Digital Cooperation Organization

Reshaping the **Digital Economy Landscape**

THE DIGITAL SPACE ACCELERATORS

2023-2024

REPORT

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FOREWORD

Deemah AlYahya

Secretary-General

The Digital Cooperation Organization

In the fabric of the global economic evolution, the digital age stands as a revolutionary force that has reshaped the dynamics of social progress and economic opportunities. The world, with its rich and vibrant tapestry of cultures, is on the verge of a significant transformation, fueled by the digital wave that transcends borders and cultural specificities.

This report offers a comprehensive exploration of the evolving digital realm, marked by its robust potential to redefine the pathways of economic and societal advancement globally.

The **Digital Cooperation Organization (DCO)** exemplifies the collaborative ethos essential to unlock the full potential of the digital economy. This document reflects the DCO's commitment to fostering digital growth, shedding light on the intricate challenges and extensive possibilities that unfold for the global digital economy.

Tackling subjects ranging from cross-sector collaborations to the enablement of underrepresented groups via ICT, and from narrowing the digital skills divide to protecting digital rights, this report discusses issues that are both urgent and persistent. Each section delves into critical discussions and forward-thinking strategies that can steer the future of the global digital economy towards inclusive and sustainable digital prosperity.

It serves as a clarion call for policymakers, industry forerunners, and all stakeholders to unify their energies and craft a digital tomorrow that is just, durable, and reflective of the diverse ambitions of nations and their citizens worldwide.

The story of the digital revolution is one of advancement and vigilance, of embracing prospects, and overcoming challenges. As you peruse the insights and analysis offered, may you discover the motivation and understanding necessary to contribute to the dynamic narrative of digital transformation.

Join us on this journey to welcome the digital age as a driver for economic growth and a brighter, more interconnected future.

Alaa Abdulaal

Chief of Digital Economy Foresight

The Digital Cooperation Organization

The digital revolution is changing everything in our lives. This technological shift will continue progressing into the future and can unlock potential that may lead to a fundamental restructuring of our economic and social landscape. Recognizing the interconnected nature of the digital world, the DCO promotes collaboration and addresses shared challenges in the digital economy. This Report showcases the DCO's "Digital Space Accelerator" program, which aims to build a more inclusive and prosperous digital future for all.

The DCO's Digital Space Accelerator (DSA) program serves as a catalyst for progress by bringing together a diverse range of stakeholders. Through workshops, roundtables, and in-depth research, the DSA fostered collaboration and identified key challenges hindering the growth of the digital economy.

In the inaugural edition, the Report aims to showcase key actionable insights arrived at through the culmination of extensive research and collaboration. This was demonstrated through a multipronged approach with more than 1,500, diverse stakeholders participating through various forms of engagement – roundtables, virtual meetings, surveys, and one-on-one discussions. The six focal areas of the DSAs consolidate perspectives and provide constructive ideas/solutions, enabling emerging and underdeveloped economies to build a thriving digital ecosystem for the future.

This Report is more than a collection of data – it's a blueprint for action. We aim to inspire policymakers, industry leaders, and stakeholders alike to join us in forging a future where the digital economy fosters inclusivity, prosperity, and a brighter tomorrow.

As you engage with this Report, I encourage you to see it as an invitation to contribute to the ongoing narrative of our digital transformation. Let these insights empower you to become an active participant in shaping a digital future that is both equitable and sustainable.

Welcome to this exciting exploration of the digital frontier.

Preface

The world stands at the forefront of the digital transformation sweeping across the global landscape and profoundly impacting the digital economy. This transformation brings both challenges and opportunities in today's evolving digital economic ecosystem. In the dynamic arena of this digital economic evolution, nations must grasp and navigate the path to harness their potential. Numerous barriers hinder a thriving digital economy, including a lack of investments, insufficient digital skills, limited data standards, few cooperation mechanisms, and inadequate support for SMEs.[1]

Acknowledging the necessity for strategic leadership to confront those barriers and seize the opportunities of the digital economy, the DCO stepped forward as a proactive entity on the international stage. It is clear that the intricate, boundary-defying nature of digital change demands a collaborative approach rather than isolated efforts. This is why the DCO introduced the Digital Space Accelerator (DSA), as an innovative catalyst for change. The DSA brings together thought leaders, subject matter experts, and decision-makers from diverse sectors — including governments, private enterprise, academia, and civil society — from across the globe. Its core mission is to champion cooperation and foster partnerships that address these systemic barriers, ultimately aiming to erect a vibrant, sustainable, and inclusive digital economy.

Looking at the global challenges of the digital economy, overarching trends and the DCO member states growth opportunities, the DCO identified key areas to capitalize on for the year 2023:

Focused Challenges

Public-Private Partnerships for Digital Economy Development

Essential for driving innovation and sustainable growth through coordinated efforts between government bodies and private sectors.

Bridging the Digital Skills Gap for Youth

Focuses on equipping young people with digital skills to meet future job demands and reduce youth unemployment.

Empowering Women in and through ICT

Aims to address gender disparities and enhance women's roles in technology and leadership within the digital economy.

Tax and Financial Incentives for the ICT Sector

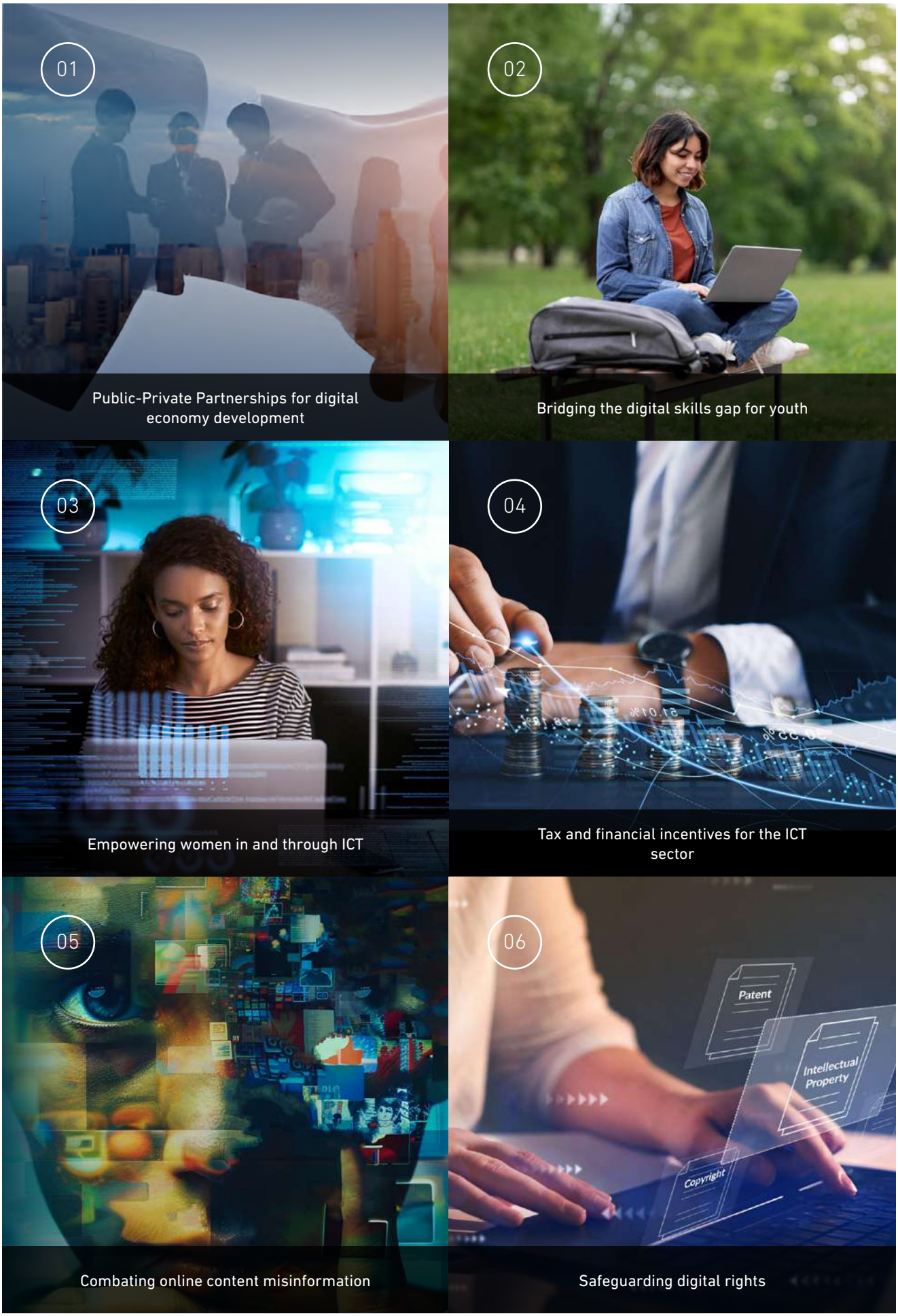
Advocates for strategic tax and financial policies to stimulate growth and digital transformation in the ICT sector.

Combatting Online Content Misinformation

Develops strategies to curb the rapid spread of false information, ensuring trust and integrity in the digital space.

Safeguarding Digital Rights

Ensures a secure and equitable digital environment, prioritizing the protection of rights for all users, especially vulnerable groups.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Copyright
Safeguarding digital rights

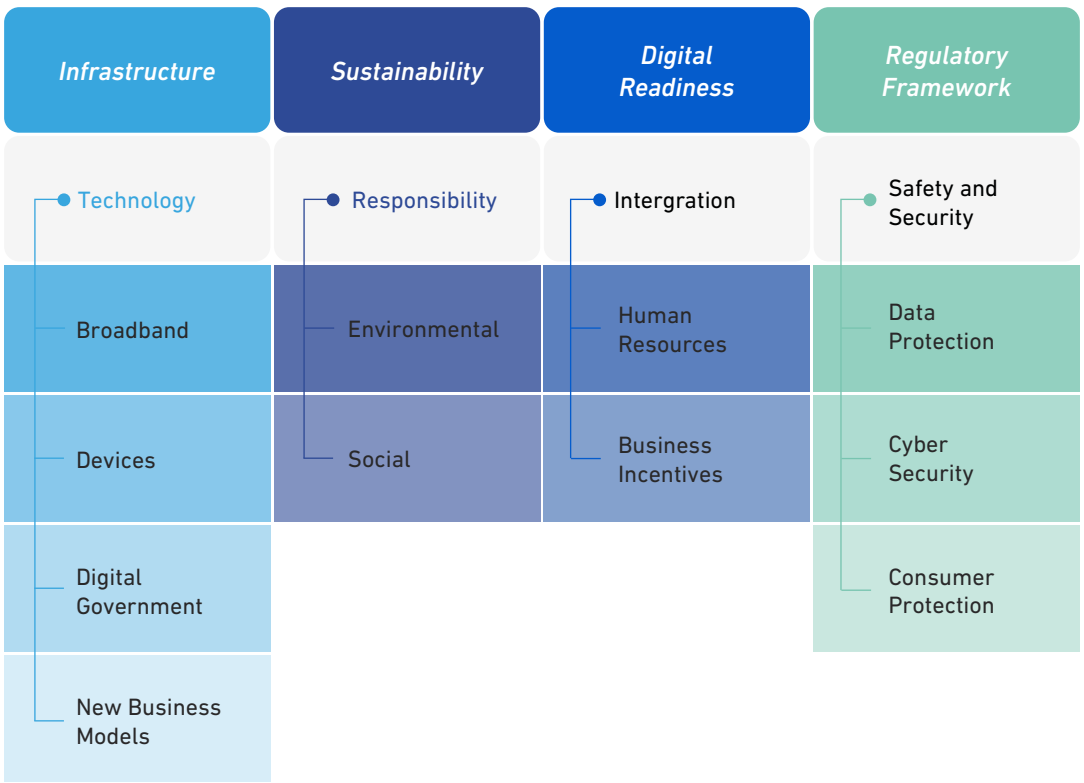
01

Public-Private Partnerships for Digital Economy Development

This topic underscores the necessity for symbiotic partnerships between the governmental bodies and private sectors to kindle innovation and drive sustainable growth.

Economies face significant challenges with digital infrastructure financing due to nonconductive policies, high investment risks, limited expertise, and inadequate public-private collaboration hindering their full participation in the digital economy. Addressing these issues requires substantial investment, with the ITU estimating a USD 428 billion "Digital Funding Gap" for universal broadband, predominantly from low-income and emerging markets [2]. To achieve this, DCO is dedicated to achieving social prosperity and driving the growth of the digital economy by unifying the efforts of its members to advance digital transformation. Increased partnerships, as explored in the 'Public-Private Partnerships (PPPs) are essential to leverage combined expertise and investment, unlocking digital economy potential and improving citizens' access to digital technologies.

Figure 1: Digital Economy Enablers



02

Bridging the Digital Skills Gap for Youth:

Tackling the acute need for digital literacy and expertise to prepare young people for the jobs of tomorrow.

Digitalization and technological advances are reshaping the job market, emphasizing the growing importance of digital skills globally. Despite an estimated 97 million new digital jobs expected by 2025, disparities in basic digital skills hinder equitable access, impacting lifelong learning and future skill development. Bridging digital skill gaps can combat youth unemployment, transform economies, and boost productivity. To address this, the DCO is championing "Bridging the Digital Skills Gap for Youth," empowering the next generation with cutting-edge digital skills to ignite innovation, enhance employability, and drive sustainable economic growth for the digital future.

