Digital Cooperation Organization

RESHAPING THE DIGITAL LANDSCAPE

GCC Focus Report

February 2024

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FOREWORD

Foreword

In today's world, the digital economy emerges as a cornerstone for global advancement, presenting diverse opportunities across various sectors. Its relevance is underscored by its role in fostering international connectivity, propelling economic expansion, cultivating an environment conducive to innovation, and serving as a hub for entrepreneurial initiatives.

Against the backdrop of the challenges and opportunities inherent in the era of digital transformation, the digital economy assumes a pivotal role in the Gulf Cooperation Council's (GCC) trajectory toward technological advancement. The collaborative initiatives between the Digital Cooperation Organization (DCO) and GCC bear testament to the strategic significance attached to partnerships, exemplifying the capacity of collective endeavors to stimulate innovation, spur growth, and unlock the extensive potential embedded in our dynamic digital era.

From pioneering developments in artificial intelligence to the deliberate cultivation of local innovation hubs, the commitment to collaboration resonates profoundly. This cooperative spirit is instrumental in paving the way for a future that is not only technologically sophisticated but also inclusive, sustainable, and prosperous. This is particularly vital in the modern world, where the question of global governance for the digital economy remains untapped and the gap is evolving considerably.

Central to this discussion is the issue of trust in emerging technologies. As we embrace the rapid evolution of technology, establishing and maintaining trust becomes paramount. We recognize the importance of building trust in the deployment of emerging technologies. This includes ensuring the responsible and ethical use of artificial intelligence, robust cybersecurity measures, and transparent practices in digital

governance. Trust serves as the foundation for fostering public confidence and encouraging widespread adoption of new technologies.

The challenges encountered in this journey are diverse. Ensuring the substantive contribution of women in major fields, addressing concerns related to digital rights, implementing effective taxation incentives, fostering public-private partnerships (PPPs), and navigating other pertinent topics are integral to the region's success in thriving within the digital realm.

As we navigate this complex landscape, the collaborative efforts between the DCO and GCC, grounded in principles of trust and responsible innovation, emerge as a guiding force, steering us toward a future where the digital economy is harnessed for the collective well-being and advancement of our societies.

H.E. Jasem Mohamed AlBudaiwi

GCC Secretary-General

In the tapestry of modern economic transformation, the advent of the digital era has been nothing short of revolutionary. The Gulf Cooperation Council (GCC) region, with its rich history and dynamic present, finds itself at the precipice of monumental change, driven by the digital renaissance that is sweeping across its lands.

This report provides an exhaustive examination of the multifaceted digital landscape that is taking shape in the GCC, characterized by its potent potential to redefine the contours of economic and social progress.

The Digital Cooperation Organization (DCO) stands as a testament to the collaborative spirit required to harness the digital economy's potential. This report captures the essence of the DCO's commitment to enabling digital prosperity, highlighting the nuanced challenges and vast opportunities that lie ahead, not just for the GCC but for the digital economy at large.

From public-private partnerships to the empowerment of women through ICT, and from bridging the digital skills gap to safeguarding digital rights, the topics tackled in this report are both timely and timeless. Each chapter is a deep dive into the pressing issues and innovative solutions that will define the trajectory of the digital economy in GCC countries.

I'm not only underscoring the content of this report, but the collective journey towards digital inclusivity and prosperity. It is a call to action for policymakers, industry leaders, and stakeholders at all levels to synergize their efforts, ensuring that the digital future we build is equitable, sustainable, and reflective of the diverse aspirations of the GCC's nations and their people.

The GCC's digital renaissance is a story of progress and caution, of opportunities seized, and challenges met. As you navigate through the insights and analyses presented herein, you may find the inspiration and knowledge to contribute to this ongoing narrative of digital transformation.

Let us embark on this journey with foresight and fortitude, embracing the digital age as a catalyst for growth and a beacon of hope for a brighter, more connected future.

Deemah AlYahya

The DCO Secretary-General

Introduction

The Gulf Cooperation Council (GCC), comprising the Unites Arab Emirates, the Kingdom of Bahrain, the Kingdom of Saudi Arabia, the Sultanate of Oman, the State of Qatar and the State of Kuwait, stands at the forefront of the digital transformation sweeping across the global landscape. This region, renowned for its economic prowess, is not immune to the challenges and opportunities presented by the evolving digital economy. In the dynamic arena of digital evolution, the GCC nations are navigating a path that holds promise and potential. The digital landscape is not merely a global phenomenon but an intricate part of the fabric shaping the destiny of these nations. As industries, economies, and societies globally undergo a profound metamorphosis, the GCC finds itself at the nexus of unprecedented opportunities and pressing challenges.

Acknowledging the necessity for strategic leadership to confront the challenges and seize the opportunities of the digital economy, the DCO has 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.

To this end, the DCO has Identified the key influencers in the area and capitalized on the opportunity to engage with the GCC countries. Consequently, the DCO has actively pursued collaborations with diverse entities from international and regional organizations. Through forming partnerships with entities such as the World Economic Forum, Smart Africa, and the Organization of Islamic Cooperation, the DCO has created a network of allies that extends across both global and regional spheres.

However, as part of its role in promoting collaboration, the DCO launched the Digital Space Accelerator (DSA) that serves as an innovative cooperation mechanism by bringing together various stakeholders from the private sector, international organizations, government, academia and beyond, to foster a multi-stakeholder collaboration to design and propose actionable solutions to address key barriers in the digital economy.

This report aims to articulate the specific regional challenges, synthesizing keen insights and offering guidance to steer through the complex issues pertinent to the six focal areas of the DSA identified as pivotal for regional advancement. It consolidates and refines perspectives on these topics, particularly from the vantage point of the GCC, to distill collective intelligence and strategic insights relevant to the region.

The first objective of this report is to illuminate the central initiatives undertaken by the DCO to hasten the growth of the digital economy within these countries, offering a detailed examination of strategic areas and articulating the organization's concerted actions to boost digital advancement.

Secondly, is to provide an expansive overview of the GCC market, detailing its unique landscape. This encompasses a meticulous appraisal of the region's current digital economic status, contrasted with international standards, and supplemented by the discerning viewpoints of leading experts in the field.

Lastly, the report synthesizes the outcomes of in-depth roundtable discussions that convened with the six GCC countries. These dialogues were pivotal in exchanging views and experiences related to digital economy initiatives.

By clarifying these objectives, the DCO endeavors to engage a diverse array of stakeholders across various industries, sparking an inclusive discourse on the cross-sectoral partnerships and investments that are essential to fostering resilient digital economies worldwide. The goal is to chart a path forward that ensures all global economies can flourish digitally, with a particular focus on how the GCC can leverage its regional strengths in this global endeavor.

EXECUTIVE **SUMMARY**

Digital Cooperation Organization


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Executive Summary

The digital renaissance in the GCC region can be considered a double-edged sword; while it opens doors to unparalleled economic growth, innovation, and global connectivity, it also introduces challenges that transcend borders, demanding collaborative solutions. Central to this transformative journey lies the creation of a "digital-friendly" investment climate, with critical roles for both government and private sectors in building a resilient digital infrastructure.

Additionally, the realization of the United Nations' Sustainable Development Goals (SDGs) becomes intertwined with the digital future of the GCC region. As these countries aspire to economic diversification and sustainable development, the digital economy becomes a linchpin for achieving these ambitious objectives. Government policies and private sector initiatives must align to foster an environment conducive to digital innovation and investment.

As an international organization aiming to enable digital prosperity for all, the DCO has identified challenges and opportunities influencing the global growth of the digital economy, including the GCC region. These challenges and opportunities are addressed through the DCO Digital Space Accelerators focusing on public-private partnerships for development of the digital economy, online content misinformation, tax and financial incentives for the ICT sector, empowering women in and through ICT, digital skills gap for the youth, and digital rights: Intellectual property and safe digital space.

Focused Challenges

In addressing the mentioned six topics for the GCC countries, the DCO, in collaboration with the GCC, conducted roundtable discussions for each topic. These roundtables took place during three extensive sessions in August, September, and October. They brought together an average of 70+ diverse attendees, including subject matter experts, DCO affiliates, and representatives from GCC countries, all focused on the specific topic under consideration.

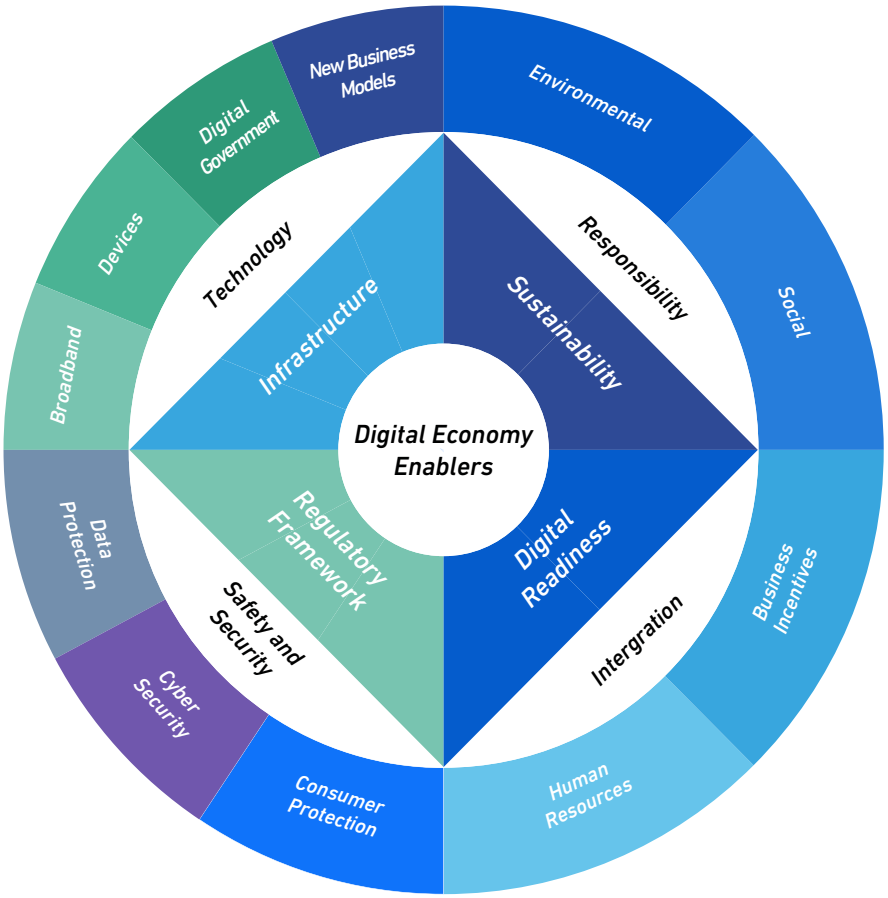
The objective of these sessions was to acquire specific and relevant insights for each country, with a focus on identifying factors and generating actionable recommendations. The inputs gathered were enriched through an in-depth analysis of the current digital environment in the GCC countries, benchmarked against global standards. This analysis was developed with input from experts in the field and diverse perspectives provided by GCC member nations on each specific topic.

The following is a summary of each topic with a snapshot of the current status and recommendations derived from the productive discussions held during each roundtable session and the experts' analysis. It aims to provide the way forward and strategies for each topic, contributing to reducing the digital divide and promoting a thriving digital economy within the GCC countries.

1 Public-Private Partnerships for Development of the Digital Economy

Public-private partnerships for development of the digital economy stand out as a significant catalyst for the expansion of the digital economy. Overcoming the challenge of implementing policies and measures that foster "digital-friendly" investment climates is essential for growth. It is crucial for both the government and the private sector to invest in the necessary infrastructure, hardware, and software to enhance interconnectivity, thereby facilitating the growth of new sectors aligned with the United Nations' Sustainable Development Goals (SDGs). Establishing cross-sectoral partnerships and making strategic investments is imperative for a sustainable response, fostering thriving digital economies on a global scale. Further exploration is needed to identify additional measures to encourage political leaders and international funders to invest in shaping a digital future.

How PPPs enable the Digital Economy



RECOMMENDATIONS

1 Closing the Development Gap

Strategically invest in and develop digital economies to reach the level of advanced economies.

2 Capacity building in the public sector

Focus on developing local expertise through training and retention, specifically for conceiving and managing digital economy-oriented Public-Private Partnerships (PPPs).

3 Adaptability to digital trends

Equip public sector professionals with the ability to understand and leverage emerging technologies, fostering adaptability for effective partnerships.

4 Sustained investment in ICT

Prioritize and maintain high levels of investment in the Information and Communication Technology (ICT) sector to drive digital transformation.

