program's impact over time. This lesson highlights the importance of adaptability and proactive alignment with emerging technologies and global best practices to secure enduring success.
- By adopting these lessons learned, future programs can enhance their inclusivity, efficiency, and sustainability. This ensures alignment with Egypt's developmental priorities, the CPD objectives, and global best practices, fostering impactful and transformative outcomes.

Annex

References

- Technology Innovation and Entrepreneurship Center (TIEC)
- National Telecom Regulatory Authority (NTRA)
- Maximizing Egypt's Resources and Capabilities (MERC)
- Applied Innovation Center (AIC)
- Digital Transformation for Sustainable Development in Egypt (DT4SDE)
- Information Technology Institute (ITI)

Interviews: At least two meetings were conducted with all relevant stakeholders for each project. These meetings involved the participation of all concerned and accountable parties, who presented their respective projects, answered questions, and provided the necessary information.

Documents:

- 1- Egypt CPD (2023-2027)
- 2- proc notice DT evaluation - for signature
- 3- Government Work Program
- 4- Project Revision with Haya Karima new Output in English, July 14th 2021
- 5- MERC Annual Report Jan to Oct. 31 2024
- 6- ME-DT4SDE Dec 2024 - Thematic Evaluation
- 7- Broad meeting
- 8- M&E Meeting for MERC Project (December 2024)
- 9- Digital Transformation for Sustainable Development in Egypt (DT4SDE)