Figure 2: Digital Skills Framework

Digital Mindset Skills

Attitudes and approaches necessary to navigate efficiently in the digital environment

- Problem Solving/Critical Thinking
- Virtual Collaboration
- Adaptability

Essential Digital Skills

Foundational skills crucial for functioning effectively and responsibly in the digital environment

- Use of Digital Devices
- Use of Software Applications
- Information and Data Literacy
- Digital Safety and Security

Career-Related Digital Skills

Specialized and advanced skills relevant to academic and professional growth in the digital environment

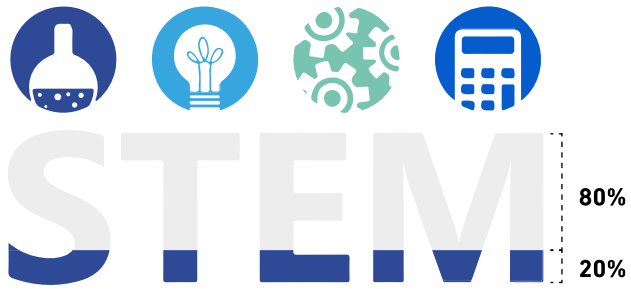
- Website and Application Development
- Digital Design (User Experience/User Interface)
- Data Analytics & Data Visualization
- Emerging Technology
- Digital and Social Media Marketing
- Information and Cyber Security
- Project Management

03

Empowering Women in and through ICT

Striving to correct gender imbalances and empowering women in technology and leadership roles.

Gender inequalities are rising in the emerging technology landscape, with women holding just 20% of STEM jobs and 33% of positions in top tech firms, exacerbated by unequal access, awareness, and online security issues. DCO envisions a world where inclusive growth thrives, with women's empowerment at the heart of a vibrant global digital economy. Thus, it is essential to advocate for appropriate policies and promote impactful measures to empower women and enhance their participation in the digital economy across its Member States (MSs) and beyond.



20%
STEM jobs held by women

33%
Women in top tech firms

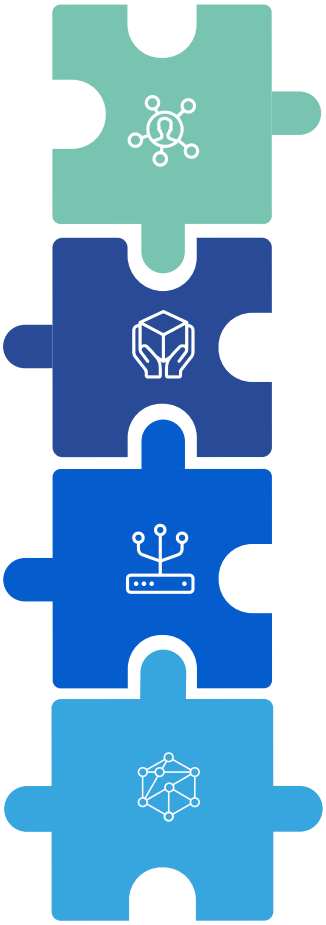
04

Tax and Financial incentives for the ICT Sector

Advocating policy frameworks that incentivize growth in ICT, essential for digital transformation.

The ICT sector serves as a vital driver of economic digitalization, providing the essential infrastructure for transformation. Recent policy attention turned toward leveraging tax and financial incentives to nurture this sector's development. Key to facilitating this growth is the formulation of regulations and legislative policies, particularly concerning tax and fiscal matters, to support and stimulate expansion in critical ICT sub-sectors. Thus, it is important to focus on the use of tax policy and financial policy toward ICT aiming to aid Member States in advancing their digitalization agendas.

Figure 3: ICT sector building blocks



Data & digital content

- Digital content (E-learning, publishing, gaming media, and broadcasting)
- Data generation
- E-commerce and m-commerce

Products, services & technologies

- Software and IP development
- Internal portals and platforms
- Firms producing digital products and services
- Professional ICT services (e.g., IT consulting)
- Emerging tech (e.g., big data, AI, blockchain etc.)
- Adoption by users (businesses and consumers):
  - Business and government adoption (e.g., healthcare, education, e-government)
  - Consumers (e.g., wider population, ICT enthusiasts)

Hardware & devices

- ICT device, electronic hardware, and accessories manufacturing and assembly
- Access to ICT devices such as computers, smartphones

Infrastructure & Connectivity

- Digital infrastucture, data centers, telco towers
- Connectivity infrastucture such as fixed, mobile and satellite broadband networks

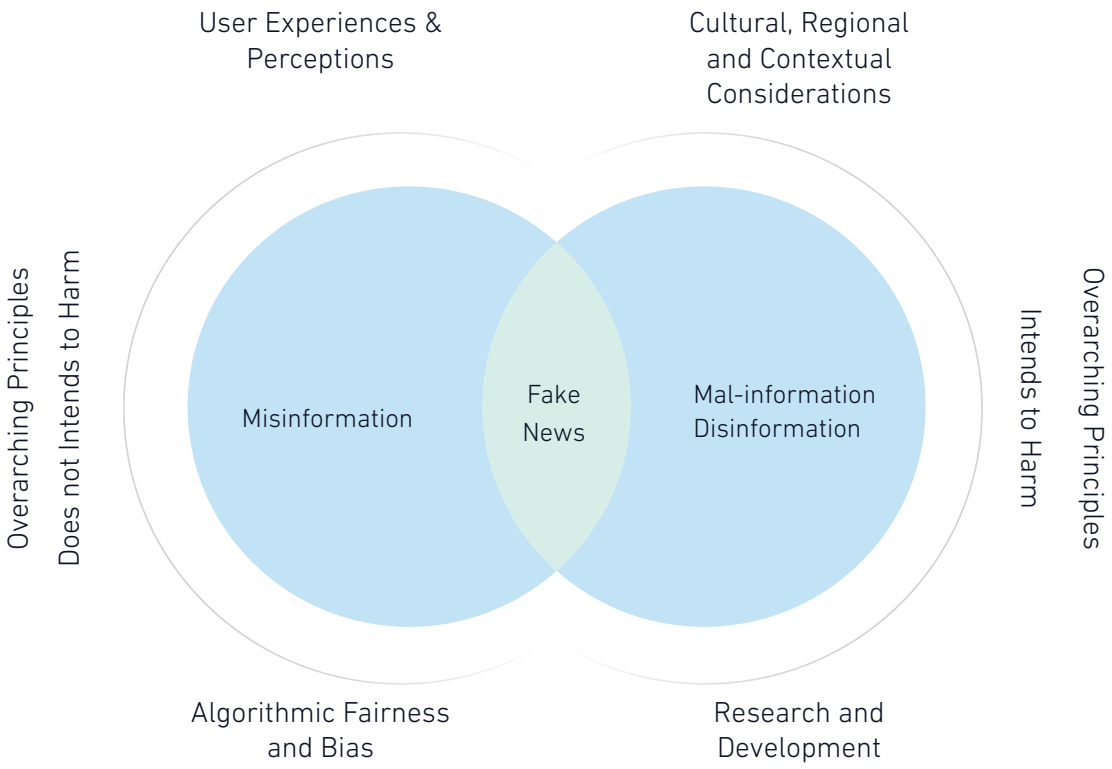
05

Combating Online Content Misinformation

Developing strategies to combat the spread of misinformation that can poison the digital well.

Misinformation, especially on social media, spreads faster than accurate information, posing challenges in quickly assessing the quality of information. This has various negative impacts on the digital economy, including eroded trust, higher costs, altered consumer behavior, regulatory issues, and security risks. To tackle these risks, the need to focus on combatting online content to provide guidelines for a holistic regulatory strategy encompassing classification, standards, media literacy, fact-checking tools, and public awareness campaigns to address crucial gaps in combating misinformation.

Figure 4: High-Level theoretical misinformation classification framework



06

Safeguarding Digital Rights

Protecting digital rights to ensure a safe, inclusive, and equitable online environment for all users, especially vulnerable groups like children.

The digital landscape presents numerous challenges that necessitate the promotion and advancement of digital rights. The challenges can be categorized into five main areas: digital divide, misinformation and disinformation, illegal and harmful content, safety and security, and privacy. These global and transnational issues often intersect, with each digital right addressing multiple challenges. For instance, children's online rights tackle the digital divide, illegal content, privacy, safety, and misinformation simultaneously.

Figure 5: Digital IP protection - stakeholders

Recognizing these challenges, DCO envisions a thriving digital economy rooted in the protection of digital rights. Their Strategic Roadmap 2030 advocates for leading digital rights policies worldwide, aiming to foster an inclusive, human-centric, and sustainable digital economy. Key focus areas include "Intellectual Property Protection Online" and "Safe Digital Space for Children. "By employing systematic research, roundtable insights, analytics, and surveys from DCO Member States, DCO provides strategic solutions and actionable insights to bridge the digital divide and advance digital progression.

Through such concerted efforts, the DSA is positioned as a driving force within the DCO's broader mandate, providing impactful solutions and steering global efforts toward a digital future that is not only robust and innovative but also equitable and universally accessible.

This Report aims to reflect on the DSA journey for those topics looking at the methodology of addressing each DSA, highlighting the input captured from different stakeholders and coming with concrete strategic recommendations to the DCO Member States.

The Report is divided into seven sections, with the initial six sections dedicated to an in-depth analysis of individual DSA topics, outlining objectives and outputs. The final section "Way Forward" provides insights and strategic recommendations, serving as a guide for governments, private enterprise, academia, and civil society in navigating the dynamic landscape of digital economy.

Figure 6: Essential components of a Safe Digital Space

02

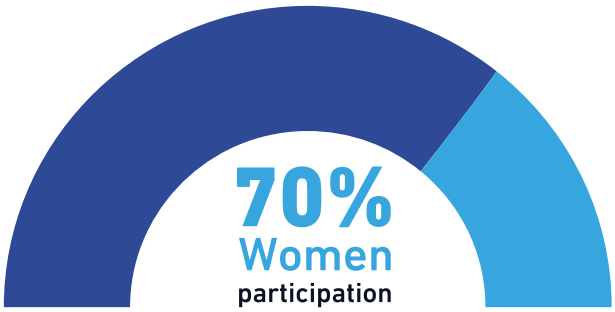
EXECUTIVE **SUMMARY**

EXECUTIVE SUMMARY

The Digital Space Accelerator program aimed to provide recommendations for mitigating major challenges in the digital economy across the DCO Member States. Alongside thorough desk research, which involved analyzing global benchmarks and case studies, the DSAs bolstered their recommendations through primary research. This research included hosting global roundtables bringing together diverse stakeholder groups such as industry leaders, government representatives, prominent organizations, and respected academics. This inclusive approach sought to capture a comprehensive range of perspectives during the discussions, which involved a total of 270+ participants addressing challenges across all 6 DSAs and formulating concrete considerations to tackle these challenges. Notably, the roundtables achieved an even split between male and female participants, with women representing approximately 70% of participants across all roundtables. Participants included managing directors, senior legal counsels, and CEOs from private and public entities across the GCC, Europe, and Africa regions.

This Report developed through a meticulous approach that ensures accuracy, credibility and informed decision making. Our approach integrates expert-led primary research in the forms of roundtable, surveys and virtual meetings.

Before delving into each detailed topic, we provide a summary of the six DSA topics- their objectives, outputs and key recommended actions.



Overall

+270 Experts involved

12 Total outputs across different modes of discussion

68 Nominated experts from DCO, MS and Observers

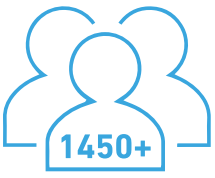
Roundtable

3 Roundtables events

+200 Roundtable participation

Virtual Meetings

10+ Virtual meetings held with different stakeholders



Surveys

02 Surveys conducted

1450+ Surveys Respondents

1. The Public-Private Partnerships in the Digital Economy

This DSA addresses the urgent need to boost investments in the digital economy and narrow the digital gap by laying the groundwork for a Framework aimed at harnessing the benefits of Public-Private Partnerships (PPPs) across DCO Member States.

This DSA proposes an initial Framework to guide the DCO Member States in their digital transformation and investment endeavors. This Framework, designed collaboratively with international stakeholders, aims to support collaborative investment and cooperation across the Digital Economy.

Key recommended actions:

Closing the development gap

Although DCO Member States are performing well compared to developing economies, there is room for growth to reach the level of advanced economies. This requires a strategic approach to investing in and developing their digital economies.

Capacity building in the public sector

There should be a focus on developing local expertise within the public sector. This includes training and retaining professionals who can effectively conceive and manage PPPs that are specifically designed for the digital economy.

Adaptability to digital trends

Given the fast- paced nature of digital transformation, it is crucial for public sector professionals to stay informed and adaptable. They need to be able to understand and leverage emerging technologies and digital trends to create effective partnerships.

2.The 'Empowering Women in and Through ICT

This DSA underscores the significant economic opportunity from maximizing women's participation in the digital economy. It explores avenues for empowering women through workforce participation in ICT and their economic empowerment via digital financial inclusion, addressing barriers such as gender-based stereotypes, limited access to education and technology, and cybersecurity risks.