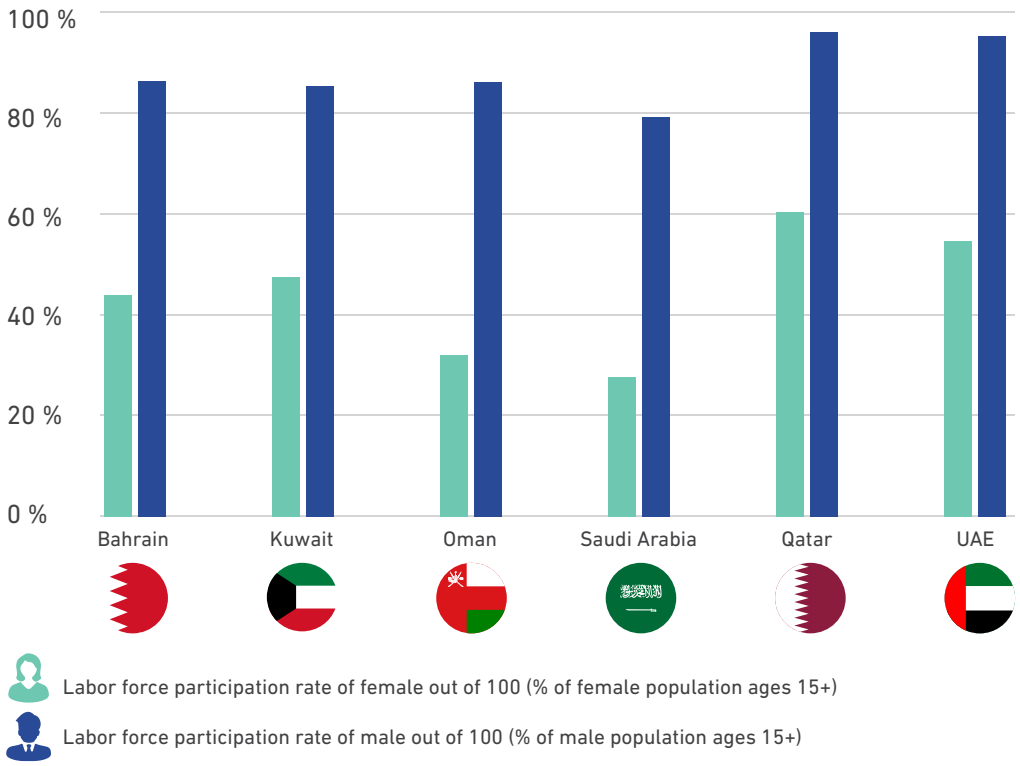
5 Innovation and entrepreneurship

Foster an environment conducive to innovation and entrepreneurship, supported by regulatory frameworks that encourage the development of new digital services and businesses.

2 Empowering women in and through ICT

Empowering women in and through ICT: On a global scale, the United Nations reports that women occupy merely two out of every ten Science, Technology, Engineering and Mathematics (STEM) jobs and constitute only 33% of the workforce at the largest 20 technology companies globally. GCC countries face their own fair share of challenges with low participation of women in the workforce as compared to men, with Saudi Arabia reporting female labor force participation rate below 30%. Oman and Saudi Arabia also have a low ratio of female to male labor force participation at 37% and 35% respectively. DCO has delved into the current challenges obstructing women's empowerment in the digital economy, encompassing cultural and societal biases, limited market opportunities, insufficient policies, and programs, as well as gaps in financial and workforce inclusion. In addition to exploring strategies to design impactful multilateral initiatives aimed at empowering women in and through ICT.

Female workforce participation



RECOMMENDATIONS

1 Use of Digital Resources for Career Opportunities

Establish a localized online mentorship platform to promote women's career growth and leadership across various sectors through digital resources.

2 Digital Career Entry Toolkits for Women

Develop digital career entry toolkits in local languages, covering aspects like crafting CVs for roles such as graphic designer, social media manager, and data analyst, to increase information dissemination to women in the GCC countries.

3 Innovative Online Platform for Matching

Create an innovative online platform, possibly through public-private partnerships, dedicated to precise matching of women job seekers with employers and facilitating mentor-mentee relationships.

4 Promoting Female Role Models through Media Campaigns

Initiate national media campaigns supported by the government, featuring female role models in ICT to inspire and encourage women's participation in the field.

5 Integration of ICT and Coding in Education

Encourage collaboration between the private sector, GCC governments, and educational institutions to introduce ICT and coding in national curricula across the GCC.

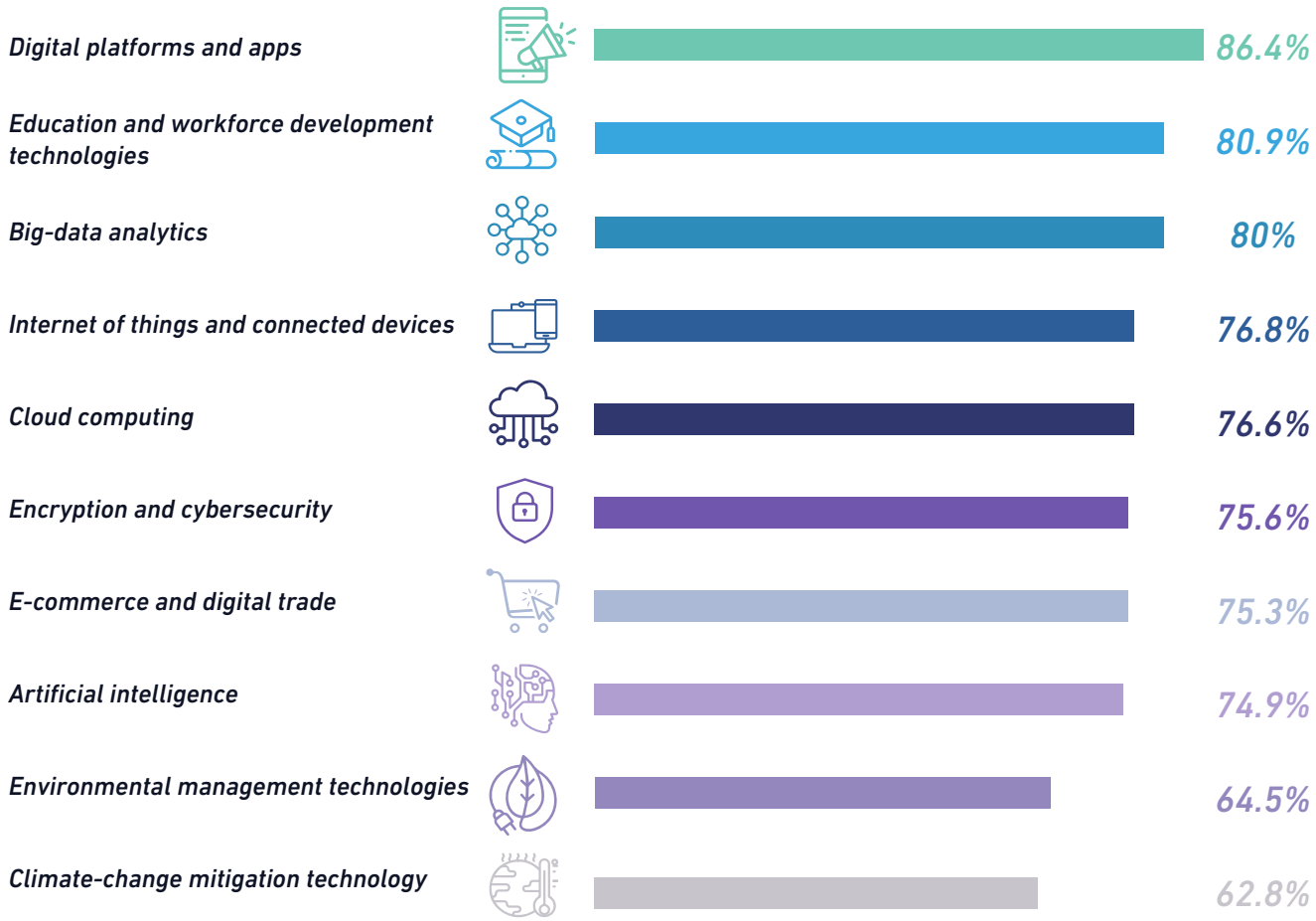
6 Gender Gap Analysis Tool

Develop and implement a Gender Gap Analysis Tool for public and private organizations in the GCC, enabling them to measure and enhance gender equality and women's empowerment in the workplace.

3 Digital skills gap for the youth

By 2030, Korn Ferry anticipates that up to 85 million jobs will remain unfilled worldwide, creating a US$8.5 trillion disparity between potential and actual annual revenues. In a survey conducted by the DCO involving 250 businesses across 12 countries, 47% of respondents identified a shortage of trained staff as a significant obstacle to more extensive participation in the digital economy. Given this substantial gap, what additional efforts are required to prepare the upcoming generation of digital experts? The DCO has endeavored to provide key recommendations, strategic guidelines, and diverse solutions aimed at bridging the digital skills gap for youth.

Technologies likely to be adopted in the next 5 years



RECOMMENDATIONS

1 Government Initiatives

Establish and promote government-led initiatives, such as innovation awards and targeted employment opportunities, to address skill gaps and demonstrate commitment to skills development.

2 Collaboration at Multiple Levels

Foster collaboration across academic, corporate, and national policy frameworks to address digital skill gaps. Encourage holistic approaches that leverage diverse resources and expertise.

3 Fostering Digital Skills

Implement continuous assessment and enhancement of digital skills among youth. Integrate digital skills into traditional education, work opportunities, practical projects, and modernized curriculums.

4 Accessible Learning Platforms

Develop user-friendly digital learning platforms accessible to all youth. Ensure these platforms provide diverse and up-to-date content aligned with industry demands.

5 Public-Private Partnerships

Encourage effective partnerships between the public and private sectors to develop digital skills. Facilitate collaborations that offer resources, expertise, and real-world contexts for learning and application.

6 Mentorship Programs

Implement mentorship programs to guide and provide insight into digital skill development for young individuals. Create pathways to navigate the digital landscape.

7 National Strategies

Formulate comprehensive national strategies to support and sustain digital skill enhancement. Ensure these strategies are inclusive, forward-thinking, and adaptable to the evolving digital landscape.

8 Inter-Governmental Collaborations

Explore and foster collaborations between governments to develop innovative solutions and shared learning. Emphasize the importance of standardizing digital skill development frameworks across the region.

4 Online content misinformation

The phenomenon of Online Content Misinformation presents distinctive challenges to the digital economy, encompassing risks such as diminished consumer trust, heightened regulatory measures, and potential harm to reputations due to the dissemination of inaccurate, biased, and incomplete information. the DCO aims to elicit diverse perspectives from stakeholders, delving into strategies to combat online misinformation and potential socio-technical solutions to effectively address this pressing issue

Bahrain: Introduced measures to counter online misinformation, including legal frameworks to address the spread of false information and defamatory content. The Bahrain government uses the Penal Code, which includes content restrictions that prohibit vague and overbroad categories of expression. Article 168 punishes with up to two years' imprisonment and/or a fine of up to BHD 200 (USD 531), anyone who shares "false" or "malicious" information that seeks to "damage public security, terrorize the population, or cause damage to public interest," as well as the possession of such information with the intention of distribution, and the possession of devices intended for the distribution of such information.

Saudi Arabia: Implemented laws and regulations aimed at countering misinformation, especially on social media platforms. In practice, this law makes it so that anyone who creates or disseminates false information that affects the public on social media can be sentenced up to five years in prison and a fine of up to 3 million Saudi Riyals (USD 800,000).

Oman: took steps to address misinformation online and promote responsible digital media usage. The country has engaged in public awareness campaigns to educate citizens about the risks of misinformation and the importance of verifying information. Each GCC country has its approach to combatting online content misinformation, and the effectiveness of their efforts may vary.

Qatar: The law, issued by Emir Tamim bin Hamad Al Thani, amends the Penal Code by adding a new provision, Article 136 bis, which authorizes the imprisonment of "anyone who broadcasts, publishes, or republishes false or biased rumors, statements, or news, or inflammatory propaganda, domestically or abroad, with the intent to harm national interests, stir up public opinion, or infringe on the social system or the public system of the state.

Kuwait: Introduced laws and regulations to combat misinformation and the spread of false information online. The government has implemented penalties for those found spreading false information through digital channels.

RECOMMENDATIONS

1 Collaborative Fact-Checking

Engage with NGOs, media, and fact-checking entities for a collaborative approach to address challenges in community-contributed information, mitigating biases and inaccuracies.

2 Balanced Regulatory Approach

Implement license limitations judiciously to strike a balance between regulations and corporate support, controlling misinformation while preserving innovation.

3 Holistic Regulatory Standards

Craft comprehensive regulatory frameworks based on standardized principles to address the international landscape, ensuring effective strategies without stifling innovation.

4 Bias-Free AI Integration

Collaborate with technology platforms and AI experts to address biases in AI tools, reducing the risk of perpetuating misinformation.