A Unified Framework on 'Empowering Women in and through ICT' was developed. The framework aims to serve as a tool and structured guide for governments, corporates, NGOs, and multilateral organizations evaluating impactful initiatives and/or developing actionable recommendations to enhance women's participation in the digital economy.

Key recommended actions:

Usage of career development channels

Utilize digital resources to facilitate career opportunities, such as a localized online mentorship platform to promote career growth and women's leadership across sectors.

Developing career entry toolkits

Governments and/or NGOs should develop digital career entry toolkits for women, and provide these toolkits in local and regional languages to enhance information dissemination to women in DCO Member States.

Establishing employment and mentorship matching platforms

Establish an innovative online platform, e.g., through public-private partnerships (PPP), dedicated to precisely matching women job seekers with employers and facilitating mentor-mentee relationships.

3. The Digital Skills Gap for Youth

This DSA equipes young individuals with essential digital skills by focusing on a comprehensive Digital Skills Framework, a Digital Skills Survey, and Roundtable Discussions to gather insights and foster collaboration among stakeholders. The framework defines 14 crucial digital competencies, categorized into three clusters: Digital Mindset, Essential Digital Skills, and Career-Related Digital Skills. Researchers and analysts tailored these competencies to the needs of young individuals through meticulous research and analysis.

Key recommended actions:

Government initiatives

Government-led initiatives play a pivotal role in addressing skill gaps.

Collaboration at multiple levels

Addressing the digital skill gaps requires collaborative solutions that encompass academic and institutional efforts, corporate and organizational initiatives, and national policy frameworks. Such collaborations ensure a holistic approach and leverage diverse resources and expertise.

Fostering digital skills

Continuously assessing and enhancing digital skills among the youth is vital. This involves not just traditional education institutions (schools and universities) but also integrating digital skills through work opportunities, practical projects, and modernized curricula.

4. Online Content Misinformation

The dissemination of false or misleading information through digital channels, poses significant challenges, especially due to its rapid spread on social media platforms, impacting global communities. Recognizing its impact on trust, economic stability, and innovation, this DSA developed a guideline document to address this issue.

Through primary and secondary research, including global roundtables and surveys, this DSA identified five focus areas, covering Misinformation Classification, Establishing Standards and Principles to Address Misinformation, Media Literacy in Journalism, Requirements for Fact-Checking Tools, and Public Awareness Campaigns.

Key recommended actions:

Collaborative fact-checking mechanism

Recognizing the challenges of maintaining the accuracy of community-contributed information, a collaborative approach involving non-governmental organizations, media outlets, and fact-checking entities is imperative. Fact-checking tools, content moderation algorithms, standards for reporting and flagging systems for misinformation, user authentication and verification, and AI-driven analytics can prevent the spread of misinformation, which often propagates through social media and fake news articles. By integrating diverse perspectives and expertise, there is a better chance of mitigating biases and inaccuracies that could compromise the integrity of fact-checked content.

Balanced regulatory approach

As the delicate balance between stringent regulations and corporate backing remains a challenge, it is vital to implement license limitations judiciously. Creating balanced and effective norms requires several components, including engaging a diverse array of stakeholders to encompass their perspectives and concerns. Such regulatory measures can curb the spread of misinformation while preserving organizational innovation and support. Striking this balance ensures that while misinformation is controlled, the ecosystem still thrives.

Holistic regulatory standards

Crafting comprehensive regulatory frameworks grounded in standardized principles is paramount. These standards can provide a framework for combating misinformation across various contexts, including economy, journalism, education, and public communications. These can consider different areas such as international cooperation, adaptability to emerging technology, transparency and accountability, cultural sensitivity, public-private sector cohesiveness, among other aspects. This holistic approach would effectively address the diverse international landscape, ensuring that regulations neither stifle innovation nor overlook the nuances of combating online misinformation. It necessitates active engagement of stakeholders across diverse sectors to ensure a cohesive and impactful strategy.

5. Safeguarding Digital Rights

This DSA aims to define and identify globally recognized digital rights, contextualizing them within DCO Member States and concluding with policy recommendations to foster the digital economy while safeguarding rights and promoting inclusion and human development.

Through thorough analyses, eight digital rights were identified for discussion, leading to the selection of two key rights: 'Safe Digital Space' and 'Intellectual Property Protection' for an in-depth examination. The policy papers developed presented a set of recommendations in the areas of child protection in the digital world and online protection of intellectual property.

Key recommended actions:

Enhancing digital safety for children

Recommended actions for enhancing digital safety for children in DCO Member States involve refining existing policies, updating laws, and empowering law enforcement. Collaboration with educators, media, and health experts is essential to establish age restrictions, regulate advertisers, and promote privacy-conscious technologies.

Strengthening digital IP protection

Policy recommendations to strengthen Digital IP protection and foster innovation in the digital economy include adherence to international treaties, harmonizing IP laws, raising awareness, establishing specialist IP courts, regulating AI use, promoting DRM technologies, optimizing data rights systems, assessing software patentability, designing data privacy regulations, and incorporating fair use/dealing into copyright law.

A foundational framework

The above recommendations serve as a foundational framework for addressing key challenges in online child protection and intellectual property rights within DCO Member States. They aim to strengthen the countries' responses and align efforts with the imperative of fostering the digital economy, which is crucial for their economic and social development.

6. The Tax and Financial Incentives

This DSA developed a comparative study to examine tax and financial incentives implemented to support domestic ICT sector growth, covering both the DCO and benchmark countries with diverse income and institutional development levels. The study outlines various incentives, discusses barriers they address, and provides qualitative evidence of their impact.

This study highlights crucial considerations for policymakers in determining finance and tax incentives for DCO Member States. It emphasizes the importance of tailoring incentives to address customizing levels of development and challenges across states while prioritizing targeted incentives over broadbased ones to optimize cost-effectiveness and avoid unintended benefits for highly profitable businesses.

Key recommended actions:

Identification of incentives for the ICT sector

Identify incentives that are relevant to each country's context, depending on the specific needs of the ICT sector, the challenges it is facing, and the governments' targets in this respect.

Assesment of the impact of incentives

Consider macroeconomic and fiscal positions as this could impact the extent to which incentives could be adopted and the types of incentives that might be introduced.

Introducing minimum corporate income tax rate

Take into account OECD's Pillar Two which introduces a minimum corporate income tax rate that is likely to limit the effectiveness and provision of some types of incentives.

03

PUBLIC-PRIVATE PARTNERSHIPS **IN THE DIGITAL ECONOMY**

Public Private Partnerships in the Digital Economy

Objective

Over the last decade, digital transformation became a core priority for governments and businesses across the globe, resulting in the creation of new business models, innovative products and services, and revolutionary ways of doing business.

This DSA explores various opportunities within the digital sector that could yield significant benefits and innovation through increased collaboration between businesses and national and regional governments. It draws on global best practices to examine how public-private partnerships can be leveraged to foster the development of the digital economy in the DCO Member States with a framework for "Collaborative Investment in the Digital Economy".

It responds promptly to the imperative of enhancing investments in the digital realm and bridging the digital divide by initiating the development of a Framework dedicated to maximizing the advantages of PPPs among DCO Member States. With a focus on cooperation and involvement, this DSA underscores the essential contribution of PPPs in utilizing shared knowledge to generate beneficial outcomes. It delineates the aims of the envisioned 'Framework for Collaborative Investment in the Digital Economy', prioritizing the stimulation of investments, exploration of efficient PPP models, and provision of guidance on policies and incentives.

In response to the pressing need for catalyzing investments in the digital economy and bridging the ever-widening digital gap, this DSA sets the initial groundwork for a Framework to unlock the benefits of Public-Private Partnerships (PPPs) for the development of the digital economy across DCO Member States. Collaboration and engagement are at the heart of PPPs, bringing together the combined thought power, expertise, and experience of governments, businesses, and the third sector to drive positive impacts for all. A priority objective of the DCO's 'Framework for Collaborative Investment in the Digital Economy' is to leverage these benefits and to support its Member States in their realization.

The digital economy is rapidly emerging as the catalyst for inclusive and sustainable growth, offering the promise of significantly enhanced productivity, heightened global competitiveness, and a surge in innovation across diverse sectors. With its remarkable potential to elevate living standards, the digital economy is set to democratize service accessibility and provide an unprecedented impetus to economic transformation across the world.

Pathways

This DSA's theory of change combines the observed status quo with the envisioned success of the development of the digital economy through PPPs. By connecting the potential governmental policy, financial, or incentive levers with this theory, the Framework evaluates how specific actions can be leveraged to transform the current landscape.

This DSA delves into existing PPP structures across the world and Member States, analyzing their impact on generating investments and emphasizing the differing requirements and financial arrangements necessary for effective stakeholder collaboration.

The PPP DSA aims to achieve two main objectives: firstly, to propose a decision-making framework facilitating the strategic development of Public-Private Partnerships aimed at stimulating investments in the digital economy, thereby aiding in bridging the digital divide through smart resource mobilization; secondly to contribute to DCO's mission by offering guidance and recommendations on policies, regulations, financial mechanisms, and incentives essential for fostering impactful PPPs in the digital economy.

The Framework development process involved several key steps. Initially, a literature review was conducted in collaboration with DCO to gather existing knowledge on PPPs and their applications in the digital economy, alongside reviewing academic papers worldwide. Data collection and analysis followed, focusing on digital economy trends, infrastructure gaps, and digital literacy levels within DCO Member States. A comparative analysis of successful PPP structures across different regions was performed, drawing lessons and best practices adaptable to the specific needs and challenges of DCO Member States.

Sustainability and scalability were prioritized, with research and benchmarking supporting the scoping of a PPP framework conducive to sustainable and scalable investments in the Digital Economy. Stakeholder consultations were then sought to glean insights and perspectives on PPP challenges and opportunities in the digital economy, which informed the development of the "Framework for Collaborative Investment in the Digital Economy".

Roundtable Discussions

To maximize the impact of this DSA, three roundtables were conducted in the GCC, Europe and Africa regions with member organizations and other stakeholders. Approximately 30 participants attended these roundtables, including executive officers, legal officers, and associate professors of private and public entities. Entities include Smarter Chains, University of St. Gallen and Intel Corporation. These roundtables gathered inputs and ideas from experts and officials in each region related to this DSA topic.

The discussion encompassed the significance of the digital economy, various PPP structures, and their influence on digital economy growth. Successful case studies and examples of PPPs in the digital economy domain were also discussed to illustrate the state of art.

The discussion points and questions aimed at eliciting valuable insights from diverse regional actors on the highlighted focus areas played a key role in the development of the Framework.

Testimonial by roundtable participants

"I think the DCO is doing something very interesting, they are trying to see how they can create a platform to share learning and knowledge around how more emerging market economy can take ownership of their digital future".

30 participated in roundtable discussions

Outcome

This DSA proposes an initial Framework to guide DCO Member States in their digital transformation and investment endeavors. This Framework, designed collaboratively with international stakeholders, aims to support collaborative investment and cooperation across the Digital Economy. Its main objective is to serve as a strategic guide for the DCO Member States to leverage PPPs, enhancing access, innovation, efficiency, and social impact within their digital economies. The initial Four-Stage Framework focuses on Opportunity Assessment, Strategic Planning, PPP Structuring, Risk, Financing, and Execution, offering detailed guidance on key decision-making processes.

Developed through a collaborative process and enriched by roundtable discussions, the Framework is versatile and responsive, with plans for pilot implementation and refinement to facilitate dialogue between Member States and the private sector. Ultimately, it will evolve into a comprehensive resource offering tailored guidance for each stage of the digital economy PPP lifecycle, facilitating strategic investments, and maximizing the potential of PPPs in the evolving digital landscape.

The Framework follows a Four-Stage Approach that guides the PPP process from the identification of the needs and opportunities to the delivery and maintenance of the proposed PPP project. It is intended as a guide for the DCO Member States seeking to use PPPs to develop their digital economies. At a strategic level, the Framework will look to support DCO organizations to leverage the opportunities provided through PPPs as a mechanism to increase access, innovation, efficiency, and social impact across their digital economies. This is reflected in the final deliverable "The Development of the Digital Economy - Fostering Public Private Partnerships"

Figure 7: PPP Four-Stage Approach

Opportunity Assessment

- Assess the domestic digital economy to identify investment opportunities.
- Evaluate where public private collaboration could be used to drive growth in the digital economy.
- Determine the economic and societal benefits of the shortlisted opportunities.

Strategic Planning

- Determine key details, objectives, outputs and exit strategy for the investment(s).
- Identify the most suitable investment structure for the opportunity.
- Develop a comprehensive and overarching project plan with milestones to monitor progress.

PPP Structuring

- Assess PPP structuring options and analyse most effective delivery model.
- Conduct market research to identify and shortlist eligible private sector entities.
- Determine the roles and responsibilities of the involved stakeholders.

Risk, Financing, and Execution

- Further explore financing options, including blended and innovative instruments.
- Evaluate, assess, and provide risk mitigation strategies for the planned PPP engagement.
- Preparing for implementation of the PPP structure, managing legal and regulatory requirements.

Key Considerations

When considering the implementation and development of public-private partnerships (PPPs) within the digital economy, DCO Member States should consider several observations and considerations:

Closing the development gap

Although DCO Member States are performing well compared to developing economies, there is room for growth to reach the level of advanced economies. This requires a strategic approach to investing in and developing their digital economies.

Capacity building in the public sector

There should be a focus on developing local expertise within the public sector. This includes training and retaining professionals who can effectively conceive and manage PPPs that are specifically designed for the digital economy.

Adaptability to digital trends

Given the fast- paced nature of digital transformation, it is crucial for public sector professionals to stay informed and adaptable. They need to be able to understand and leverage emerging technologies and digital trends to create effective partnerships.

Sustained investment in ICT

DCO Member States should continue to prioritize and maintain high investment levels in the ICT sector as it's instrumental in driving digital transformation.

Innovation and entrepreneurship

Creating an environment that encourages innovation and entrepreneurship is key. This includes regulatory frameworks that support the development of new digital services and businesses

Technological advancement

There should be a concerted effort to adopt and integrate advanced technologies to stay competitive. This involves not just embracing current technologies but also investing in the research and development of future technologies.

Private sector empowerment

Recognizing the private sector as a crucial player, DCO Member States should empower businesses to take an active role in digital PPP projects. This means providing opportunities for involvement and ensuring that their contributions are valued and utilized.

Risk management

PPPs inherently involve risks, and these should be assessed, mitigated, and managed collaboratively. This includes understanding the risk appetite of both public and private sectors and agreeing on mechanisms to manage these risks.

Regulatory frameworks

Robust regulatory frameworks are necessary to govern PPPs effectively. These frameworks should be clear, transparent, and provide the right balance between encouraging private investment and protecting public interest.

Stakeholder engagement

Engaging a broad range of stakeholders in the planning and execution of PPPs ensures that the partnerships are well-rounded and consider multiple perspectives. This includes civil society, end-users, and other beneficiaries.

Focus on sustainability

Digital economy initiatives should be sustainable and consider long-term impacts. This includes economic sustainability, environmental considerations, and social inclusivity.

People-centered approach

A people-centered approach is integral to the success of PPPs in the digital economy. This perspective prioritizes the needs, experiences, and aspirations of individuals and communities in the development and deployment of digital services. It involves designing projects that are not only technologically sound but also culturally sensitive and responsive to the socio-economic realities of the population.

Country ownership

For PPPs to be truly effective, they must be anchored in country ownership. This means that the strategies and projects should be driven by the country's own development goals and integrated within its broader economic and social policies. This ownership ensures that initiatives are aligned with national priorities and are more likely to receive the support and engagement of local stakeholders.

Collaborative PPP across sectors

Encouraging collaboration across various sectors — such as finance, technology, education, and healthcare — can lead to comprehensive solutions that leverage the strengths of each sector. Such cross-sector PPPs can spark innovation and provide a holistic approach to addressing the challenges of the digital economy.

Blended finance modelling

Blended finance models can play a significant role in de-risking investments in the digital economy. By combining public funds with private investment, these models can attract private capital to projects that might otherwise be considered too risky or not sufficiently profitable. Blended finance can thus, serve as a critical tool for funding digital infrastructure and services, particularly in developing countries where such investments are most needed. By focusing on these areas, DCO Member States can enhance their PPP positioning and strategies to support the growth of a robust digital economy that can compete on a global scale and provide significant benefits to their societies.

Stakeholders Engaged

A diverse group of stakeholders actively participated in and contributed to the roundtable discussions pertaining to "PPP in the Digital Economy". Their invaluable insights and perspectives significantly enriched the depth and breadth of analysis.

Chantal Greenwood
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Bienvenu Soglo
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Olu Olutola
Senior Connectivity and Digital Advisor, Africa, USAID

Alice Munyua
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Obinna Isiadinso
Global Sector Lead, Digital Infrastructure Investments, International Finance Corporation

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Zachariah George
Managing Partner, Launch Africa

Southwood Russell
CEO, Balancing Act

David Saunders
Director, Briter

Alexandre M. Andreani
Chief Investment Officer, Andreani & Associés

Gustavo Ghory
Chairman and Co-founder, SmarterChains

Sergio Martinez
PhD Researcher in Digital Trade and Technological Innovation, University of St. Gallen

** The names of stakeholders are non-exhaustive and only includes those who have explicitly agreed to have their names shared*

04

EMPOWERING WOMEN **IN AND THROUGH ICT**

Empowering Women in and Through ICT

Objective

The 'Empowering Women in and Through ICT' this DSA highlights the considerable economic repercussions of excluding women from the digital economy. It delves into strategies for empowering women through their engagement in the ICT workforce and achieving economic empowerment via digital financial inclusion. This DSA addresses various barriers to women's empowerment in the digital economy.

Emphasizing the importance of inclusivity, participants in roundtable discussions advocated for the involvement of male allies and increased female representation in technology-related competitions and events.

This DSA identifies a gap in the consistent approach toward crafting impactful initiatives to empower women in the digital economy, leading to the development of a Unified Framework aimed at enhancing women empowerment initiatives across DCO Member States, designed to be flexible and adaptable to diverse contexts and populations.

In the constantly evolving landscape of technological progress, the intersection with gender inequality unveils a complex narrative. Technology and innovation possess the potential to challenge and perpetuate disparities in the digital economy. The United Nations (UN) Report states that women make up only two in every ten Science, Technology, Engineering, and Mathematics (STEM) jobs and comprise of just 33% of the workforce in the top 20 largest technology companies. [3]

Excluding women from the digital economy has diminished USD 1 trillion from the Gross Domestic Product (GDP) of low- and middle-income countries over the past decade. This loss is projected to escalate USD 1.5 trillion by 2025 unless significant corrective actions are implemented. [4]

In this context, the Empowering Women in and through ICT DSA explores the obstacles hindering women's participation in the workforce and their economic empowerment within the digital economy. These obstacles span a range of challenges, including gender-based stereotypes, systemic biases, limited access to education and technology, unequal representation in leadership roles, cybersecurity risks, career breaks, low financial awareness, insufficient funding, and limited entrepreneurship opportunities.

This DSA explores empowering women in 2 ways:

Enhancing women's workforce participation in and through ICT

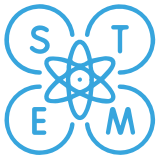
Women's economic empowerment through their digital financial inclusion.

Pathways

The importance of inclusivity in addressing gender imbalances in ICT initiatives was emphasized by roundtable participants, advocating for male allies to champion women in the field. They stressed the necessity of increasing female participation in male-dominated technology competitions and events like hackathons by offering women access and confidence-building opportunities. Roundtable participants also highlighted the need to design programs to improve women's financial empowerment by maximizing their access to suitable digital financial services.

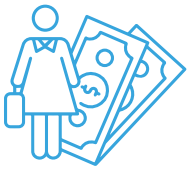
The secondary research undertaken for this DSA included desktop research from the World Bank, Organization for Economic Co-operation, and Development (OECD), and UN Women, which outlined key socio-economic trends. Subsequently, we conducted an opportunity and gap assessment using external research on global regions to assess the current state and identify potential gaps.

Some of the key insights from primary and secondary research include:



The need for increasing women's access to **technology, digital literacy, and STEM programs.**

Enhancing women's workforce participation **by countering work-life balance challenges and empowering women leaders.**



Improving access to financial education and utilizing digital banking and payment systems **to facilitate the digital financial inclusion of women.**

Roundtable Discussions

Primary research for this DSA included three global roundtable discussions with industry leaders and experts from the GCC, Africa, and Europe. Approximately 40 participants joined these roundtables including executive officers, legal officers, and associate professors of private and public entities. These entities include Lenovo, United Nations Conference on Trade and Development (UNCTAD), and Research ICT Africa, among others. A global survey was conducted with over 100+ respondents from both women and men in Asia-Pacific, Middle East, Europe, Americas, and Africa. Virtual working group discussions with DCO Member State (MS) representatives and DCO observers, along with interviews with Subject Matter Experts (SMEs), were held to collect their perspectives and recommendations on the topic.

Based on the above insights gained from extensive primary and desk research including global case studies, roundtables, and surveys, this DSA outlines effective enablers and proposes initiatives across multiple dimensions for advancing women's workforce participation and financial inclusion. [5] [6]

Empowering women in and through ICT requires a multifaceted approach, incorporating elements such as supportive policies, research initiatives, partnerships, conducive regulatory frameworks, and caregiver support to ensure a comprehensive and sustainable strategy for gender equality and advancement in the digital sector.

Roundtable participants discussed possible programs to improve women's financial empowerment via digital financial services. These included ideas such as imparting better digital skills and basic business knowledge, and emphasizing the vital need for cooperation between governments, telecom/internet service providers, and regulators to ensure widespread access to data and fiber.

Testimonial by roundtable participants

The importance of inclusivity in addressing gender imbalances in ICT initiatives was emphasized by roundtable participants, who advocated for the involvement of male allies as champions for women in the field.

Outcome

This DSA acknowledges that several efforts and initiatives have been directed to support women globally and within the DCO Member States. However, it identifies the lack of a comprehensive framework that would provide a structured approach for the identification, planning, and implementation of high-impact initiatives to empower women in the digital economy.

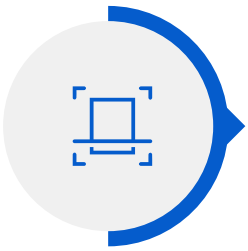
To address this gap, a Unified Framework on 'Empowering Women in and through ICT' was developed. The framework aims to act as a tool and structured guide to serve governments, corporates, NGOs, and multilateral organizations that are evaluating impactful initiatives and/or developing actionable recommendations to enhance women's participation in the digital economy.

Taking note of the multifaceted challenges hindering women's full engagement in the digital economy, ranging from unequal access to technology to concerns surrounding digital literacy and cybersecurity, this DSA identifies essential enablers such as resource accessibility, educational support, entrepreneurship encouragement, advocacy efforts, and collaborative partnerships.

The Unified Framework can be leveraged for achieving a more layered and nuanced understanding of different facets of the possible initiatives using various 'Lenses', and 'Categories' under those lenses (Figure 9).

The framework comprises 15 lenses covering essential aspects such as initiative coverage, economic landscape, age groups, nature of work, challenges observed, key enablers, and deliverables, etc. The goal is to design, and implement initiatives that empower women

Figure 8: The Unified Framework methodology and process



Scan

The Unified Framework has been formulated after **embracing learnings** from sources such as UNCTAD, the European Training Foundation, and UN Women. Best practices were synthesized from secondary research, surveys, and global case studies.

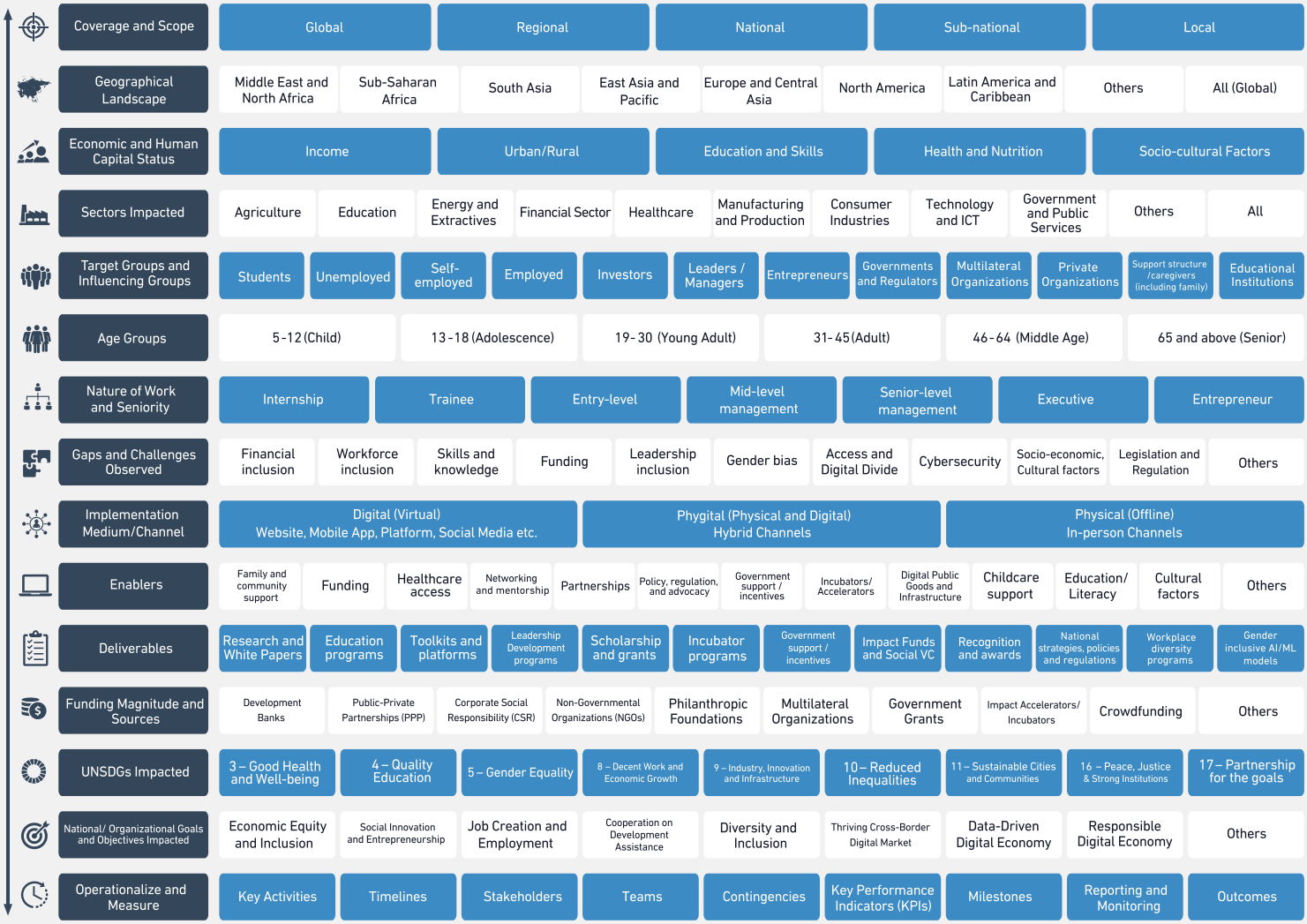
Analyze

The Unified Framework has **incorporated feedback and inputs from leaders and experts.** It has been pilot-tested by using it to propose possible use cases and initiatives for DCO Member States.