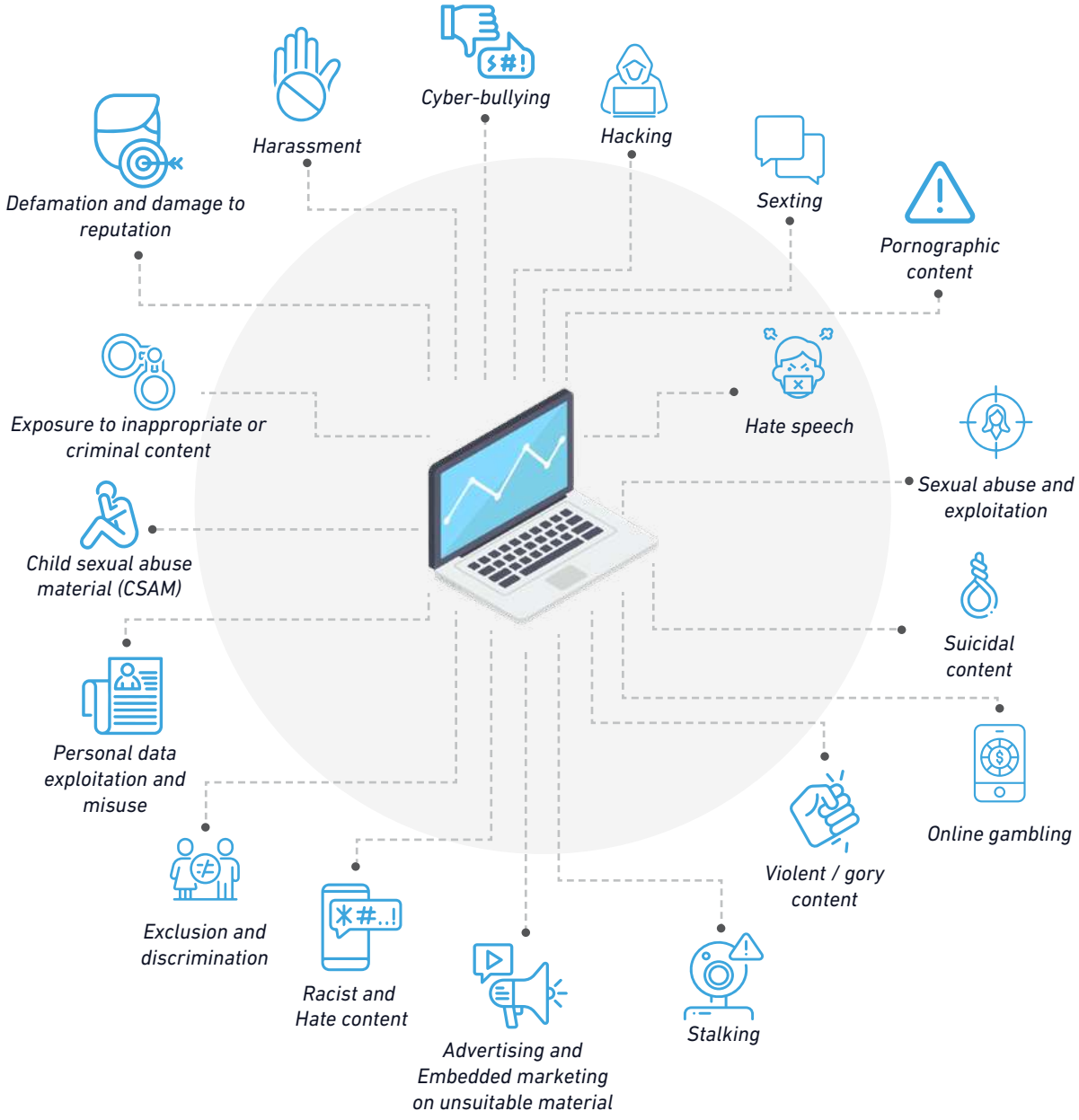
5 Empowerment Through Media Literacy

Establish a concerted effort involving education, government, and technology platforms to empower individuals with critical skills for discerning online content through standardized media literacy programs.

5 Digital rights: Intellectual property protection online and safe digital space for children

The swift digitalization and the emergence of new technologies have introduced fresh challenges in safeguarding and advocating for human rights in the digital era. The DCO has explored an extensive list of unanswered queries concerning digital rights: What defines a digital right? What ethical, legal, and moral responsibilities do individuals and organizations bear inthe digital realm? The DCO is particularly focusing on intellectual property rights online and the creation of a digital safe space, with a special emphasis on safeguarding children's rights in the online environment.

What are the main dangers to children online?



RECOMMENDATIONS

1 Protecting children in the digital space (safe digital space)

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

• Identify Stakeholders:

Recognize various stakeholders, including children, parents, schools, teachers, large technology platforms, governments, policymakers, regulatory entities, and healthcare professionals, assessing the impact of technology on children's health and development.

• Informational Campaigns and Resources:

Develop informational campaigns and resources, including guidelines for parents, teachers, and children, in collaboration with stakeholders aligned with the strategy's pillars.

• Adopt Recommendations from Studies:

Embrace recommendations from studies on the impact of technology on children, incorporating concurrent in-depth research on technology impacts, considering different age groups and developmental stages.

• Alignment with Government/Regional Plans:

Design the strategy to align with broader government/regional plans for economic and social development. Include investment and resource mobilization for child online protection efforts within the broader developmental context.

2 Protecting intellectual property online

• Establishing IP Standards

Develop laws and regulations for technology IP in the GCC region, respecting diversity while setting a minimum standard for IP rights protection.

• Common Strategy for International Treaties:

Consider a regional strategy for joining international treaties on intellectual property protection, especially in the digital space.

• Innovative Approaches for IP Disputes:

Explore new approaches for IP disputes, such as specialized IP courts or alternative dispute resolution, emphasizing mediation.

• Regulating AI Usage:

Develop a strategy with guidelines for AI usage in the GCC, considering the impact on IP rights and diverse stakeholders.

6 Tax and financial incentives for the ICT sector

Diverse financial incentives, encompassing tax exemptions, investment support, cost reductions, and subsidies, have proven effective in incentivizing the uptake of ICT and driving investment in infrastructure. This, in consequence, leads to an increased demand and nurtures a favorable investment cycle. However, the advantages of an ICT-friendly regulatory environment are not uniformly realized across all countries. DCO has examined how governments can formulate impactful policies to nurture the growth of ICT. Furthermore, it seeks to delve into valuable insights that different countries and regions can draw from each other in their endeavors to elevate the ICT landscape.

Bahrain has launched a development program to support the growth of technology-focused entrepreneurs which includes funding, capacity building, coaching, mentorship, and other services to enable the translation of new ICT business ideas into commercial ventures.

Saudi Arabia offers custom duty exemptions, reduced income tax rates, and a discounted power tariff for energy inputs for data center investments with a view to boosting cloud computing operations in the country. Also, Saudi Arabia has launched a Cloud Computing Special Economic Zone in 2023 to attract ICT investments in smart mobility, digital healthcare, and Industry X.0 which uses advanced technologies to restructure existing products and services from design and manufacturing and support. Investments in the SEZ will be subject to special tax treatment along with administrative and regulatory incentives.

Qatar has launched a specialized incubator in partnership with Ooredoo to develop promising technology-focused start-ups and SMEs, which provides funding solutions and other support across sectors including fintech, MedTech, edtech, Internet of Things, AI, and blockchain, among other.

RECOMMENDATIONS

1 Identifying Incentives

Identify incentives tailored to each country's ICT sector needs, challenges, and government targets.

2 Technology-Neutral Interventions

Implement technology-neutral interventions that focus on target outcomes (e.g., internet access speed) while allowing the industry to determine the most efficient technology (e.g., fixed, mobile, or satellite), promoting innovation.

3 Monitoring and Evaluation Processes

Establish robust monitoring and evaluation processes to cancel ineffective incentive schemes, ensuring continuous assessment of their success.

1

PUBLIC PRIVATE PARTNERSHIP **FOR DEVELOPMENT OF DIGITAL ECONOMY**

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PROFIT
40%
70%

Public-private partnerships for the development of digital economy

A public-private partnership (PPP) is a cooperative arrangement between one or more public sector entities (like national, regional, or local governments) and private sector companies. This collaboration typically involves financing, designing, implementing, and operating projects or services that were traditionally provided by the public sector.

The essence of a PPP is that the private sector assumes a significant part of the risk and management responsibility, which can include financial, technical, operational, or a combination of these, in exchange for a potential profit. The public sector's role is to ensure that the private entity delivers the service or project on time, on budget, and at the agreed-upon quality, often retaining ownership of the public asset involved.

PPPs are commonly used for large infrastructure projects like highways, public transportation networks, and hospitals, as well as for public services like waste management and water treatment. The main goals of PPPs are to leverage private sector efficiency, advance public infrastructure, share risk, and innovate in providing public services.

The digital economy is rapidly emerging as a pivotal 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 popularize service accessibility, providing an unprecedented impetus to economic transformation worldwide. For instance, a report by the International Monetary Fund (IMF) indicates that a 10% increase in digital penetration can lead to a 1.1% increase in per capita GDP growth in emerging markets. The ICT sector can lead to increased innovation and productivity, generating significant socioeconomic benefits. Digital Adoption can offer opportunities for greater innovation: It can improve the efficiency and effectiveness of labor and capital across industries. Thirdly it can contribute to sustainable economic growth through greater output from new products and more productivity. And lastly, enhance quality of life, increase personal safety, a more resilient society, economy, and a more equitable society.

Shared value in the context of PPPs requires a careful balancing of business and social imperatives. The private sector must not only seek profit but also contribute to the social good, such as through advancing digital literacy, enhancing cybersecurity, or widening access to digital services. Meanwhile, the public sector must align its goals with the capabilities and objectives of its private counterparts, ensuring that projects are not only economically viable but also socially beneficial.

In the era of the digital economy, PPPs have the potential to accelerate the development of critical infrastructure, from broadband networks to smart cities, and to foster a digital culture that embraces innovation. The alignment of shared values ensures that the societal impacts of such ventures — including job creation, improved service delivery, and enhanced quality of life — are maximized.

For instance, initiatives that couple private sector technological expertise with public sector regulatory support can lead to the development of digital platforms that improve access to government services, promote digital education, and support tech-driven entrepreneurship. Such partnerships can play a pivotal role in driving the digital economy, with profound social impacts such as increased employment in the technology sector, enhanced citizen engagement, and improved transparency and accountability in governance.

One innovative financial mechanism that exemplifies the integration of shared value within the digital economy is the use of digital Sukuk by the Islamic Development Bank (IsDB). Sukuk, often referred to as Islamic bonds, are financial instruments that comply with Sharia law and its investment principles, which prohibit the charging or paying of interest. The IsDB has pioneered the use of digital Sukuk as a means to fund various development projects, including those aimed at advancing the digital economy.

Digital Sukuk offer a Sharia-compliant way to raise capital for digital infrastructure, serving as an innovative financing solution that aligns with the ethical and social principles valued in Islamic finance. This approach not only adheres to Islamic financial principles, but also ensures that the investments are directed towards projects that have a positive social impact, such as enhancing connectivity, supporting digital education initiatives, and fostering technology entrepreneurship.

In essence, the application of digital Sukuk by institutions like the IsDB presents a compelling case of how PPPs can harness innovative financing to drive the digital economy while adhering to the principles of shared value. Such financial instruments could potentially transform how projects are funded in the digital domain, ensuring that the proliferation of digital technologies also advances social objectives and contributes to a more balanced and equitable economic growth.

14.3% **GCC Countries like Qatar are expected to grow at an exponential rate of 14.3% by 2027.**

As shown in the graph (see Figure 1), GCC countries, like Qatar, are expected to grow at an exponential rate of 14.3% by 2027 as compared to developed economies like USA (2%), Singapore (2.5%) and South Korea (1.6%). GCC countries, like Bahrain, Kuwait and Saudi Arabia, were able to strongly bounce back post the pandemic, going from -4.6% to 4.9% (Bahrain), -8.9% to 8% (Kuwait) and -4.3% to 8.7% (Saudi Arabia) growth from 2020 to 2022, an impressive feat when compared to developed economies like the United Kingdom.[4]Along with

Figure 1: GDP Growth Rate

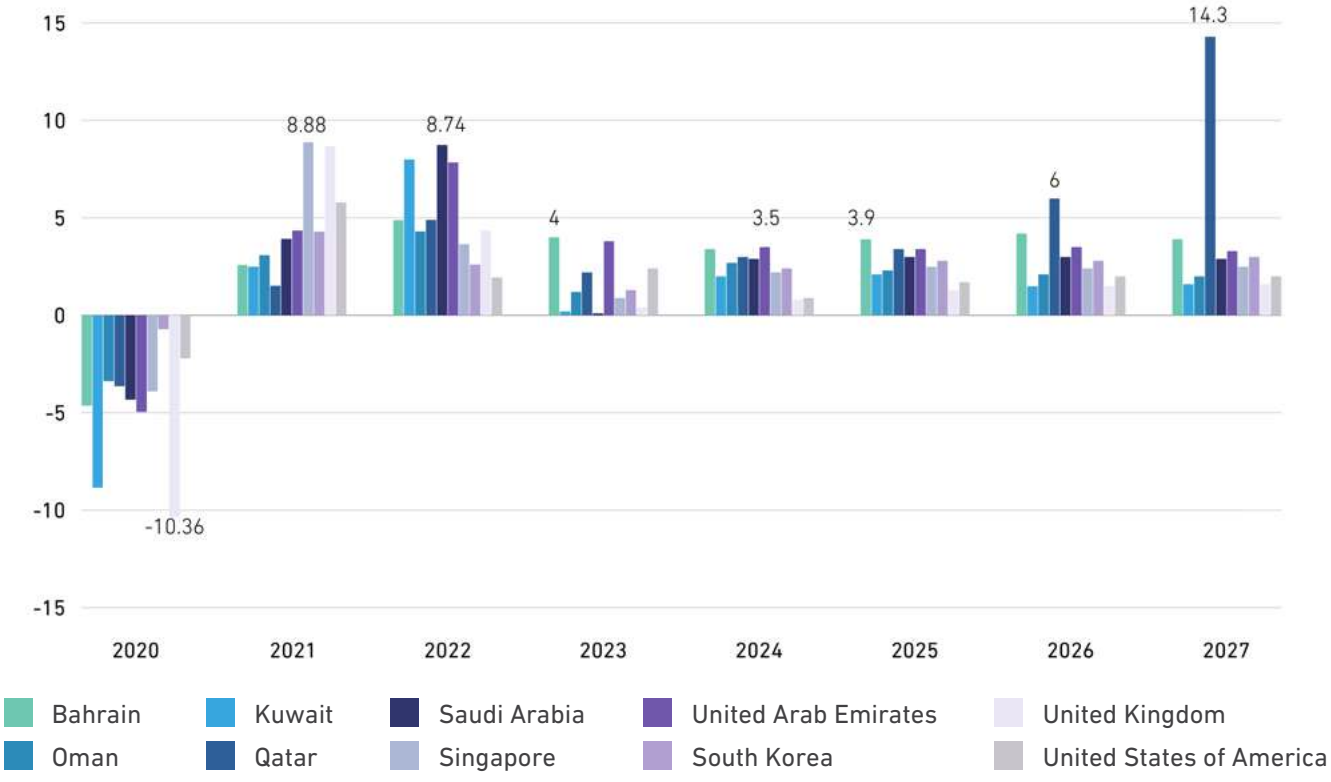
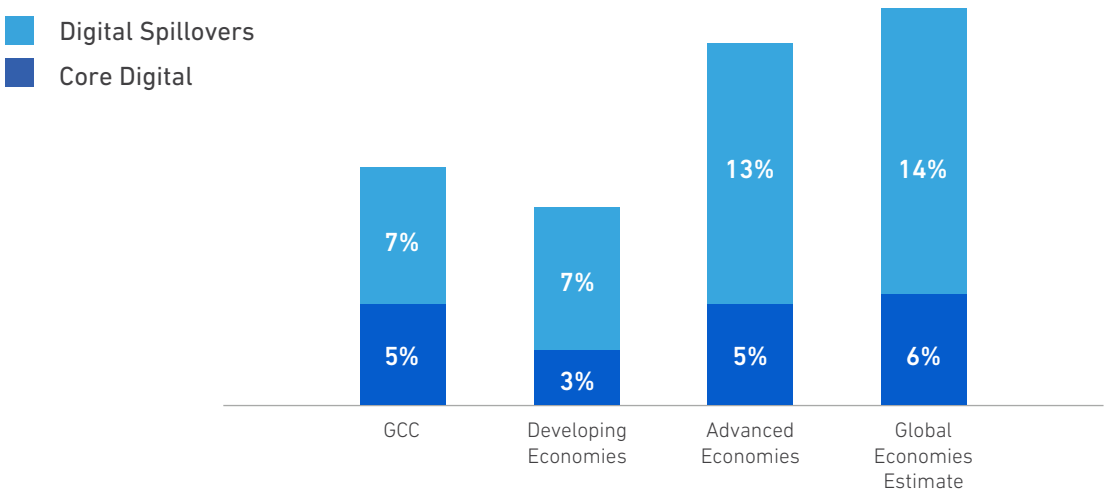