Recommend

An agile approach was embraced for developing and **validating the Framework across global roundtable**s in Africa, Europe, and the Middle East.

Figure 9: Lenses and Categories of the Unified Framework



globally, tailored to the specific needs and priorities of different contexts and populations.

Through the creation of the Unified Framework, the DCO seeks to standardize approaches to initiative design and implementation, ensuring consistency and effectiveness across diverse contexts. As a tangible outcome of this endeavor, a suite of impactful programs has been proposed, spanning various strategies such as bolstering support systems for women in the workforce, introducing targeted returnship programs, promoting e-gaming platforms for skill acquisition, establishing rural incubators for female entrepreneurs, offering financial literacy courses, and launching a cooperative bank tailored to women's needs. These initiatives aim to dismantle barriers, create pathways for advancement, and leverage technological advancements to unleash the untapped potential of women in the digital workforce, thereby fostering accelerated growth in the digital economies of DCO Member States and beyond, while paving the way for a more inclusive and equitable digital future. This reflected in the following final deliverables:

1. "Empowering Women in and through ICT - A comprehensive exploration for developing a more empowered and inclusive digital economy.

2.The DCO Framework for Empowering Women in and Through ICT

Key Considerations

Key considerations for **empowering Women's workforce participation** in ICT in DCO Member States include:

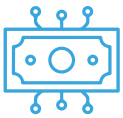
Utilize digital resources to facilitate career opportunities, such as a localized online mentorship platform to promote career growth and women's leadership across sectors.

Governments and/or NGOs should develop digital career entry toolkits for women, covering aspects like crafting CVs for specific roles such as graphic designer, social media manager, and data analyst. Provide these toolkits in local and regional languages to enhance information dissemination to women in DCO Member States.

Establish an innovative online platform, e.g., through public-private partnerships dedicated to the precise matching of women job seekers with employers as well as for mentor-mentee matching.

Promote implementing national media campaigns featuring female role models in ICT with government support.

The private sector can work with Member States' governments and educational institutions to develop a guide to introduce ICT and coding in national curricula across Member States.



Governments and leading multilateral organizations can build fintech accelerator programs targeted specifically toward promoting the digital financial inclusion of women.

Develop and roll out a Gender Gap Analysis tool to enable leading public and private organizations in the Member States to measure and enhance gender equality and women's empowerment in the workplace.

Some considerations, and beneficial ideas to consider for **Women's economic empowerment through digital financial inclusion** in the DCO Member States could include:

Introduce awareness sessions and training in schools on the fundamentals of finance and the importance of financial planning.

Form Public private partnerships with key industry stakeholders in women-centric sectors to digitize wages to seamlessly include women in the digital financial ecosystem by accessing payroll accounts.

Leverage partnerships across stakeholders to disseminate knowledge on financial products and investment opportunities through gamification and Ed-tech.

Governments and NGOs can collaborate with banks and financial institutions to design financial products and services specifically geared toward serving women.

NGOs, think tanks, and international/multilateral organizations can work toward building a database to learn more about women's access to and usage of financial products and create a women-centric financial database for further research and analysis.

Develop national strategies and policies to enhance DCO Member States' wide digital identity and digital infrastructure development to enhance the overall digital financial inclusion.

In conclusion, this DSA emphasizes that boosting women's workforce participation and financial inclusion demands a concerted, comprehensive approach that addresses the economic, social, and cultural factors influencing opportunities in the digital economy. The key barriers to women's engagement in the ICT workforce include limited access to technology, insufficient digital literacy, and concerns over cybersecurity. By leveraging the potential of critical enablers such as access, education, entrepreneurship, advocacy, and collaboration among stakeholder groups, there is a substantial opportunity to collectively advance toward a more inclusive digital future for all.

Stakeholders Engaged

A diverse group of stakeholders actively participated in and contributed to the roundtable discussions pertaining to "Empowering Women In and Through ICT". Their invaluable insights and perspectives significantly enriched the depth and breadth of the analysis.

Their engagement provided crucial input that shaped the direction of our analysis and recommendations. These contributions not only highlighted key challenges but also offered innovative solutions to advance gender inclusivity and digital empowerment.

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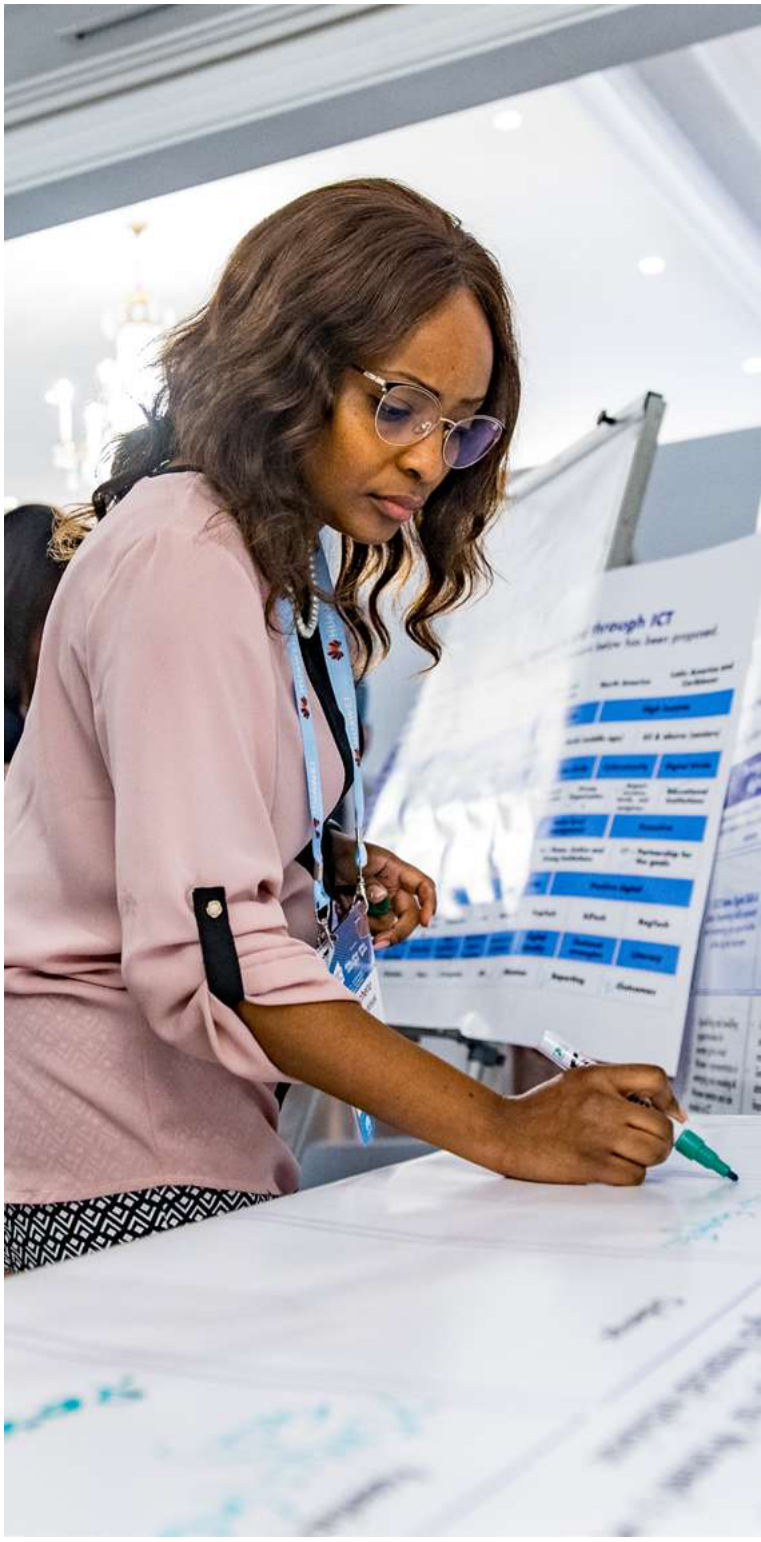
Esther Benkenstein
Digital Marketing Manager, RecruitMyMom and RecruitAGraduate

** The names of stakeholders are non-exhaustive and only includes those who have explicitly agreed to have their names shared*



05

DIGITAL SKILLS **GAP FOR YOUTH**

Digital Skills Gap for Youth

Objective

The Digital Skills Gap for Youth DSA was developed to provide young individuals with essential digital skills, centered around a comprehensive Digital Skills Framework, a Survey, and Roundtable Discussions aimed at gathering insights and fostering collaboration among diverse stakeholders.

The framework delineates 14 pivotal digital competencies and groups them into three clusters: Digital Mindset, Essential Digital Skills, and Career-Related Digital Skills.

The survey's findings conducted across 13 DCO Member States revealed moderate proficiency levels in essential digital competencies among the youth, with notable deficiencies in Career-Related Digital Skills. Global roundtable discussions highlighted the importance of developing research-driven curricula, specializing pedagogy expertise, targeting organizational training programs, providing mentorship opportunities, and planning at the national to cultivate digital skills initiatives for youth. Engaging stakeholders at academic, organizational, and national levels is critical for the success of interventions and entails devising sustainable and efficient upskilling interventions tailored to address the digital skills gap among youth.

With technology progressing swiftly, there is an emerging proliferation of technology-centric employment and a heightened necessity for digital competencies. This technological progression is anticipated to catalyze a transformation in organizational structures and operations within the next half-decade, leading to a significant uptick in digital and technology-focused positions. Gaps in digital skill readiness led to rising levels of unemployment among the younger population. Employers are experiencing a significant gap in digital and technology-related skills in the market.

This DSA, originating from the necessity to address the Digital Skills Gap for Youth, was established to identify the gaps and bridge the digital capability discrepancies among individuals aged 18-25. The intention is to create opportunities, improve employability, and enhance the engagement of this demographic in advancing developing economies.

Pathways

In response to the critical need to empower young individuals with essential digital capabilities, this DSA on Digital Skills Gap for Youth initiative has been established. This comprehensive program is structured around three primary components. First, a Digital Skills Framework is developed through extensive global research, encompassing academic and industry publications as well as existing competency frameworks. This research aims to align and consolidate various perspectives into a universal definition of digital skills, pinpointing the essential skills that youth require today. Following this, a Digital Skills Survey assesses the youth's perceived proficiencies in these identified skills, highlighting areas of deficiency and emerging needs, which assists in tailoring additional support for effective upskilling.

Lastly, the initiative hosts Roundtable Discussions that utilize insights from the survey. These discussions involve a diverse group of stakeholders, including employed and unemployed youth, students, parents, and representatives from organizations, industry, and academia.

The roundtables focus on exploring challenges and discussing opportunities to bridge the digital skills gap, ensuring that the initiative remains responsive and effective in its objectives. In a concerted effort to bridge the current digital

skills gap across youth, this DSA embarked on a multifaceted approach, with the Digital Skills Framework serving as the cornerstone of its initiative. Through meticulous research and analysis, 14 essential digital competencies were identified, tailored to the needs of young individuals in today's digitally driven economy. These competencies were meticulously categorized into three distinct clusters:

The **Digital Mindset** cluster encompasses attitudes and approaches vital for efficient navigation in the digital landscape.

Essential Digital Skills encompass foundational competencies necessary for effective and responsible functioning in the digital sphere.

Career Related Digital Skills comprise specialized and advanced competencies crucial for academic and professional growth within the digital environment.

With this comprehensive framework in place, this DSA laid the groundwork for empowering youth with the digital skills essential for success in the digital age.

In line with this DSA's objective, a survey spanning 13 DCO Member States was launched. This survey, conducted both online and via pen-and-paper formats, gathered insights from 1,356 individuals aged 18-25, including students, job seekers, and young employed individuals. This DSA aimed to delve into perceptions regarding the importance of digital skills, assess proficiency levels based on the Digital Skills Framework, identify preferred upskilling methods, gauge awareness of digital skill-building initiatives, and pinpoint areas requiring additional support for upskilling efforts.

Among the key findings gleaned from the survey, two notable insights emerged: a strong emphasis on the importance of digital skills and a notable level of proficiency in essential digital competencies. These findings underscored the widespread acknowledgment of the necessity to develop digital skills for future job competitiveness. Additionally, the survey revealed a considerable level of confidence among respondents in their proficiency in essential digital skills, indicating a moderate ability to engage in digital aspects of modern society.

Roundtable Discussions

The global roundtable discussions facilitated by the DCO in Riyadh, Cape Town, and Geneva provided valuable insights from diverse stakeholders on bridging the digital skills gaps in youth. Around 31 participants attended these roundtables with co-founders, CEOs, and heads of sales of private and public entities. Entities include World Intellectual Property Organization, UNESCO Emerging Technologies and Women in STEM Leaders Network and University of Cape Town.

These insights, categorized across academic, organizational, and national levels, emphasized the importance of research-driven curriculum development, specialized pedagogy expertise, and the alignment of training programs with digital advancements. Discussions also highlighted the need for targeted organizational training programs, mentorship opportunities, and internships to enhance practical skills. At the national level, stakeholders stressed strategic planning, infrastructural development, and financial support through grants and sponsorships as vital components for fostering digital skills initiatives for youth. These discussions used human-centric design principles, leveraging 3 personas – employed, unemployed, and students to stimulate discussion and define recommendations to support the development of each persona.

Testimonial by roundtable participants

Governments are still following antiquated decrees that deem exposure to technology and devices at a young age as harmful.

Outcome

The success of any intervention is underpinned during its design phase. Accordingly, the design of any capability development initiative to promote digital literacy among the youth needs to take place in consultation with relevant stakeholders at both macro and micro levels. Identification of these stakeholders, therefore, becomes paramount in establishing a solid foundation for developing and implementing sustainable and effective upskilling interventions. Critical stakeholder groups across three levels were identified – Academic Level, Organizational Level, and National Level. Collaboratively, these stakeholders can initiate targeted interventions aimed at bridging the skills gaps among the youth. This is reflected in the final deliverable "The Digital Skills Nexus - A comprehensive exploration of youth's perspectives around digital skills in 13 DCO Member States"

Key Considerations

Addressing the digital skill gap for youth in the DCO Member States is crucial, given the rapid pace of technological advancement and its implications for workforce readiness in a digital future.

For DCO Member States to remain at the forefront of digital transformation, a strategic investment in developing digital skills among the youth is essential. This investment is not only about preparing the youth for digital transformation but also about fostering innovation, driving economic growth, and enhancing the region's global competitiveness.

Key considerations in this endeavor include:

Government initiatives

Government-led initiatives play a pivotal role in bridging skill gaps. For instance, innovation awards within Saudi governmental bodies and specialized employment opportunities for graduates from Bahrain's Information and Government Authority demonstrate a dedication to fostering skills development. Likewise, a 2021-2025 program aims to elevate digital competencies among youth through collaborations with employment and incubation centers, and by incentivizing the recruitment of ICT graduates. This initiative, conducted in partnership with the African Union (AU), International Telecommunication Union (ITU), and International Labor Organization (ILO), exemplifies a comprehensive approach to skill enhancement.

Collaboration at multiple levels

Addressing digital skill gaps requires collaborative solutions that encompass academic and institutional efforts, corporate and organizational initiatives, and national policy frameworks. Such collaborations ensure a holistic approach and leverage diverse resources and expertise.

Fostering digital skills

Continuously assessing and enhancing digital skills among the youth is vital. This involves not just traditional education institutions (schools and universities) but also integrating digital skills through work opportunities, practical projects, and modernized curricula.

Accessible learning platforms

Developing user-friendly digital learning platforms such as online courses and interactive apps, ensures accessibility for all youth. These platforms should offer diverse and up-to-date content that aligns with industry demands.

Public-Private Partnerships-PPPs

Effective partnerships between the public and private sectors can be instrumental in developing digital skills. These partnerships offer resources, expertise, and real-world contexts for learning and application.

Mentorship programs

Implementing mentorship programs can provide young individuals with guidance and insight into digital skill development, offering a pathway to navigate the digital landscape.

National strategies

Comprehensive national strategies are needed to support and sustain digital skill enhancement. These strategies should be inclusive, forward-thinking, and adaptable to the evolving digital landscape.

Inter-governmental collaborations

Exploring collaborations between governments can lead to innovative solutions and shared learning. Such collaborations can also help in standardizing digital skill development frameworks across the region.

By focusing on these key considerations, the DCO Member States can effectively bridge the digital skill gaps among its youth, equipping them with the necessary tools and knowledge to thrive in a digitally driven future.

Stakeholders Engaged

A diverse group of stakeholders actively participated in and contributed to the roundtable discussions pertaining to "Digital Skills Gap for Youth". Their invaluable insights and perspectives significantly enriched the analysis.

Greg Pradervand
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Gustavo Ghory
Chairman and Co-founder, SmarterChains

Sergio Martinez
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Mark Frankel
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4IR Commissioner/CEO, Mafikeng Digital Innovation Hub

Larreth Jimu
Founder and CEO, Melsoft

Cecil Senna Nutakor
Founder & CEO, eCampus LLC

** The names of stakeholders are non-exhaustive and only includes those who have explicitly agreed to have their names shared*

06

ONLINE **CONTENT MISINFORMATION**

Online Content Misinformation

Objective

Disseminating false or misleading information online, known as Online Content Misinformation, presents significant challenges because it spreads rapidly, particularly via social media platforms, impacting global communities and eroding trust, economic stability, and innovation.

This DSA developed a guideline document to address this issue understanding the context, challenges, and way forward. Through extensive primary and secondary research, including global roundtables and surveys, this DSA identified five key focus areas: Misinformation Classification, Establishing Standards and Principles to Address Misinformation, Media Literacy in Journalism, Requirements for Fact-Checking Tools, and Public Awareness Campaigns.

Recommendations encompass a set of aspects to consider while creating a comprehensive misinformation classification framework. It establishing standards and principles to commit preserving information integrity, concerted efforts to integrate media literacy education into journalism training programs, a set of requirements for fact-checking tools that stakeholders should consider, and strategize the dissemination of information to raise public awareness about misinformation. Emphasizing collaboration among stakeholders, this DSA aims to implement comprehensive solutions to safeguard the integrity of online information and promote a discerning public, countering the detrimental effects of online content misinformation on the digital economy and democratic processes.

Online Content Misinformation encompasses a wide range of misleading content, including fake news, rumors, hoaxes, and manipulated media, intentionally or unintentionally shared with the potential to deceive, or misinform the public. Misinformation spreads faster than accurate information through various sources, like social media platforms. The real-time nature of the contents and the speed and volume of propagation posed significant challenges for the global community in assessing the quality of the information in an acceptable time frame.

Such challenges include but are limited to the following: the speed of misinformation spread, difficulties in countering misinformation, lack of inclusion of media literacy, lack of standards for the stakeholders to combat misinformation, holistic fact-checking tools, and raising personal data privacy issues, etc.

The adverse effects on the digital economy encompass a wide array of consequences, including diminished trust, heightened economic burdens, shifts in consumer behavior, regulatory complexities, and security vulnerabilities arising from misinformation. These risks extend beyond their immediate consequences, as they not only undermine user engagement, economic stability, and innovation but also pose significant threats to the digital ecosystem's overall resilience. To address these multifaceted risks, the aim is to collaborate with stakeholders and implement comprehensive solutions, ultimately fortifying the digital ecosystem resilience and promoting a sustainable and inclusive digital economy.

Pathways

In this vein, this DSA developed a guideline document that uncovers the depth of Online Misinformation which can be understood as the dissemination of incomplete or factually erroneous information, frequently propagated through a myriad of sources on various social media platforms. To maximize the impact of this DSA , three roundtable discussions were conducted with member organizations, relevant government officials, and key experts.

Participants gathered critical insights and ideas through these roundtables on online content misinformation from various subject matter experts and policy officials from different regions. These discourses involved a comprehensive exploration of misinformation, underscoring its implications on a global scale.

The expeditious spread of misinformation, notably through social media platforms, raised a multitude of challenges due to the immediacy of information dissemination, coupled with the sheer velocity and magnitude of its propagation.

These present formidable obstacles to the global community in assessing information quality within a reasonable timeframe, possibly leading to financial losses, reputational damage, and legal liabilities, undermining the trust in online platforms and ultimately affecting digital economy growth.

The spread of misinformation, particularly on social media platforms, has generated a host of challenges stemming from the instantaneous dissemination of information, combined with the rapid pace and vast reach of its spread.

Roundtable Discussions

The global roundtable discussions facilitated by the DCO in Riyadh, Cape Town, and Geneva provided valuable insights from diverse stakeholders on combatting misinformation. Around 22 Participants attended these roundtables with Managing Directors, Chief Information Officers of private and public entities and journalists. Entities include International Committee of the Red Cross, ICT4Peace Foundation and Media Monitoring Africa (MMA) Additionally, secondary research was conducted, comprising information obtained through reliable and cited online sources.

Roundtable discussed several notable insights and strategies to combat misinformation in the digital era. These insights revolve around collaborative approaches, comprehensive guidelines, and the integration of technology and policy frameworks to mitigate the adverse impact of misinformation. Insights from the participants highlighted key focus areas, including the classification of Online Content Misinformation, the establishment of standards and principles, enhancing media literacy in journalism, requirements for holistic fact-checking tools, and launching public awareness campaigns. Attendees stressed the importance of collaborative efforts among stakeholders, such as industry players, governments, and educational institutions, to effectively combat misinformation. The need for regulations, responsible journalism, and technological advancements emerged as crucial components in the fight against Online Content Misinformation.

Testimonial by roundtable participants

The increasing spread of misinformation, notably through social media platforms, has raised a multitude of challenges, due to the immediacy of information dissemination, coupled with the sheer velocity and magnitude of its propagation

Outcome

The guidelines address the issue of Online Content Misinformation by understanding the context, challenges, and way forward for five focus areas, illustrated below:

1 Focus Area 1 – Online Content Misinformation Classification

- This research classifies online misinformation, with a specific emphasis on terminologies such as "'misinformation', 'disinformation', 'mal-information', and 'fake news'". Some of the significant gaps identified in these areas are the absence of a universally accepted classification system for online misinformation and the lack of a standardized classification system for information disorders. (Figure 10).

- Our recommendations are a set of aspects to consider while creating a comprehensive misinformation classification framework, to enhance society's ability to discern and categorize digital misinformation. In addition, Authors put forward a high-level theoretical framework for misinformation classification that considers these aspects and our research findings. As a way forward, the proposed theoretical framework can be strengthened considering real-world use cases.

Figure 10: Terminologies to describe misinformation

2 Focus Area 2 – Establishing Standards and Principles to Combat Online Misinformation

- This focus area aims to create a framework centered on critical aspects such as ethical considerations for social media organizations, enabling access to safe social media platforms, responsible journalism, transparency in online advertising, and implementing a robust reporting mechanism for misinformation.

- The digital landscape is rife with misinformation, posing a significant challenge to online information integrity. Addressing this requires considering a comprehensive and holistic approach for setting up standards and principles. This holistic approach encompasses technology, regulatory measures, societal involvement, empowerment strategies, and research endeavors, all crucial to effectively combat the challenge of misinformation.

- Emphasizing standards and principles with this approach demonstrates a commitment to preserving information integrity. Moreover, different stakeholders, including policymakers, researchers, practitioners, and international organizations should work together and cooperate to advocate the inclusion of these standards and principles in the global regulatory ecosystem, thus contributing to information integrity and addressing online content misinformation (Figure 11).

Figure 11: Standards and Principles to Combat Online Misinformation

Nascent **efforts**

There are different collaborative efforts from relevant stakeholders to frame standards, and principles to combat misinformation. However, these efforts are still nascent, and stakeholders including IOs and governments, require applying more focus to address misinformation challenges through standards and regulations.

Limited current **standards**

Lack of global and regional standards, and principles, like, transparency of online advertising, responsible journalism, user empowerment, social media ethics, and accountability.

Lack of **coordination**

Global efforts to combat misinformation are hampered by a lack of coordination and collaboration. Governments and international organizations are not working together to find solutions actively and effectively to this growing problem.

3 Focus Area 3- Enhancing Media Literacy in Journalism

- Empowering future journalists with media literacy skills is crucial for accurate and responsible reporting. The context surrounding the imperative to bolster media literacy in journalism stems from the evolving landscape of information dissemination. Without comprehensive media literacy skills, journalists risk disseminating inaccurate information, potentially compromising the integrity of journalism.

- Overcoming this challenge requires a concerted effort to integrate media literacy education into journalism training programs. The DCO suggests different approaches, including institutionalized media literacy, ethical reporting with transparency measures, technology integration, and the promotion of responsible journalism are crucial. Stakeholders, including governments, journalists, academia, media literacy experts, IT firms, civil society, and international organizations should consider these aspects as groundwork to boost media literacy in journalism.

4 Focus Area 4 – High-level requirements for a Holistic Fact-checking Tool

- The emphasis of this focus area revolves around establishing the foundational criteria for a Holistic Fact-checking Tool and defining the role of the industry in this context. The observed gap in this focus area represents the absence of a holistic fact-checking tool that can cater to the dynamic requirements of misinformation. (Figure 12).

- The DCO recommendation is to establish a techno-functional approach wherein to leverage DCO's expertise of understanding content misinformation coupled with the technological prowess of large multinational tech firms, building and strengthening collaborative partnerships with the technology industry. This study puts forward a set of requirements for fact-checking tools that stakeholders should consider and expand on for comprehensive, rapid, and user-focused fact-checking technology solutions.

Figure 12: Fact-checking tools.