Figure 2: Where do GCC Economies Stand Globally



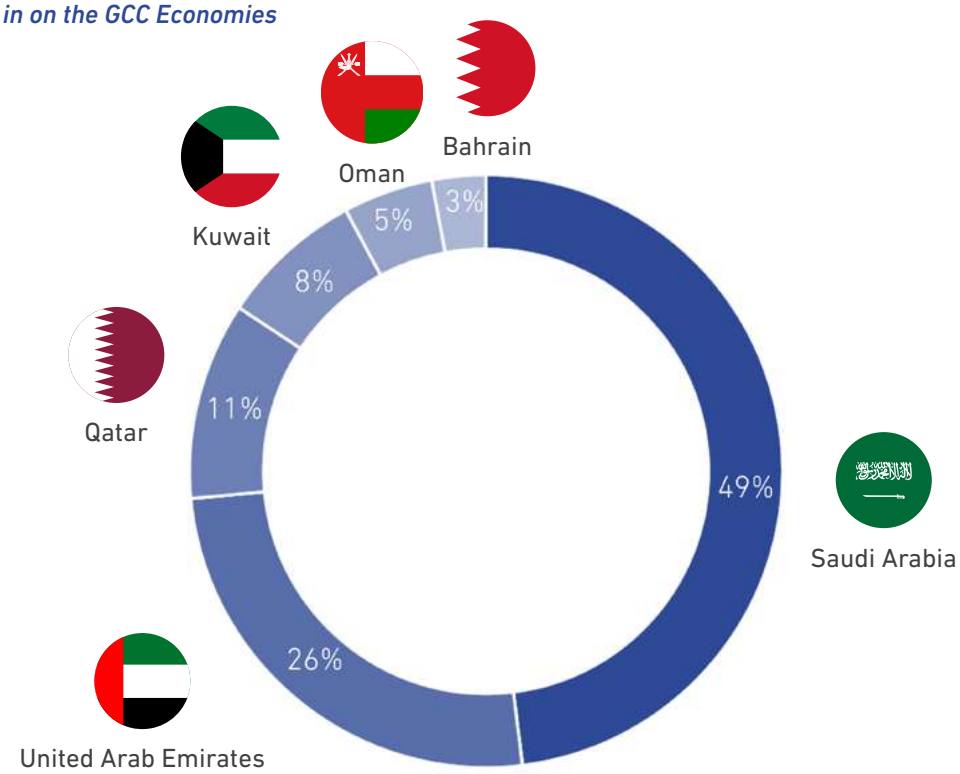
strong GDP growth GCC countries display strong infrastructure indicators with almost all countries boasting 100% of internet usage amongst individuals in 2021. Mobile subscriptions are significant with all GCC countries boasting subscriptions from 135 to 212 per 100 people. [1] [2] [3]

Despite strong GDP growth and infrastructure indicators, GCC countries appear to be lagging in terms of the contribution of the digital economy to GDP.

As shown in the graph (see figure 2), the core contribution of digital production to the economy varies among GCC countries, all of which fall into the category of digital adopters, ranging between 3 % and almost 11 % of GDP — which is in line with estimates for developing and advanced economies.[5]

However, the amount of spillover benefits for GCC economies is less than the global average because digital assets are not yet fully integrated across

Figure 3: Zoom in on the GCC Economies



economic sectors. Ultimately, digital economy ecosystem enablers (such as infra, technology solutions, and data) should be interconnected and interchangeable to allow for knowledge transfer and solutions exchange among different areas and sectors.

There is a notable variation among GCC countries regarding the extent to which the digital economy contributes to their GDP (see figure 3). When the DCO examined the data for GCC countries, a broad spectrum of contribution levels was observed. In some countries, the digital economy contributes as much as approximately half of their economic activity, while in others, it contributes as little as 3%. However, it is important to clarify that the graph does not suggest that the digital economy makes up 50% of Kingdom of Saudi Arabia's (KSA) GDP [7]. Rather, it indicates that within the overall digital economy's contribution of 12% to the combined GDP of the GCC, nearly half of this contribution comes from KSA. This means that within the collective digital economy of the GCC region, KSA's digital economy is a predominant force, despite the digital sector not comprising the majority of the nation's individual GDP.[5]

Within the overall digital economy's contribution of 12% to the combined GDP of the GCC, nearly half of this contribution comes from KSA.

Interestingly, if GCC countries were to move from being adopters to being disruptors (essentially having the digital economy play a more important in role in these economies) the contribution of the digital economy to the overall economy would grow from 12.2% to 13.4%. In dollar terms, the percentage increase in the impact of the digital economy implies GDP growth of approximately an additional US$140 billion through a ~1 percentage point increase.

ICT technologies drive innovation and digital progress and empower digitalization across the wider economy. The ICT sector is primarily enabled by three drivers: **connectivity, hardware, and digital skills**. Public-private partnerships can enable these drivers by significantly enhancing them financially.

In the digital age, reliable and constant connectivity is the lifeblood of the interconnected world. It's what allows high-volume data exchange and ensures low latency, facilitating seamless communication and interaction. PPPs can be instrumental in expanding and improving connectivity infrastructure. By collaborating with private entities, governments can leverage investment to build the networks that underpin the digital economy.

These partnerships can help bridge the digital divide and extend connectivity to remote and underserved regions, ensuring that everyone can participate in the digital ecosystem. Access to the right hardware, such as affordable mobile phones and devices, is indispensable. These tools empower individuals to access digital services and participate in the digital economy. PPPs can play a vital role in making hardware accessible to a broader population. By joining forces with private sector partners, governments can drive initiatives to provide affordable devices to citizens. This approach enables more people to enter the digital realm, opening new opportunities for education, employment, and entrepreneurship. Engagement in the digital economy goes beyond access; users must also possess the necessary digital skills to harness its potential fully. This includes the ability to navigate digital platforms, make informed decisions online, and use digital tools effectively. PPPs can support digital skills development by creating programs and initiatives that offer training and education.

Collaborations between governments, educational institutions, and private organizations can ensure that individuals are equipped with the skills required for success in the digital age. All these enablers—connectivity, hardware, and digital skills—require financial resources for their development and sustainability. PPPs are well-suited to mobilize these financial means efficiently. By pooling resources from the public and private sectors, PPPs can leverage investment and allocate it where it is needed most, ensuring that the digital infrastructure and capabilities are in place for

everyone to benefit. Navigating the digital frontier, the pivotal role that connectivity, hardware, and digital skills play in shaping the digital destiny is recognized. Moreover, the understanding that PPPs offer a potent mechanism to mobilize financial means and enable these enablers is emphasized.

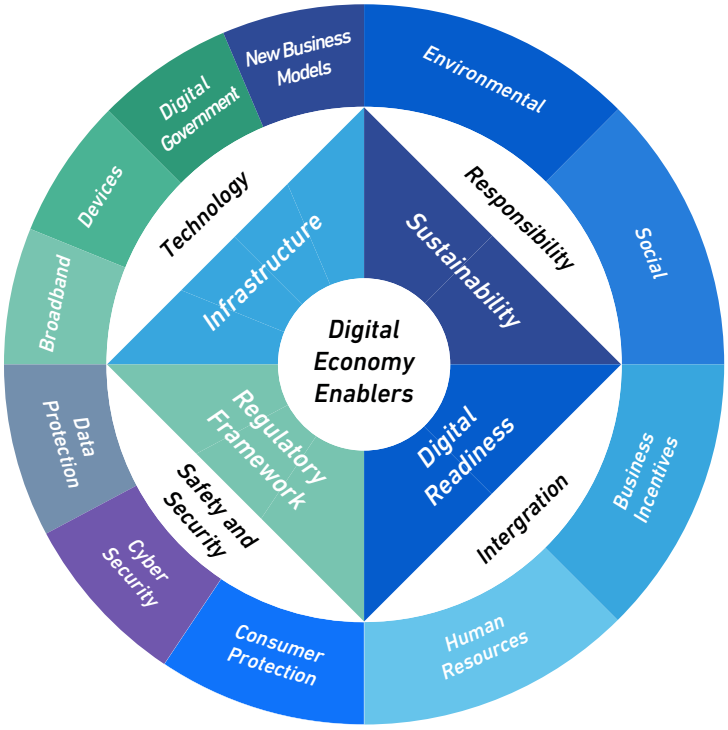
PPPs can reinforce how investments are made in the ICT sector for countries in the region.

These collaborations are vital for catalyzing economic growth, generating employment, and improving competitiveness on a global scale. As countries in the region work towards diversifying their economies and reducing reliance on traditional sectors, PPPs provide a strategic avenue for developing a robust, innovative, and resilient digital economy that can adapt to the rapid changes of the digital age. The below diagram categorizes the various components that demonstrate how PPP enables the digital economy

Infrastructure: The foundation of any digital economy is robust and reliable technological infrastructure. This is where PPPs play a pivotal role. Private sector entities bring unparalleled expertise and innovation in developing cutting-edge technologies and infrastructure projects. They possess the agility and technical know-how required to navigate the rapidly evolving digital landscape. However, the public sector's involvement is equally vital. It bridges funding gaps, provides incentives for private investment, and strategically plans the economic framework for cross-sectoral collaborations. Together, these entities create the backbone of a thriving digital economy.

Digital skills: To ensure that the benefits of digitalization are distributed equitably, governments must address the digital skills divide. This involves upskilling the workforce and providing incentives to Small and Medium-sized Enterprises (SMEs) to embrace digital technologies. A well-trained workforce is the lifeblood of a digital economy, while SMEs are often the heart of innovation and job creation. PPPs can be instrumental in facilitating partnerships between educational institutions, private sector

Figure 4: How PPPs enable the Digital Economy



technology providers, and the government to bridge this critical gap.

Sustainability: Digitalization has the potential to transform sustainability. It can reduce emissions, equalize access to resources, and drive efficiency across various sectors. However, it also presents sustainability challenges, with high computing power requirements and the proliferation of digital devices contributing to greenhouse gas emissions and digital waste. To address these concerns, governments can consider circular economy models, promoting the recycling of devices and the reuse of rare metals. These strategies are essential for ensuring the long-term success of the digital economy.