Focus Area 5- Launching Public Awareness Campaigns

- Raising public awareness about the impact of misinformation is essential to fostering a discerning public. Thorough discussions on the campaign's objectives, metrics for evaluating success, and exploring strategies for the effective initiative design are critical components of launching impactful public awareness campaigns aimed at countering misinformation.

- The challenge lies in strategically enhancing awareness about misinformation to cultivate public discernment. To tackle this issue, it is recommended to develop a comprehensive strategy for disseminating information to elevate public understanding of misinformation. Stakeholders, including international organizations, governments, and businesses, should collaborate on joint initiatives that strengthen critical thinking skills and educate the public on identifying online misconceptions.

  In conclusion, online content misinformation has profound implications for the digital economy, societal trust, and democratic processes. Therefore, it is imperative to provide guidelines for a holistic regulatory strategy that includes classification, standards, media literacy, fact-checking tools, and public awareness campaigns to bridge crucial gaps in combating misinformation. This is reflected in the final deliverable "Guidelines for Combating Online Misinformation in The Era of Digital Economy".

- **Zero Fake News Campaign** is among the most successful initiatives that have significantly raised public awareness and encouraged active participation in countering the dissemination of misinformation. This was achieved through targeted outreach and awareness efforts, engaging key stakeholders such as government bodies, media outlets, and community organizations. The campaign aimed to amplify educational initiatives, including critical thinking and digital literacy training to empower individuals, specialized training for journalists, community engagement, adherence to journalistic ethics, the publication of accurate information, and the swift correction of errors.

- **Fighting Fake News** During Challenges Online Week has also been recognized as one of the most effective campaigns, where students from various regions around the world collaborated remotely on group projects. These projects focused on addressing different aspects of the challenge of combating fake news online through engaging and informative video presentations. Overall, the program showcased the power of collaboration, creativity, and technology in tackling the spread of misinformation in the digital space. It not only fostered global cooperation among students, but also produced tangible outcomes that significantly contribute to the ongoing efforts to address this critical societal challenge.

Key Considerations

In light of the challenges presented, a series of strategic considerations are essential for navigating the intricate landscape of combating online misinformation in the digital era. These considerations aim to establish the parameter for a comprehensive framework that addresses the multifaceted nature of online misinformation:

Collaborative fact-checking mechanism

Recognizing the challenges associated with maintaining the accuracy of community-contributed information, a collaborative approach by involving non-governmental organizations, media outlets, and fact-checking entities becomes imperative.

The spread of misinformation, often propagated through social media and fake news articles, can be prevented by implementing fact-checking tools, content moderation algorithms, standards for reporting and flagging misinformation systems, user authentication and verification, and AI-driven analytics.

Integrating diverse perspectives and expertise helps mitigate biases and inaccuracies, ensuring the integrity of fact-checked content.

Balanced regulatory approach

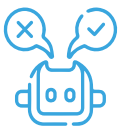
As the delicate balance between stringent regulations and corporate backing remains a challenge, it is vital to implement license limitations judiciously. Creating balanced and effective norms necessitates engaging a diverse array of stakeholders to encompass their perspectives and concerns.

Such regulatory measures can curb the spread of misinformation while preserving organizational innovation and support. Striking this balance ensures that while misinformation is controlled, the ecosystem still thrives.

Holistic regulatory standards

Crafting comprehensive regulatory frameworks rooted in standardized principles is paramount. These standards and principles establish a foundation for addressing misinformation across various contexts, including economy, journalism, education, and public communications. They should encompass areas such as international collaboration, adaptability to emerging technologies, transparency and accountability, cultural sensitivity, and public-private sector cohesiveness, among other aspects.

This approach aims to address the diverse international landscape, ensuring that regulations neither inhibit innovation nor overlook the nuances involved in tackling online misinformation. It necessitates active collaboration among stakeholders across different sectors to ensure a cohesive and effective strategy.



Bias-free AI integration

Addressing biases within AI tools and algorithms is crucial in the fight against misinformation. Collaboration with technology platforms and AI experts is essential to refine these tools continuously. By ensuring unbiased algorithms, the risk of perpetuating or exacerbating existing misinformation diminishes, promoting more accurate content moderation and fact-checking.

Empowerment through media literacy

To empower individuals with critical skills for discerning online content, a concerted effort involving educational institutions, governments, and technology platforms is essential. By establishing and implementing standardized media literacy programs, upholding ethical reporting, addressing echo chambers, ensuring transparency and accountability in journalism, integrating technology responsibly, and implementing regulatory measures, we can ensure that individuals can be equipped with the tools to identify, analyze, and counteract misinformation effectively.

This collaboration fosters a resilient online community adept at navigating the complexities of the digital information landscape.

These elements serve as foundational prerequisites for crafting a universally acknowledged and esteemed framework, distinguished by its profound applicability and efficacy. By seamlessly integrating collaborative, regulatory, technological, and educational facets, this framework can offer a comprehensive approach to adeptly navigate and alleviate the complexities intertwined with online misinformation.

Stakeholders Engaged

A diverse group of stakeholders actively participated in and contributed to the roundtable discussions pertaining to "Online Content Misinformation". Their invaluable insights and perspectives significantly enriched the depth and breadth of the analysis.

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07

DIGITAL RIGHTS:

INTELLECTUAL PROPERTY PROTECTION ONLINE & SAFE DIGITAL SPACE FOR CHILDREN

Digital Rights: "Intellectual Property Protection Online and Safe Digital Space for Children"

Objective

The Digital Rights DSA seeks to define and recognize globally acknowledged digital rights, situating them within the context of DCO Member States. Its primary objective to propose policy recommendations that facilitate the expansion of the digital economy while safeguarding rights and promoting inclusivity human development.

Following comprehensive analyses, eight critical digital rights were identified, with a focus on two key rights: 'Safe Digital Spaces' and 'Intellectual Property Protection.' Policy papers addressing the challenges in these domains were developed through extensive desk research and in-depth primary analysis. These recommendations are designed to bolster the responses of DCO Member States, aligning with the broader goal of driving economic and social progress through digital innovation.

In today's digital age, the significance and relevance of digital rights are paramount, given the integral role that technology plays across diverse facets of our lives. Digital rights serve as essential protections and entitlements for individuals in the digital domain, making them indispensable in the contemporary world. The extent nature of technology presents a nuanced challenge to traditional interpretations of rights. Ensuring that technology serves people and acts as a catalyst for sustained economic and social progress is imperative. The safeguarding of digital rights is a cornerstone of today's digital economy.

Digital rights are integral to the DCO's vision of fostering a thriving global digital economy. The DCO's Strategic Roadmap 2030 envisions DCO as an 'advocate' for advancing effective digital rights policies across its Member States and beyond. DCO's 'Flagship Initiative: DCO Digital for Good' prioritizes "extending Human Rights protections into the digital realm, advocating for an inclusive, secure, and ethical Digital Economy." Additionally, the DCO's 2030 Roadmap outlines challenges such as online harm, misinformation, data privacy, and AI biases that must be addressed to ensure user safety and cultivate trust in digital technologies by 2030.

The proposed solutions are also closely aligned with the United Nations' Sustainable Development Goals (SDGs), ensuring a holistic approach to overcoming these challenges.

Pathways

The aim of this DSA is to define digital rights, identify globally recognized digital rights, and identify the approaches being pursued worldwide while simultaneously contextualizing the digital rights space within DCO Member States. This DSA concludes with policy recommendations that could help foster the digital economy, safeguard rights, and promote inclusion and human development.

To tackle challenges identified by this DSA, a preliminary analysis of the reality, trends, and key challenges and initiatives worldwide in the field of digital rights was conducted. After a thorough analysis was conducted on the global landscape of digital rights, 8 rights were outlined as the most relevant digital rights for DCO Member States. Based on the 8 pre-selected digital rights, and considering the DCO roadmap, the analysis process led toward the selection of two digital rights. The first right results from the merging of a few of the rights mentioned in the pre-selection (such as the right to privacy protection, right to digital security and safety, right to personal

digital identity, and protection of children's rights in the digital space), which we call 'Safe Digital Space', with an emphasis on children's rights. The second right is the online protection of intellectual property which is growing more relevant with the recent upsurge of generative AI, spatial, and other emerging technologies.

Desk research with analysis of global benchmarks and case studies was conducted to develop the Digital Rights Policy Papers and deep dive into the 'Safe Digital Space' and 'Intellectual Property' rights. Primary and secondary research into DCO MSs performance on digital rights across relevant credible indices was conducted, exploring the challenges and best practices concerning the short-listed digital rights across DCO Member States and developing a gap analysis on those digital rights for the DCO Member States.

Roundtable Discussions

Global roundtable discussions organized by the DCO in Riyadh, Cape Town, and Geneva provided valuable insights from diverse stakeholders. Around 39 participants attended these roundtables with co-founders, digital innovation heads, and chief revenue officers etc. of private and public entities. Entities include DHL, World Intellectual Property Organization, and ZA Domain Name Authority (ZADNA) etc.

Testimonial by roundtable participants

Digital rights constitute the safeguards and entitlements that individuals should have in the digital domain. Digital rights are indispensable today

Outcome

The policy papers presented a set of recommendations in the areas of child protection in the digital world and online protection of intellectual property, this is reflected the following final deliverable:

1. Policy Paper on Digital Rights: This policy paper promotes, safeguards, and enhances digital rights to build an inclusive, human-centric digital economy, addressing key challenges, global approaches, and specific initiatives within the DCO context (Figure 13).

2. Policy Paper on Safe Digital Space for Children: This policy paper outlines why children are particularly vulnerable to new technologies, identifies key challenges and relevant stakeholders, and offers actionable policy recommendations to address the most pressing online risks for children.

3. Policy Paper on Digital Intellectual Property Protection: This policy paper examines Digital IP Protection, highlighting its importance, challenges, stakeholder roles, and policy recommendations for DCO Member States. It covers digital IP elements like inventions, creative works, designs, software, and databases that are essential to the digital economy.

Figure 13: Examples of globally acknowledged digital rights (non-exhaustive)

Key Considerations

Key considerations for **protecting children in the digital space (safe digital space):**

Adopt holistic national strategies to protect children in the digital world, understanding the different dimensions and risks involved.

Identify the various stakeholders involved spanning from children and parents to educational institutions and educators, major technology platforms, government bodies, policymakers, regulatory and supervisory entities, healthcare professionals, and scientists, consider the impact of technology on children's well-being and development progress in today's digital landscape.

Development of informational campaigns and resources, including guidelines for parents, teachers, and children, in collaboration with other stakeholders aligning with the pillars of this strategy.

Adopt recommendations from studies on the impact of technology on children. Given the inconclusiveness of many studies, it is important to associate the development of national strategies with concurrent in-depth research on the impacts of technologies on children, considering different age groups and developmental stages.

Align the strategy with broader government/regional plans for economic and social development, including investment and resource mobilization for child online protection efforts.

Key considerations for protecting intellectual property online **(intellectual property protection online):**

Develop appropriate laws and regulations around technology IP, considering international best practices and standards. Indeed, while respecting the diversity and autonomy of each legal system, a minimum standard of IP rights protection should be established across the legal systems and jurisdictions in DCO Member States.

Recognize the significance of international treaties and conventions in intellectual property protection, and establish a common regional strategy for accession to these treaties or conventions, particularly in the digital space.

Consider a new approach to the judicial systems due to the complexity of IP disputes, such as creating specialized IP courts or establishing alternative dispute resolution (ADR) and emphasizing mediation as alternative means for dispute resolution.

Regulate AI usage is unavoidable today due to the significant impact of emerging technologies on IP rights. Europe, the United States, and China are adopting various distinct approaches to regulating AI. Therefore, within the DCO Member State framework, it is important to develop a strategy with guidelines on AI, considering the various relevant stakeholders in this domain.

Key recommended actions:

Enhancing digital safety for children in DCO Member States involves refining existing policies, updating laws, and empowering law enforcement. Collaboration with educators, media, and health experts is essential to establish age restrictions, regulate advertisers, and promote privacy-conscious technologies. National strategies should emphasize stakeholder collaboration, legislative support, and education in digital literacy. Schools should integrate online safety education, and parents should receive support through educational materials and training. Form partnerships with the private sector to create child-friendly mobile packages, remove harmful content, and prioritize safety in product design, fostering a secure digital environment through collaboration among governments, regulators, and industry stakeholders.

• Policy recommendations to strengthen Digital IP protection and foster innovation in the digital economy, adhere to international treaties, harmonize IP laws, raise awareness, establish specialist IP courts, regulate AI use, promote DRM technologies, optimize data rights systems, assess software patentability, design data privacy regulations, and incorporate fair use/dealing into copyright law. Implement these measures to enhance collaboration, innovation, and protection of Digital IP across DCO Member States, contributing to the growth of the digital economy while addressing legal and regulatory challenges.

• The above recommendations serve as a foundational framework to address key challenges in online child protection and intellectual property rights within DCO Member States. They aim to strengthen the countries' responses and align efforts with the imperative of fostering the digital economy, which is crucial for their economic and social development.

Stakeholders Engaged

A diverse group of stakeholders actively participated in and contributed to the roundtable discussions on 'Digital Rights: Intellectual Property Protection Online and Safe Digital Space for Children.' Their invaluable insights and perspectives significantly enriched the analysis.