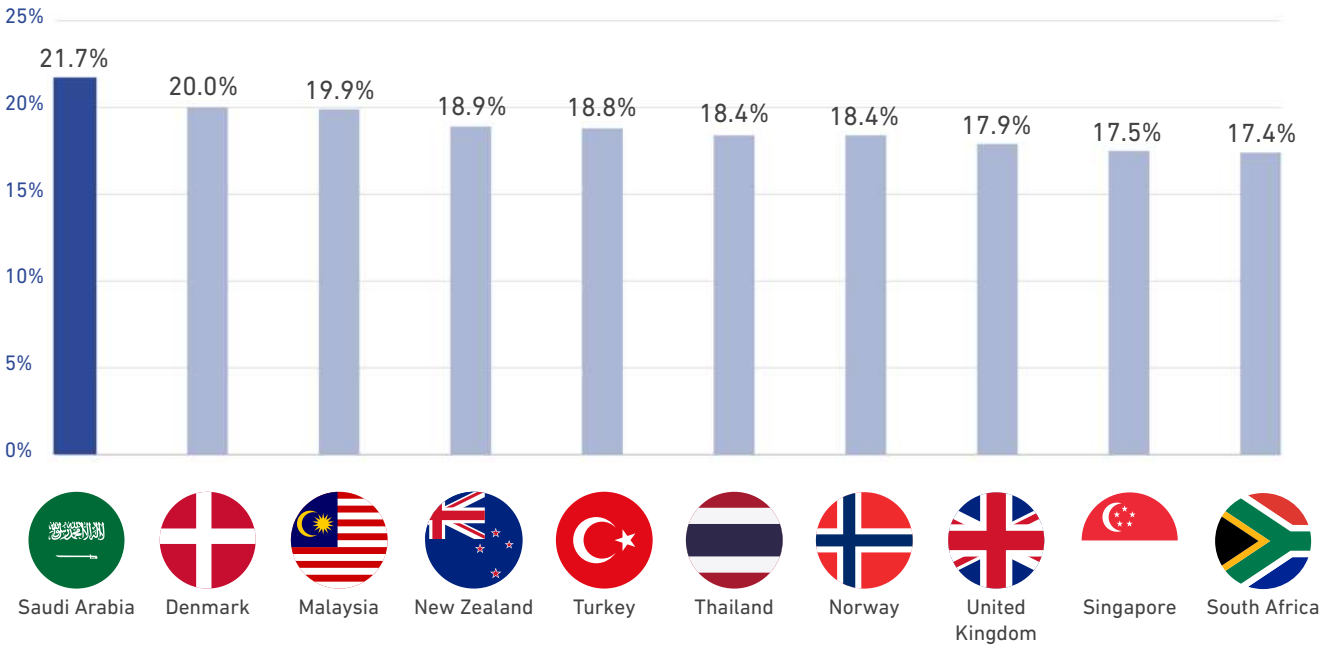
Regulatory framework: In the digital economy, a strong regulatory framework is indispensable. PPPs can help establish overarching regulations that protect businesses and consumers from digital threats, ensure fair competition, and safeguard data security. Harmonizing local laws and regulations with international standards is crucial for fostering trust and enabling seamless cross-border digital transactions. Furthermore, innovative policy designs that evolve in tandem with technological developments are essential for staying at the forefront of the digital race.

The digital economy is the frontier of the global economic landscape, and PPPs are the vehicles that can drive its success. Collaborations between the public and private sectors in infrastructure development, bridging the digital skills gap, addressing sustainability challenges, and establishing a robust regulatory framework are the cornerstones of a thriving digital economy. Countries around the world are adopting different mechanisms to allow PPPs to flourish in the Digital Economy

In France, PPPs are no longer a separate instrument but constitute a particular form of procurement contract. An interesting criterion for PPP selection is the allocation of a portion of works or services to SMEs, fostering inclusivity and promoting the growth of small businesses.

In Saudi Arabia, the ICT sector has demonstrated remarkable competitiveness. One key metric

Figure 5: Total ICT Spend (% Government Spend) in 2021



that highlights this is the total ICT spending as a percentage of government spending. Saudi Arabia has outpaced countries such as the UK, Singapore, Malaysia, and Denmark in this regard. This achievement is a testament to the nation's commitment to fostering a robust digital ecosystem.

Saudi Arabia's standing in the ICT sector showcases the potential of PPPs in driving investments. To maintain and strengthen this position, efficient spending, tailored engagement models, leveraging private sector expertise, risk sharing, and transparency are vital components (see figure 5)The ICT sector is not just about technology; it is about creating a digital future that benefits all. As the world moves forward in this era of digital transformation, public and private sector cooperation are expected to become an ever more powerful tool to amplify efforts, bridge the digital divide, and create a more prosperous and inclusive world.

In the UAE, there is a proactive approach to encouraging PPPs in the digital economy. For projects below a certain threshold, where the private sector demonstrates the capacity to provide innovative solutions, testing for PPP feasibility is actively encouraged. This approach acknowledges the private sector's potential to drive technological advancements and efficiencies. Furthermore, the UAE allows for PPPs with durations shorter than five years, illustrating adaptability to the fast-paced nature of digital innovations, as seen in the Smart Dubai Platform.

In the UAE, specifically Abu Dhabi, Malaffi is the region's first Health Information Exchange platform that safely and securely connects public and private healthcare providers in the Emirate of Abu Dhabi. Malaffi enables the meaningful, real-time exchange of important patient health information between healthcare providers, creating a centralized database of unified patient records, improving healthcare quality and patient outcomes.

Malaffi was built several years ago because Abu Dhabi, like many other regions, faced a significant challenge in the healthcare sector. The fragmented nature of healthcare data across public and private providers was a major hurdle. Patient records were dispersed, making it difficult for healthcare professionals to access critical information promptly. This siloed approach hindered collaboration, resulting in fragmented patient care, and often leading to inefficiencies, misdiagnoses, and delayed treatments. The need for a comprehensive, unified health information exchange was evident.

In response to this challenge, the Malaffi Health Information Exchange platform was conceived as a groundbreaking PPP initiative. It aimed to securely connect all public and private sector healthcare providers in the UAE. The platform's mission was clear: to create a seamless, interconnected ecosystem where healthcare professionals could access and share electronic health records of patients, fostering collaboration and delivering a superior healthcare experience.

The impacts of the Malaffi PPP on the wider economy have been nothing short of remarkable: [6]

- **Improved healthcare delivery:** The platform has revolutionized healthcare delivery by providing instant access to patient records, facilitating faster and more accurate diagnoses, and enabling timely interventions. This has not only improved patient outcomes but also reduced the overall cost of healthcare.
- **Enhanced collaboration:** Malaffi has broken down the silos that once existed in the healthcare sector. It has connected 100% of hospitals and 95% of clinics and medical centers in Abu Dhabi. This unprecedented level of connectivity has fostered collaboration among healthcare professionals, leading to better-coordinated care.
- **Informed decision-making:** With access to a wealth of healthcare data, including predictive patient risk profiles and radiology images, healthcare providers can make more informed decisions. This has resulted in better treatment plans and a more proactive approach to managing public health.
- **Economic growth:** The success of Malaffi has positioned Abu Dhabi as a digital health hub. It has attracted investments, created jobs, and stimulated economic growth. Additionally, it has

positioned the UAE as a global leader in digital healthcare innovation.

- **Public health initiatives:** Malaffi is not just a platform for healthcare delivery; it also informs and drives the Department of Health's public health initiatives. The data collected is invaluable for monitoring public health trends and responding to emerging healthcare challenges.

In just three years since its inception, Malaffi has become recognized as one of the fastest-growing Health Information Exchanges in the world. It has connected almost the entire healthcare sector in Abu Dhabi and collated over 660 million (Malaffi, 2022) unique clinical records, including patient visits, lab results, radiology reports, and more.

The Malaffi Health Information Exchange platform in the UAE is a testament to the power of PPPs in the digital economy. It has not only solved a critical problem in the healthcare sector but has also had a profound impact on the wider economy. It showcases how collaboration between the public and private sectors can drive innovation, improve public services, create economic opportunities, and position nations at the forefront of digital transformation.

Inputs from the GCC roundtable participants:

on October 3rd, 2023, the DCO presented the topic of PPP for the Development of the Digital Economy to delegates of the United Arab Emirates, Kingdom of Bahrain, Kingdom of Saudi Arabia, Oman, Qatar, and Kuwait at the Office of the Secretariat of the GCC. One of the main insights from the roundtable discussions, which resonated with delegates of all six GCC countries, was the role of digital upskilling in promoting progress and innovation within the domestic digital economy. Attendees noted and discussed that a workforce equipped with the skills to fully leverage digital technologies is one of the keys to unlocking their transformative potential. However, the delegates also highlighted that digital upskilling must occur in tandem with 'reskilling' and cannot compromise on digital equality, which was portrayed as a key objective for many GCC countries.

In addition to the above, the discussion also revolved around small and medium-sized enterprises (SMEs) and their importance to GCC economies. The discussion centered on the need to provide these businesses with the right support and resources as an important step to enable the economy to harness the full potential of digital technologies. The delegates explained that this extends beyond just acquiring digital skills and that it involves creating a more digitally adept workforce, capable of adapting to the ever-evolving digital landscape.

There are potential challenges that need to be properly assessed and considered when considering the development of the domestic digital economy. For example, one potential consideration stems from the escalating technological risks that accompany the rapid pace of digital change. This relationship accentuates concerns related to technology obsolescence, rendering it increasingly challenging to structure long-term commitments which are traditionally a characteristic of PPPs.

In addition, another challenge resides in the capabilities of the private information, communications, and ICT sector in certain GCC locations. To forge effective partnerships with the government for PPP projects targeting the digital economy, a capable and mature private ICT sector is essential. However, this sector is not currently uniformly developed across the region, and in certain cases may not yet have all the requisite technological infrastructure and expertise to fully contribute to such projects.

When it comes to the digital economy, many countries within GCC are already in a relatively promising promising position (see figure 6). Indeed, the GCC E-Performance Index evaluates GCC countries on several different parameters, which are based on their performance in major global digital-related indices. The index showcases that the UAE has the highest current score in the region with an average of 66.22, followed by Saudi Arabia with an average rating of 59.26 and Qatar with 57.63. Oman, Bahrain, and Kuwait scored average ratings of 54.02, 53.43 and 51.36 respectively. [7] [8] [9] [10] [11]

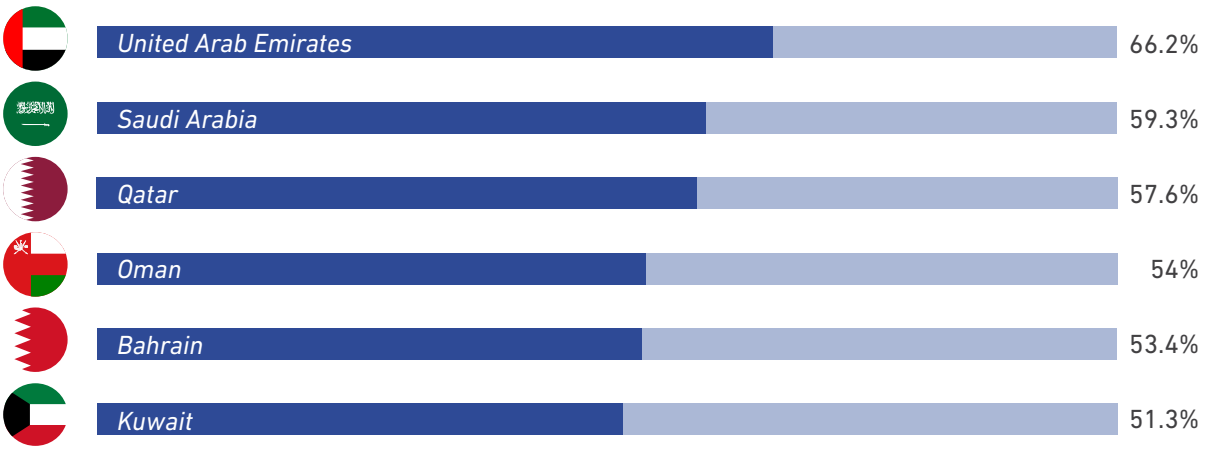
Considerations

GCC countries are positioned favorably when benchmarked against developing economies, which predominantly fall into the first quartile of these independent indices. However, there remains a degree of advancement required for these countries to parallel the level of progress characteristic of advanced economies that are situated in the top quartile.

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

- **Closing the development gap:** Although GCC countries 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:** GCC countries 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, GCC countries should empower businesses to take an active role in digital PPP projects. This means providing

Figure 6: GCC E-Performance Index in 2022.



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-centerd 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, GCC countries 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.

Conclusion

While GCC countries currently stand in a commendable position, furthering the digital economy remains a top agenda for the foreseeable future. These economies are expected to concentrate on cultivating local expertise within the public sector. This targeted development is crucial to enhance their capacity for designing and administering PPPs that are well-suited to the needs of the digital economy. As the digital landscape continues to advance at a brisk pace, the imperative for well-informed professionals who can adeptly steer through the complexities of such specialized PPPs grows ever more critical.

Additionally, it is anticipated that GCC countries will sustain their investment levels in the ICT sector, acknowledging its vital contribution to digital transformation. By nurturing an environment that is favorable to innovation, entrepreneurial endeavors, and technological progress, these countries aim to invigorate the private sector, encouraging it to assume a central role in the success of digital PPP initiatives.

2

EMPOWERING **WOMEN IN AND THROUGH ICT**

Digital Cooperation Organization

Empowering Women in and Through ICT

UN Women highlights that the empowerment of women and girls promotes women's economic independence, improves relationships, and promotes equitable gender power relations within households, communities, and society.[12]

A compelling correlation is evident when analyzing Fortune 500 companies: those with a minimum of three women in leading positions witnessed a notable 66% increase in Return on Investments (ROI) and a formidable purchasing power estimated at US$5 trillion. [13] This trend extends beyond corporate boardrooms, as countries experiencing accelerated growth in the services sector exhibit notable advancements in gender equality.

As the world becomes increasingly interconnected through technology, the imperative for new skills and diverse perspectives has never been more pronounced. To address this demand, there is a need to actively encourage women to participate more extensively, adopting and contributing to technologies that unleash the digital economy's full potential.

Including women in the Information and Communication Technology (ICT) sector addresses the skills gap and ignites innovation. Diverse perspectives within this domain lead to various viewpoints, fostering unique problem-solving approaches. This diversity is crucial in navigating the evolving landscape of technology.

Recognizing that women represent a significant portion of customers, their active participation in the workforce brings a wealth of insights into customer needs and preferences, not only in ICT but across various sectors. This richer understanding paves the way for tailored solutions and enhanced customer experiences.

Furthermore, the active participation of women in the digital economy is essential for developing unbiased and holistic Artificial Intelligence (AI) and Machine Learning (ML) models. To achieve this, there is a pressing need for gender-disaggregated data. Including women's perspectives in data collection ensures that the technological advancements are fair, unbiased,

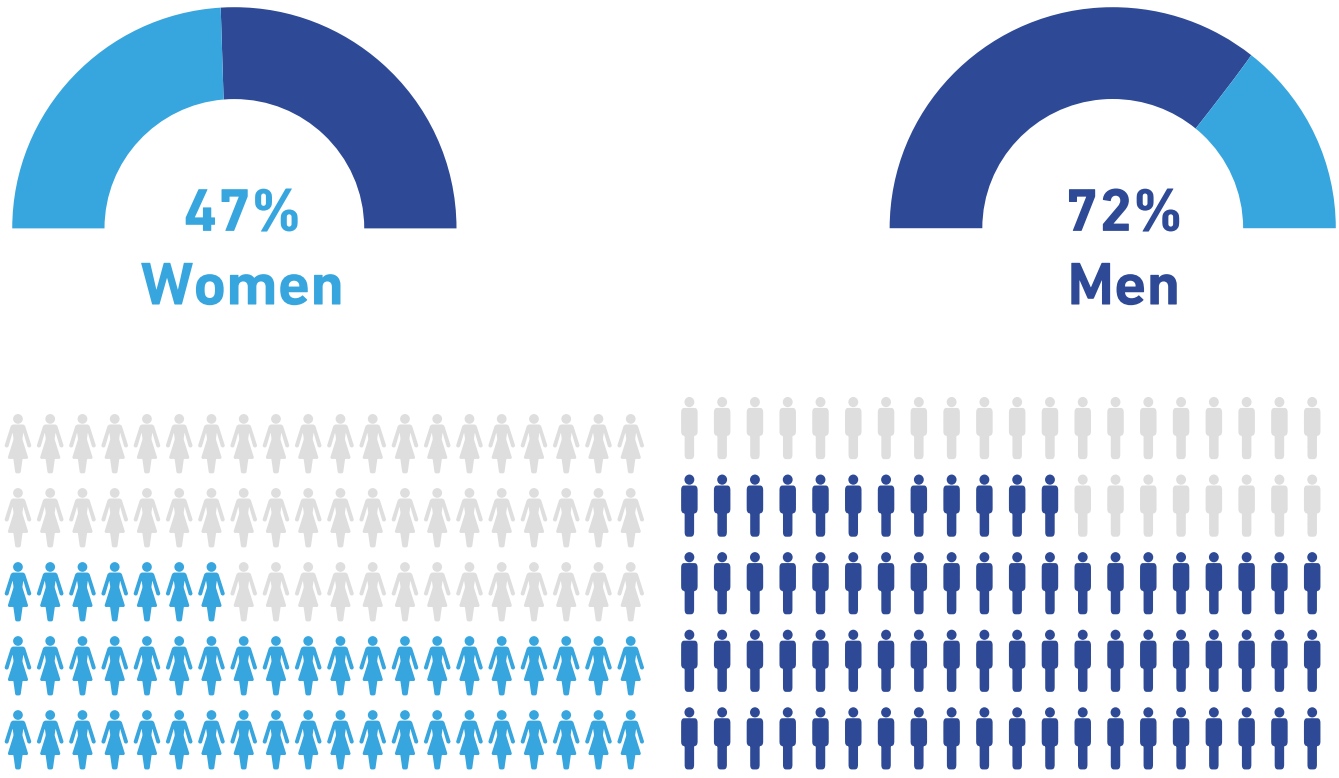
and genuinely representative of the diversity in the global society.

While growth in the ICT domain is creating new opportunities for women, the global digital gender divide remains, with women across regions facing obstacles to thrive in the digital economy. Key reasons for the gender digital divide include limited access and inclusion, low digital literacy, and concerns around online safety.

Women are under-represented in the global workforce, with only about 47 out of 100 women participating in labor market (see figure 7). According to pre-pandemic predictions by the World Economic Forum (WEF), gender equality in the workforce would take 257 years to be realized. [15] Post-pandemic, however, it is predicted to take much longer, especially in the technology sector, where rapid growth and advancement could prove challenging to women in particular. According to a study by the World Economic Forum, there exists a glaring gender disparity of 72%, with only 22 % female in AI and data science. [16]

However, the concerns do not just pertain to unequal employee numbers. Research conducted by the Turing Institute indicates that women are falling behind men in skills such as computer sciences, data preparation and exploration, general-purpose computing, databases, big data, machine learning, statistics, and mathematics that are essential for their roles. This, though, is not necessarily connected to formal training received in these areas, rather it is to do with lack of confidence displayed while being recruited. [17]

Figure 7: Global Labor Market Participation



Note: Above Data indicates 47% of women participate in the labor market vs 53% that do not participate in labor market, while 72% of men who participate in the labor market vs 28% that do not participate in labor market as per ILO.

Figure 8: Global Managerial Positions

In terms of leadership and decision-making, gender disparities are significant: Women are under-represented in ICT jobs, top management, and academic careers with women holding only 28% of managerial positions globally (see figure 8). [20]

Promoting access, inclusion, digital literacy, and online safety is crucial in bridging the digital gender divide. Some of the key global challenges faced by women in ICT are:

Access and inclusion: What are the current barriers to accessing technology?

- A key barrier is lesser access to technology for women, compared to men including access to devices, to data, and to networks.
- Women who live in remote areas are particularly affected due to lack of network coverage and usually poor quality in the rural areas.
- Limited inclusion in the use of digital platforms, cell phones, and digital payments by women hamper their participation in ICT.

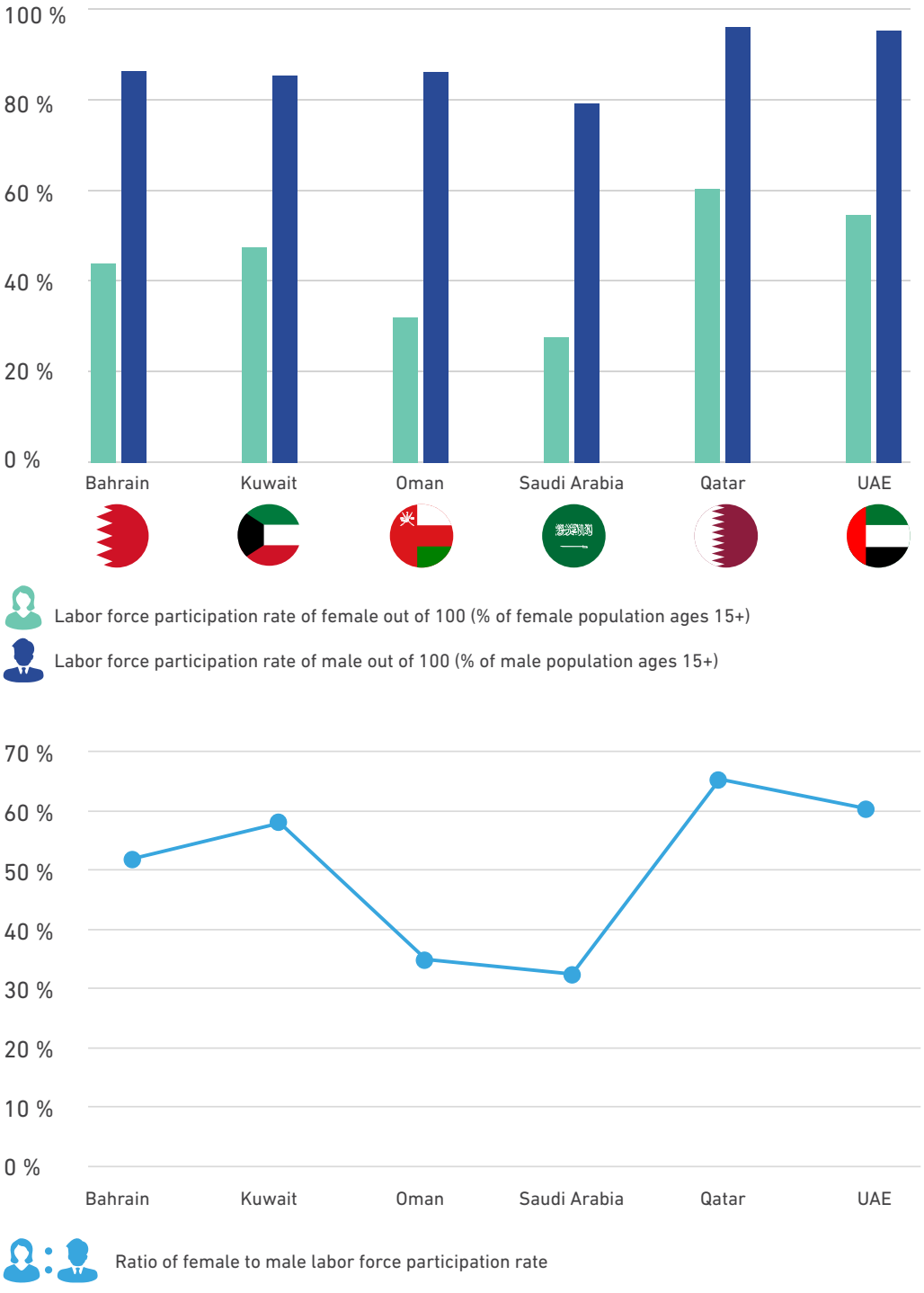
Digital literacy: How is limited education escalating the digital gender divide?

- Inequality in education represents a major contributor to the gender digital divide as technologies become more sophisticated.
- Women globally have lower levels of education and less practice in using or creating digital content.
- Irregular access means irregular use, which prevents women and girls from learning incrementally.

Online safety: How are cyber threats limiting women's participation in ICT?

- Globally, 52% young women have experienced digital harm; 87% believe the problem is worsening. (UNICEF Gender and Innovation) [19]
- 35% of young women report that online sharing of private content without consent was a top concern. (UNICEF Gender and Innovation) [19]
- Limited digital literacy makes females vulnerable to online risks including limited understanding of cyber-risks in emerging technologies etc. (UNICEF Gender and Innovation) [19]
- Social media is perceived as unsafe with 68% of online abuse of women occurring on social media. [19]

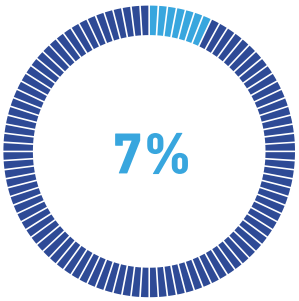
Figure 9: Female workforce participation



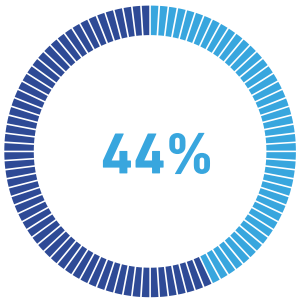
As shown in figure 9, the GCC countries face their own fair share of challenges with low participation of women in the workforce as compared to men, with Saudi Arabia reporting female labor force participation rate below 30%. Oman and Saudi Arabia also have a low ratio of female to male labor force participation at 37% and 35% respectively. Additionally, low participation of women in leadership roles and representative bodies are prevalent across all GCC countries[20].

GCC governments have taken substantial steps, including various initiatives emphasizing women's pursuit of Science, Technology, Engineering, and

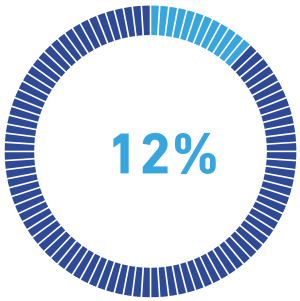
Figure 10: State of Women in ICT in GCC



No.of board seats held by women in GCC



Avg GCC female workforce participation rate % (2023)



Percentage of female-led FinTech startups out of all FinTech startups in the Middle East and North Africa (MENA) region

23 Million

GCC Female population (2022)

Mathematics (STEM) education and women's workforce participation, particularly within the public sector. In the last 30 years, women in the GCC region have made significant strides in education and work, leading the GCC region, with some countries meeting or surpassing global averages.

Women seeking employment face greater challenges in securing a job compared to men. This is predominant in the Arab States, where unemployment rates for women exceed 20%. [27] However, there have been significant strides made in the GCC region to improve women's economic participation. In 2023, the average GCC female workforce participation rate stood at 44%, and 7% of the corporate board seats were held by women (see figure 10).[23][24[[25][26][27[28]

One of the biggest factors for this has been an increase in female education owing to substantial investments in this area, thus leading them to exceed their male counterparts in education in several GCC countries. This has, in turn, led to a sizeable share of women's participation in the workforce. In addition, employment opportunities for women in the public sector, has also boosted their economic participation. Also, with the expansion and diversification of the GCC economies, the private sector has also been playing its role in driving up employment for women.

Over the past three decades, women in the GCC countries have achieved remarkable progress in both educational and professional arenas, leading the Middle East and North Africa (MENA) region in these domains. The strides they have made are not only notable regionally but also reflect positively on a global scale, with some GCC countries achieving or even exceeding international averages in terms of women's educational attainments and their presence in the labor market.

This transformation is marked by an increase in gender diversity in traditionally male-dominated fields, proactive policies to encourage women's employment, and legislative reforms aimed at creating more equitable workplaces. These actions are indicative of the region's commitment to harnessing the full potential of its human resources and ensuring that women have equal opportunities to contribute to the burgeoning economies of the GCC countries. As a result, women in the GCC region are increasingly becoming pivotal contributors to their countries' economic resilience and growth, setting precedents and expanding possibilities for future generations.