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** The names of stakeholders are non-exhaustive and only includes those who have explicitly agreed to have their names shared*

08

TAX & FINANCIAL **INCENTIVES FOR THE ICT SECTOR**

Tax and Financial Incentives for the ICT Sector

Objective

The development of the ICT sector is the key to the digital transformation of both the economy and society. Tax and financial incentives serve as critical catalysts in supporting ICT development. Challenges to ICT growth such as issues of affordability, gaps in digital skills, and limited access to capital for investment and R&D can be alleviated through strategic use of tax and financial incentives. The Tax and Financial Incentives for the ICT Sector DSA conducted a comparative analysis of both DCO Member States and benchmark countries, covering a broad spectrum of income levels and institutional maturity. It identifies various incentives, analyzes the obstacles they address, and provides qualitative insights into their efficacy. Highlighting the need for tailored interventions that align with the unique challenges of each DCO Member State, the study delves into crucial aspects of incentive evaluation, implementation, and the ramifications of the OECD's Pillar Two policies.

Digitalization has become the centerpiece of government strategies to improve economic and social inclusion and boost economic competitiveness. Investments in digital connectivity have the potential to foster inclusion by stimulating new sectors and jobs, improving service delivery for the population, and enhancing the efficiency of government programs[7]. Digitalization is also a critical tool for businesses to enhance international competitiveness mainly through increased innovation, efficiency gains, and cost reductions.[8] As a result, business spending on digital transformation is expected to reach USD 2.8 trillion by 2025, more than double the amount allocated in 2020[9]. The share of the digital economy in the global GDP is also expected to increase from 16% in 2016 to 24% by 2025 [10].

The ICT sector is a key enabler of digitalization, driving economic progress through increased innovation and greater servicification. Access to connectivity and a range of ICT products and services can facilitate digitalization by integrating digital technologies across the economy. This, in turn, supports economic growth through gains in labor and total factor productivity, product and process innovation, and higher operational efficiency [11]. Moreover, the growing adoption of digital services as inputs, within-firm activities, or outputs also enhances the servicification of different industries such as manufacturing, healthcare, education, and the public sector. Greater servicification could increase firm participation in global value chains and boost exports for domestic firms, contributing positively to economic growth [12] [13].

Recognizing the ICT sector's role as a driving force behind the expansion of the digital economy, recent policy focus has shifted toward leveraging tax and financial incentives to bolster the ICT sector. Many countries are making substantial investments in their digital infrastructure, with the ambition of becoming a hub for ICT-related services. A crucial enabler of this shift is the formulation of regulatory frameworks and legislative policies, particularly in the areas of tax and finance, that foster growth in key ICT sub-sectors.

Pathways

Against this backdrop, the DCO commissioned the 'Comparative Study on Tax and Financial Incentives' to explore various incentives adopted by different countries to support domestic ICT sector growth. The study provides an overview of the tax and financial archetypes adopted across the DCO and benchmark countries. These incentives are either specifically targeted at growing the ICT sector or non-targeted but have the potential to accelerate ICT sector development (e.g., ICT businesses eligible for cross-sector R&D tax allowances). The study includes discussions on the barriers' incentives may address, specific examples of incentives, qualitative evidence on their impact where available, and high-level considerations for policymakers.

Roundtable Discussions

To maximize the impact of this DSA initiatives, we conducted three roundtables with member organizations, relevant government officials, and experts in Riyadh, Cape Town, and Geneva. CEOs, taxation and risk consultants from private and public entities, and PhD researchers attended these roundtables, with a total of 54 participants. Participant entities included Mafikeng Digital Innovation Hub, University of Cape Town Financial Innovation Hub and HOLISTIK-Swiss Certified Wealth Planning.

Participants in the roundtable discussions emphasized the need for a comprehensive approach to digital transformation, focusing on various aspects of the ICT and digital ecosystem. Considerations mentioned include understanding ICT costs, supporting small businesses, attracting foreign investment through streamlined frameworks, and prioritizing digital infrastructure and skill-building. Proposed incentives range from operational flexibility to tax reductions for the ICT sector, with participants expressing a shared desire for clear taxation guidelines. Participants stressed the need to address institutional and regulatory issues alongside incentives to effectively bolster the ICT sector. This includes considering fiscal constraints in Sub-Saharan Africa and tailoring incentive structures to existing administrative capacities.

The benchmark countries were selected based on a set of criteria that sought to identify a diverse range of countries in terms of income level and institutional development, which broadly reflects the wide variation across the DCO in this respect, which have:

- High-performing ICT sectors within their income group; and

- ICT-specific tax and financial incentives and published information on the form of the incentive.

Testimonial by roundtable participants

The growing adoption of Digital services as inputs, within-firm activities, or outputs also enhances the servicification of different industries such as manufacturing, healthcare, education, and the public sector.

Evaluating the Case for Intervention: Assessing the necessity and appropriate type of intervention requires a nuanced intervention that addresses the unique challenges and barriers to development and adoption in each DCO Member State. This assessment must also consider broader factors, such as existing incentives and the country's fiscal context. While the study offers valuable insights into the advantages and complexities of various incentives, as well as the potential risks associated with their implementation, it does not aim to prescribe specific incentives for individual markets or provide detailed design and implementation recommendations.

Outcome

This study highlights crucial considerations for policymakers in selecting tax and financial incentives for Member States. It emphasizes the importance of tailoring incentives to address varying levels of development and barriers across states while prioritizing targeted incentives over broad-based ones to maximize cost-effectiveness and prevent unintended benefits for highly profitable businesses (Figure 14).

Clear, transparent eligibility criteria are advocated to ensure efficient allocation of public funds and boost investor confidence, particularly in the dynamic ICT sector where technology-neutral incentives can foster innovation and cost-effective solutions. Policymakers are advised to regularly evaluate the suitability and flexibility of incentives in response to evolving economic conditions and global tax policies, recognizing potential impacts such as those from OECD's Pillar Two on corporate income tax-based incentives for multinational enterprises. In summary, the study explores differences in ICT sector development among DCO Member States, emphasizes priority areas, building blocks, barriers, and enablers for development. It analyzes how tax and financial incentives promote ICT sector growth, including associated risks, and presents the incentives used by DCO Member States along with insights from benchmark countries.

Moreover, the study also discusses key considerations for evaluating the necessity of incentives, their implementation, and the ramifications of OECD's Pillar Two policies, and concludes with suggestions for potential next steps for DCO Member States. This is reflected in the final deliverable "Tax and Financial Incentives for the ICT sector - Comparative study on tax and financial incentives"

Figure 14: Tax and financial incentive archetypes used in the ICT sector

	Main incentive archetype	Examples of incentives	DCO members adopting the incentive	Benchmark countries adopting the incentive
Direct tax incentives	Income-based tax incentives	• Tax holidays • Full and partial exemptions • Lower tax rate	Bangladesh, Ghana, Rwanda, The Gambia	Malaysia, the Philippines, Singapore, Thailand
	Expenditure-based tax incentives	• Deductions: - Capital tax allowance - Accelerated depreciation	Cyprus, Nigeria, The Gambia	Finland, Malaysia, Singapore, Thailand
Indirect tax incentives	Tax incentives on input goods and services	• Import duty exemptions • Sales tax exemptions • VAT exemptions • Targeted tax incentives for high cost inputs	Jordan, Pakistan, Saudi Arabia, The Gambia	Finland, Malaysia, the Philippines, Singapore, Thailand
	Other tax incentives	• Exemption from local government taxes and fees	The Gambia	The Philippines
Financial incentives	Government expenditure	• Subsidies • Grants • Export bonuses	Bangladesh, Jordan, Kuwait, Pakistan, Qatar	Finland, the Philippines, Malaysia, Singapore, Thailand
	Loans and guarantees	• Loans and funding* • Guarantees • Risk Insurance	Bahrain, Nigeria, Qatar, Saudi Arabia	Finland

Key Considerations

Designing tax and financial incentives that effectively bolster the ICT sector demands careful consideration from DCO Member States. These include:

Identifying incentives relevant to each country's context based on the ICT sector's specific needs, challenges, and government targets.

Considering their macroeconomic and fiscal positions, as this could impact the adoption extent and types of incentives introduced.

Taking into account OECD's Pillar Two, which introduces a minimum corporate income tax rate likely to limit the effectiveness and provision of some types of incentives.

Developing targeted incentives aimed at addressing specific obstacles identified within the ICT sector and its sub-sectors proves more effective in overcoming these challenges compared to general incentives that benefit all firms, as they are typically more successful in achieving governmental objectives[7].

Providing technology-neutral interventions that focus on target outcomes (e.g., the percentage of households with access to >100 Mbps internet) while allowing the industry to choose the most efficient technology (e.g., fixed, mobile, or satellite) can promote innovation and efficiently achieve outcomes.

Setting up adequate monitoring and evaluation processes to cancel unsuccessful incentive schemes.

Stakeholders Engaged

A diverse group of stakeholders actively participated in and contributed to the roundtable discussions on "Tax and Financial Incentives for the ICT Sector". Their insights and perspectives significantly enriched the analysis.

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** The names of stakeholders are non-exhaustive and only includes those who have explicitly agreed to have their names shared*

09

WAY FORWARD

WAY FORWARD

Based on research and analysis across 6 DSAs, the Report offers recommendations for member states to implement according to each country's needs.

To advance Public-Private Partnerships (PPPs), we recommend that DCO Member States cultivate local expertise in the public sector to design and manage PPPs suited to the digital economy's needs. This strategy involves benchmarking against leading companies, implementing tailored best practices, investing sustainably in Information and Communication Technologies (ICT) for robust digital infrastructure, preparing the workforce for technological changes engaging diverse stakeholders for inclusive solutions, adopting a people-centered approach to enhance citizens' quality of life, and promoting collaborative PPPs across sectors to drive innovation and synergies.

The Empowering Women In and Through ICT DSA developed a Unified Framework to accelerate women's inclusion in the digital economy through structured initiatives. The framework aims to identify funding sources, enablers, and deliverables to implement initiatives. Leveraging this novel framework, pioneering and targeted initiatives have been built to drive impactful change. By addressing barriers, creating opportunities, and harnessing technology, the Unified Framework aims to unleash the potential of women in the workforce and foster accelerated growth in the digital economy of DCO Member States and beyond.

The Digital Skills Gap for Youth DSA's Digital Skills Framework, survey, and roundtable discussions generated considerations across three vital stakeholder groups: Academic Level, Organizational Level, and National Level. Designing capability development initiatives to promote digital literacy among youth requires consulting relevant stakeholders at both macro and micro levels. Therefore, identifying these stakeholders across DCO Member States is crucial for laying a solid foundation to develop and implement sustainable and effective upskilling interventions.

In response to widespread misinformation challenges, the Online Content Misinformation DSA proposes a comprehensive approach to address this issue and cultivate a better-informed and resilient society. The identified gaps, challenges, and recommendations offer guiding principles to navigate the complex terrain of misinformation and promote a discerning public. The suggested recommendations endorse multi-stakeholder collaboration, customized education, technology integration, media literacy promotion, engagement with trusted influencers, real-time fact-checking, interactive campaigns, and ongoing evaluation.

While the 'Digital Rights: 'Intellectual Property Protection Online and Safe Digital Space for Children' DSA presents recommendations in the 'Safe Digital Space' and 'Intellectual Property' areas, we must recognize that these recommendations will evolve and be validated through additional primary and secondary research, including insights from roundtables. This serves as a starting point for a comprehensive approach to addressing the main challenges DCO Member States face in online child protection and intellectual property protection. Strengthening responses in these areas will help DCO Member States better foster the digital economy, contributing to their economic and social development in alignment with the region's strategic pillars.

In regard to Tax and Financial Incentives for the Financial Sector, this DSA emphasizes that policymakers in DCO Member States must meticulously consider various tax and financial incentives to foster ICT sector growth. These incentives should be tailored to tackle specific barriers and align with current policies and tax systems. Designing technology-neutral incentives with transparent eligibility criteria will improve effectiveness, mitigate distortive effects, encourage investment and competition, and minimize administrative burdens. Assessments should identify and address both financial and non-financial barriers, and craft customized interventions to promote ICT sector growth aligned with each Member State's unique considerations.

TABLE OF ACRONYMS

Sr. No.	Abbreviation	Full form
01	DCO	Digital Cooperation Organization
02	ICT	Information and Communication Technologies
03	OECD	Organization for Economic Co-operation, and Development
04	PPPs	Public-Private Partnerships
05	DSA	Digital Space Accelerator
06	ITU	International Telecommunication Union
07	MSs	Member States
08	ADR	Alternative Dispute Resolution
09	AU	African Union
10	GCC	Gulf Cooperation Council
11	NGO	Non-governmental Organization
12	UN	United Nations
13	UNCTAD	United Nations Conference on Trade and Development
14	UNESCO	United Nations Educational, Scientific and Cultural Organization
15	USD	U.S. Dollar
16	STEM	Science, Technology, Engineering, and Mathematics
17	GDP	Gross Domestic Product
18	SMEs	Subject Matter Experts
19	SDGs	Sustainable Development Goals
20	CVs	Curriculum Vitae
21	CEO	Chief Executive Officer
22	ILO	International Labor Organization
23	ZADNA	ZA Domain Name Authority
24	ZA	za is the Internet country code top-level domain for South Africa
25	MMA	Media Monitoring Africa

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