Some examples of initiatives taken by GCC countries for women empowerment in and through ICT are as follows:

In **UAE,** Dubai Women's Establishment (DWE) introduced the 'Women in Digital' initiative, geared at empowering and promoting women in the digital and technology sectors through training, mentorship, and networking for technology careers.

Bahrain has established the Women's Business Council (WBC) to promote women's entrepreneurship and financial inclusion. WBC provides mentoring, training, and networking opportunities for women entrepreneurs for business growth.

The 'Pioneers' platform in **Saudi Arabia** is dedicated to supporting female entrepreneurs, especially those in technology. It offers mentorship, funding, and networking resources to help women start and expand their technology businesses.

The government of **Saudi Arabia** has announced its first women-only technology park, a joint venture between Princess Nourah University (PNU) and Wipro Arabia Ltd. It is expected to create nearly **21,000 jobs by 2025**. [28]

There are several initiatives geared towards supporting women in taking businesses from offline to online through technology. For example, **Oman's** Ministry of Agriculture, Fisheries and Water Resources (MAFWR) has introduced an online platform, Reef Daily, to support women entrepreneurs in rural areas in launching and promoting their products.

The **Qatar** Foundation supports educational initiatives to foster a culture of innovation and research. They provide resources, training, and mentorship opportunities for women interested in STEM careers.

In partnership with local and government communities, as well as crucial stakeholders like:

Kuwait University, the United Nations is working together to advance the cause of women's empowerment within the private sector, involving numerous companies. This is a national initiative with a global perspective dedicated to expediting the realization of New Kuwait's Vision 2035 by enhancing the presence of women in leadership roles.

Efforts towards Women Financial Inclusion

The UN defines economic empowerment as the ability of women to participate equally in existing markets. It includes access to and control over productive resources, access to decent work, and increased voice and participation in economic decision-making. [29] Globally, there are still 742 million women who are outside the formal financial system. [30] A study states that a woman is 20% less likely than a man to have a bank account and 17% less probable to have taken a formal loan.[31] In addition, on the digital side of things, globally, there are over 300 million [32] fewer women than men who own a mobile phone, which inhibits their access to digital financial services.

Thus, the aim is to make financial services available, accessible, and affordable to women for more inclusive and resilient growth. At the same time, improving financial literacy, providing access to livelihood and skill development with timely support and advisory, and protecting customer rights are paramount. In Saudi Arabia, the share of unbanked adults is at 28%, while it is 34% in Qatar. [33]

In the GCC region, key stakeholders including governments, financial institutions, non-governmental organizations, and international bodies, have launched targeted initiatives aimed at enhancing financial inclusion for women. These initiatives span a range of strategies intended to increase women's access to financial services, credit, investment opportunities, and financial literacy programs.

The Bank of **Bahrain** and Kuwait (BBK), in partnership with The Bahrain Institute for Banking and Finance (BIBF), launched a program to build the digital capabilities of Bahraini women in today's digital world and to provide the knowledge needed to use different tools and platforms such as Bahrain advanced eGovernment services, e-banking, online schooling, e-payments.

Oman's finance initiative, Al Tamweel, initiative assists women entrepreneurs with financing, training, micro-lending, mentorship, and networking.

Kuwait Financial House's 'Al Sundus Program' empowers women through specialized financial services including savings and investment accounts, tailored loans, financial education, etc.

Bank Muscat: To boost financial inclusion for women, Bank Muscat has taken several steps by designing products and services exclusively for women. The bank has a line of products called the Zeinah Suite, through which it provides women with dedicated banking services and facilities. One such product is the Zeinah Credit and Debit card, which offers tailored merchant discounts and a health and beauty finance scheme.

As a rewards program, Zeinah customers also have specially reserved prizes, including monthly draws, to encourage women to open bank accounts and save with them.

The Bank launched Omnichannel M-Banking and Internet Banking, Contact Centre, and its e-payment gateway to ease banking. It offers educational opportunities and 'on-the-job training' to provide financial independence to Omani women.

To encourage inclusiveness, it has trained several employees in Arabic Sign Language in partnership with the Omani Association for the Hearing-impaired to facilitate better customer service. Another first for the Bank was launching the first ATM in Oman for visually impaired persons. It has also

enabled a QR code scanning option, making it easy for customers to make merchant payments quickly and securely.

As part of its social outreach, the Bank launched a free Maliyat financial literacy program in 2019. It also hosts one-on-one Irshad sessions conducted online for financial coaching of individuals and entrepreneurs who can learn from the Bank's experts.

Inputs from the GCC roundtable participants

During the roundtables conducted for the GCC countries, participants highlighted a few points:

- The importance of an inclusive approach towards tackling gender imbalance issues, and hence, having male allies on board for women in ICT initiatives to act as champions.
- The need for more women to participate in initiatives such as hackathons that are presently male dominated. This can be done by engaging women and providing them with access and confidence to participate in such events.
- Women in the GCC region believe that introduction of new laws and policies for working women supports their career entry and growth, e.g., flexible/hybrid work, equal pay, etc.
- Participants agreed that flexible work timings are a crucial enabler for women's careers, e.g., introducing hybrid work and work-from-home opportunities.
- Key enablers highlighted by the participants in creating a framework for empowering Women in and through the ICT include policy and regulatory measures, research, partnerships, and caregiver support.
- Recognition for women's participation in ICT through government awards is essential in motivating women. These initiatives could also consider having KPIs to measure initiative effectiveness in empowering women in ICT.
- Financing for women in entrepreneurship needs to be enhanced by more support from key stakeholders in seeking investment funding to grow their businesses.
- It was established that there is a growing need to break barriers in both fintech and entrepreneurship to empower women and lead digitally empowered financial journeys for all.
- While there are many initiatives across the GCC region to increase financial inclusion, there is scope to further increase their penetration in the rural areas. An example of an effective government-led initiative to promote digital financial services includes the SAMA sandbox in Saudi Arabia, which is open for participation by both males and females.
- Participants believe that digital payments, mobile payments, enhanced financial literacy, microfinance, and crowdfunding platforms effectively promote women's financial inclusion.
- The need was highlighted for execution-focused and action-oriented initiatives to drive Women's financial inclusion and workforce participation.

Overall, the discussion from the GCC roundtable stressed the importance of multi-stakeholder partnerships to move the needle forward in empowering Women in and through ICT.

Considerations

Some considerations and beneficial ideas to consider for empowering Women's workforce participation in and through ICT in the GCC region are as follows:

- Use of digital resources to facilitate career opportunities e.g., a localized online mentorship platform to promote career growth and women's leadership across sectors.
- Governments and/or NGOs can 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 toolkits in local and regional languages to increase information dissemination towards women in GCC countries.

- Establish an innovative online platform through 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 with female role models in ICT through government support.
- The private sector can work with GCC governments and educational institutions to develop a guide to introduce ICT and coding in national curricula across the GCC.
- Develop and roll out a Gender Gap Analysis Tool to enable leading public and private organizations in GCC 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 GCC region could include:

- Governments and leading multilateral organizations can build fintech accelerator programs targeted specifically towards promoting digital financial inclusion of women.
- Introduce awareness sessions and training in schools on the fundamentals of finance and the importance of financial planning.
- Form Publicprivate 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 institutes to design financial products and services specifically geared towards serving women.
- NGOs, think tanks, and international/ multilateral organizations can work towards 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.

- NGOs, think tanks, and international/ multilateral organizations can work towards 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 GCC-wide digital identity and digital infrastructure development to enhance the overall digital financial inclusion.

Conclusion

In conclusion, the empowerment of women in and through ICT in the GCC countries is not just a matter of social equity but a strategic imperative for economic diversification and sustainable development. The region has made commendable strides in this arena, with a notable increase in women's participation in STEM education and the workforce, particularly in the public sector. The GCC's breaking of historical narratives and its leadership within the MENA region in women's economic participation are a testament to its commitment to harnessing the full potential of its female population.

There is a need for this momentum to continue to foster inclusive and sustainable growth in the digital economy for the prosperous development of the women's workforce and the increased penetration of financial services through digital financial inclusion of women.

The GCC countries continue to develop their digital economies, it is essential that they maintain this momentum and continue to implement policies and programs that support women's access to education, skill-building, and professional opportunities in and through ICT. Encouraging female entrepreneurship, ensuring equal opportunities, and creating an inclusive work environment are crucial steps toward achieving gender parity in the digital sphere.

Like globally, the future growth and competitiveness of the GCC economies are inextricably linked to the empowerment of women. By creating enabling environments that support women's contributions and leadership in ICT, the GCC can look forward to a more innovative, resilient, and dynamic digital economy. The continued focus on empowering women in and through ICT will not only drive economic growth but will also promote a more inclusive and equitable society.

3

DIGITAL SKILLS **GAP FOR YOUTH**

Digital Cooperation Organization

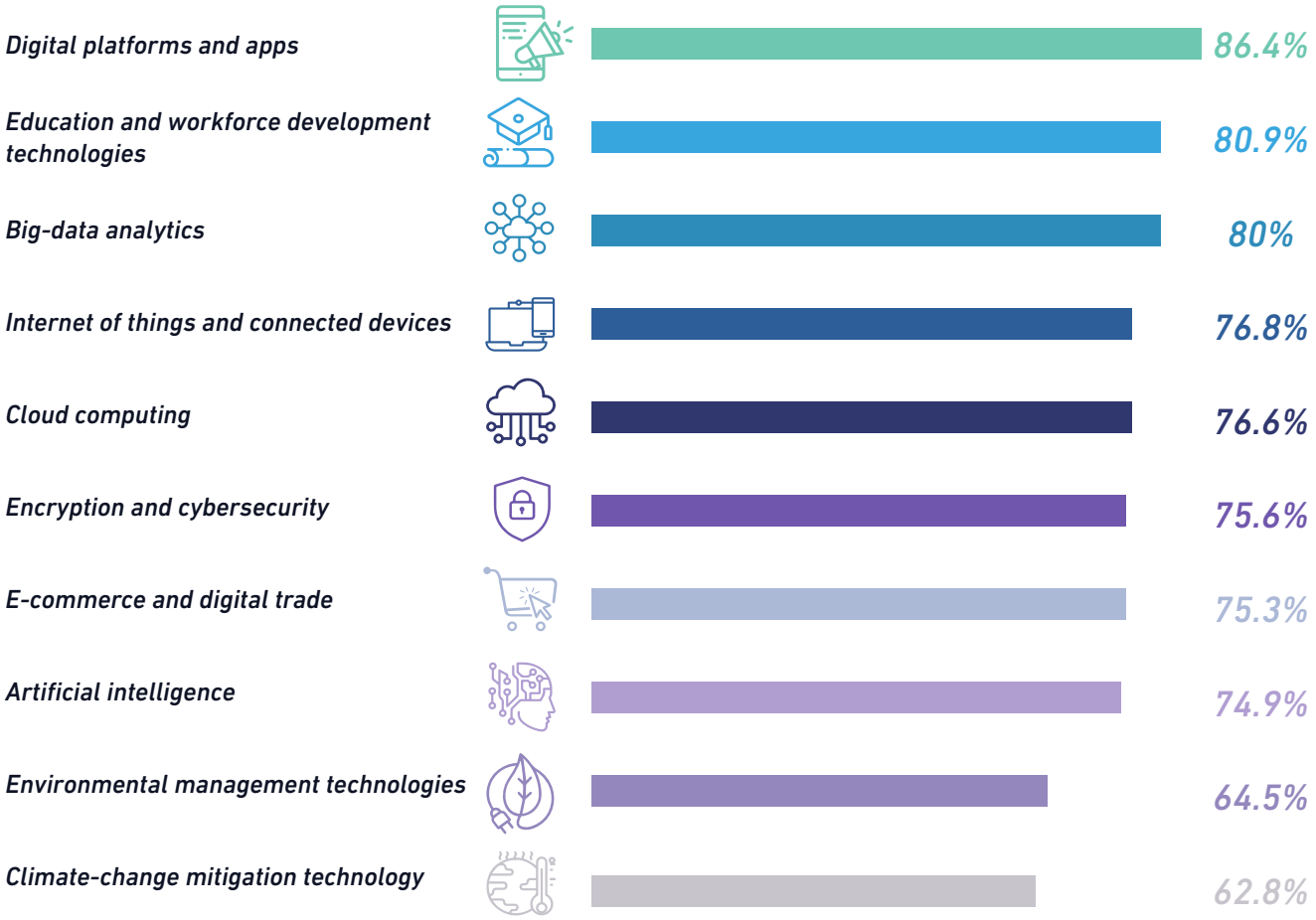
Digital skills gap for youth

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 technology-focused positions.

Technology adoption will remain a key driver of business transformation in the upcoming years. Over 85% (see figure 11) of organizations surveyed identify increased adoption of new and frontier technologies and broadening digital access as the trends most likely to drive transformation in their organization. Within technology adoption, big data, cloud computing and AI feature highly on likelihood of adoption. More than 75% of companies are looking to adopt these technologies, the impact of most technologies on jobs is expected to be a net positive over the next five years. Big data analytics, climate change and environmental management technologies, and encryption and cybersecurity are expected to be the biggest drivers of job growth. However, administrative, clerical, and secretarial roles are declining.

Despite this shift, a significant digital skills gap persists, making it challenging for companies to find qualified tech talent. Building a skilled digital workforce is crucial for successful digital transformations, but many countries, including the GCC, face challenges in addressing this gap.

Figure 11: Technologies likely to be adopted in the next 5 years

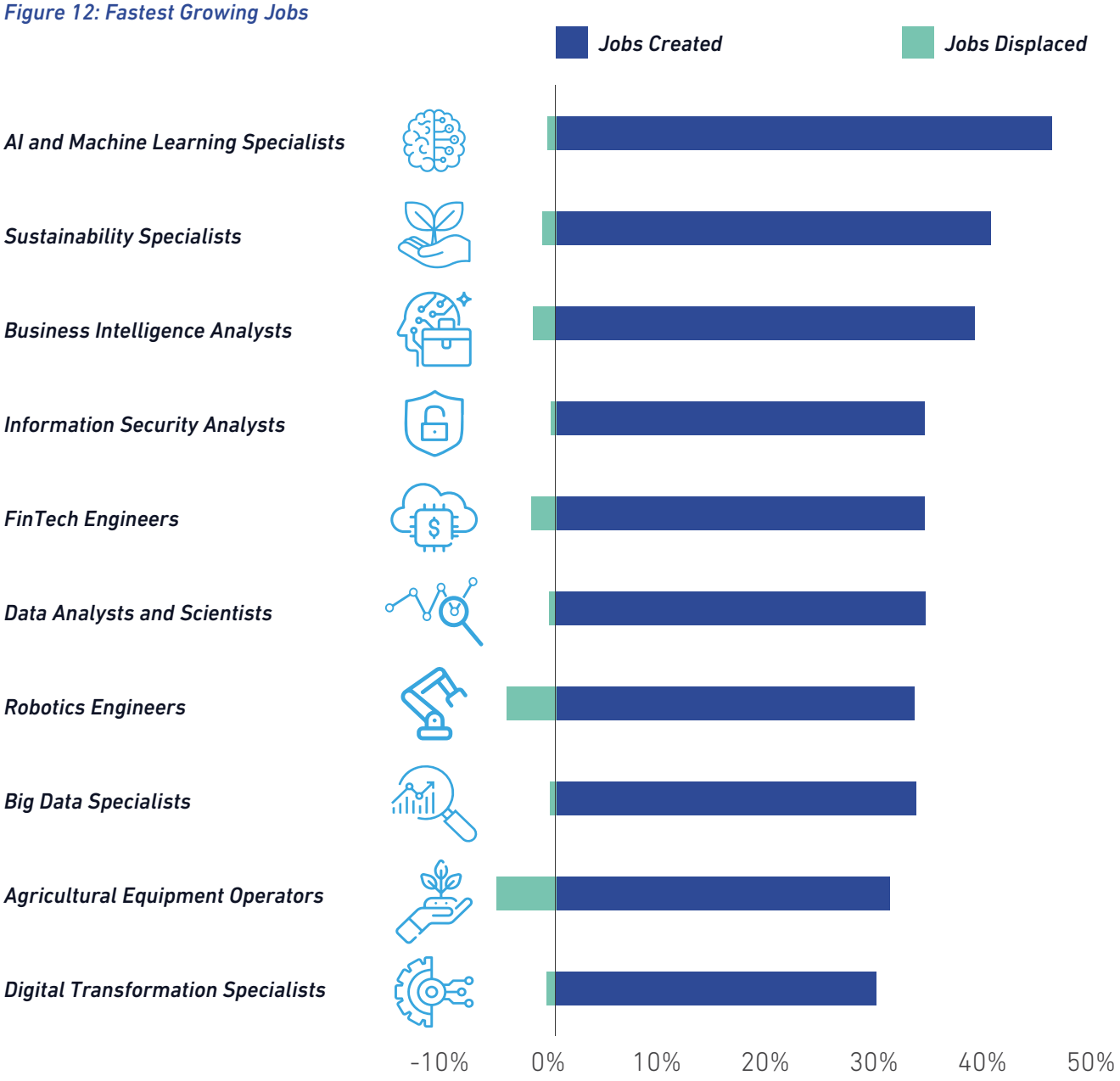


Although the skills of the future are being disrupted, employers are experiencing a significant gap in digital and technology-related skills in the market.

This adoption is leading to a surge in technology-related roles as industries need the skills and expertise to navigate the digital and technological transformation.

In fact, Technology-related roles are projected to disrupt 44% (see figure 12) of the skills of the current workforce. This surge in tech roles is creating a disruption in the key skills needed in the future and it is getting increasingly imperative for the workforce to be more familiar with top emerging skills like Analytical thinking, technology literacy, AI, problem-solving and data analytics to remain competitive.

Figure 12: Fastest Growing Jobs



Although the skills of the future are being disrupted, employers are experiencing a significant gap in digital and technology-related skills in the market. It has been reported that only **4.2%** of employers are **satisfied with the digital skills** available in the market. **47%** of businesses reported a **lack of trained staff** as a key barrier to participating in the digital economy. **60%** of people in lower- and middle-income countries **lack basic computer skills.** Only **8%** of Employers believe that students possess **the digital skills needed for entry-level employment.** And finally, **less than 30%** graduates with ICT skills are **comprised of women.**

These skills gap can have significant impact on youth and the economy as whole in terms of:

- **Elevated youth unemployment:** Unemployment rates are high in countries with youth lacking basic digital literacy leaving jobs unfilled.
- **Innovation bottlenecks:** Companies struggle to keep pace with technological advancements owing to lack of digital talent.
- **Dependence on imported talent:** Lack of digital skills in the local workforce may result in heavy reliance on importing talent from outside the country.
- **Reduced work efficiencies:** Those with limited proficiency in digital tools and technologies take longer to complete daily tasks, impacting overall efficiency.
- **Amplified cybersecurity vulnerability:** Vulnerability to cybersecurity threats, such as online scams and phishing attempts, may increase.
- **Challenges in digital proficiency:** Lack of crucial digital skills required for social and professional interactions may impact the individual's ability to operate and collaborate in a digital set up.

As technology continues to play an integral role in shaping the present and future, the GCC countries are engaged in large-scale digital transformations.

Bahrain Vision 2030 is an ambitious initiative focused on achieving digital transformation across the nation. A central element of this vision is the transformation of government services through the integration of emerging technologies, which aims to enhance efficiency and accessibility for citizens and residents. Furthermore, there is a significant emphasis on supporting tech-driven businesses, recognizing their potential in driving economic growth and innovation. A broader objective of Bahrain Vision 2030 is to create a better life for both citizens and residents, underpinned by the belief that technological advancements can lead to improved living standards and greater opportunities for all members of society.

Saudi Vision 2030 is an ambitious plan that focuses on diversifying the economy of Saudi Arabia, aiming to reduce its dependence on oil. A key aspect of this vision is the development of a digital services platform across various government entities, enhancing the efficiency and accessibility of governmental services. Additionally, the plan emphasizes increasing the digital capabilities of the private sector as well as the workforce, ensuring that the Kingdom is well-equipped to thrive in the modern digital economy. One of the notable goals of Saudi Vision 2030 is to boost the country's GDP by US$16 billion, reflecting the substantial economic growth and diversification the plan aims to achieve.

Oman Vision 2040 is a strategic framework aimed at transforming the Sultanate's economic landscape, with a significant focus on creating a robust digital economy. Central to this vision is the development of world-class e-government services, which are designed to enhance the efficiency and quality of interactions between the government and its citizens. Additionally, the plan includes measures to streamline interactions between government and private establishments, thereby fostering a more cohesive and collaborative business environment. A key objective of Oman Vision 2040 is to significantly increase the contribution of the digital economy, aiming to double its share to reach ten % of the country's GDP. This ambitious goal underscores Oman's commitment to embracing digital transformation as a cornerstone of its future economic development.

Kuwait Vision 2035 represents a forward-looking strategy aimed at transforming Kuwait into a secure digital society. This vision

encompasses increasing the operational efficiency of government departments through the integration of advanced digital solutions. A major focus of the plan is on adopting smart and digital technologies, which are key to innovating and improving various services offered to the public. By prioritizing these technological advancements, Kuwait Vision 2035 aims to not only enhance the quality of life for its citizens but also establish the State as a leader in the digital realm.

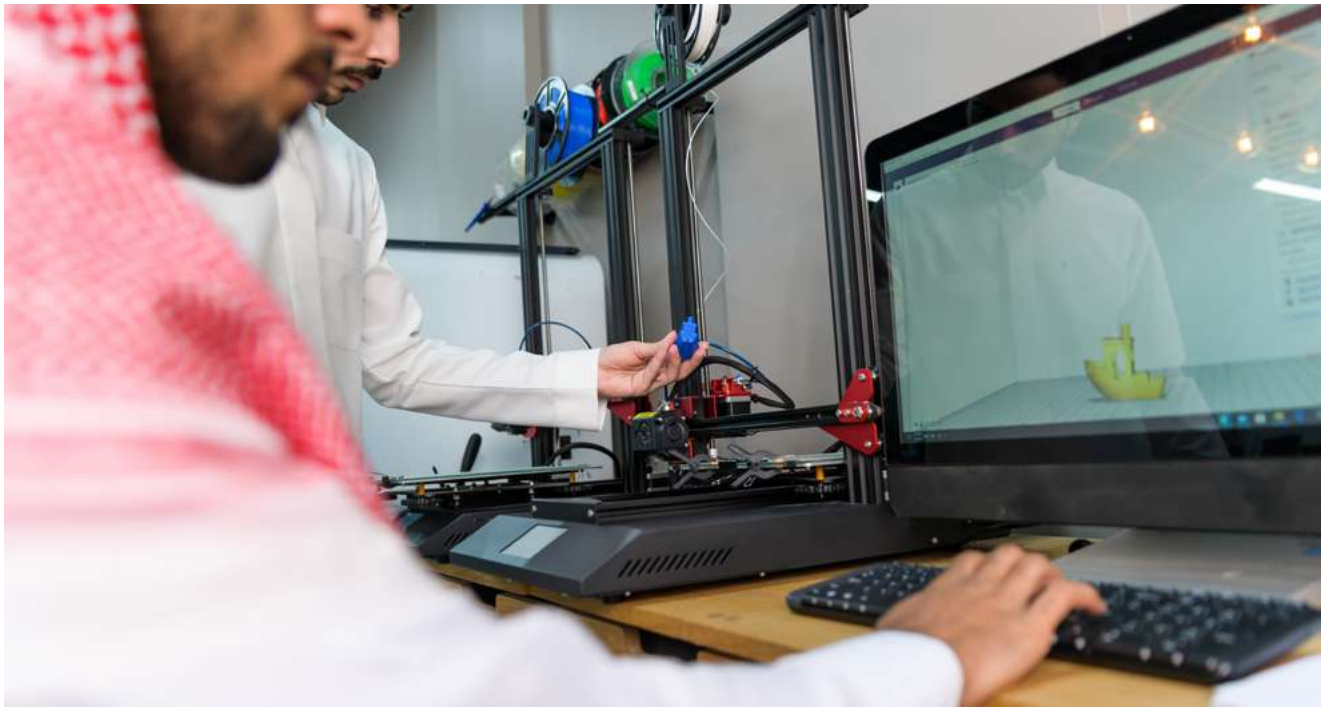
On a global scale, there are several barriers that hinder the full realization of the potential of the digital economy. One of the primary challenges is the lack of digital skills and training, which limits the ability of individuals and organizations to effectively engage with digital technologies and innovations. Additionally, there is often inadequate support and funding for small and medium-sized enterprises (SMEs), which can struggle to compete in a digital landscape dominated by larger counterparts. These SMEs, vital for economic diversity and innovation, face significant hurdles without the necessary resources or infrastructure to leverage digital opportunities effectively. As a result, these challenges create an uneven playing field in the digital economy, with smaller players finding it harder to compete and succeed.

Businesses consistently highlight the shortage of adequately trained staff as a significant barrier to their deeper involvement in the digital economy. Furthermore, participants indicated that there needs to be more educational institutions, including universities, producing graduates well-prepared for the rapidly evolving digital landscape. These higher education institutions need help aligning their teaching with rapid technological advancements.

The consensus is that similar challenges in many GCC countries where digital skills gaps persist. For instance, over 50% of digital roles are occupied by expatriates in the GCC region. Additionally, many GCC nationals are engaged in sectors susceptible to disruption by emerging digital technologies despite an increasing emphasis on technical skills.

Most GCC countries have faced challenges with digital skills gap due to a variety of reasons: among which there are several challenges related to the digital job market and technology adoption. A low percentage of GCC nationals are employed in digital jobs, as over 50% of these positions are occupied by expatriates.

While there is an increasing trend towards acquiring technical skills, there remains a notable



scarcity in areas of emerging technologies such as AI, cybersecurity, and cloud computing. This situation is compounded by a significant disconnect between the digital skills employers in the GCC region are looking for and what local professionals are able to provide. The rate of adoption of digital technologies in the GCC countries is moderate, and their ICT sector is striving to keep pace with other regions of the world. It looks like entrepreneurs face significant challenges. The environment in which they work could be more favorable for growth and innovation due to various factors, such as strict regulations, limited funding, and unclear legal frameworks. All these factors combined highlight the need for strategic interventions to enhance digital skills, foster technological adoption, and improve the entrepreneurial environment in the GCC region.

GCC countries are also facing several supply-side challenges, particularly in terms of providing opportunities for people to upskill in the digital domain. One of the primary issues is the limited academic preparation available for digital skills. Educational institutions often do not offer sufficient or relevant courses that align with the rapidly evolving requirements of the digital job market. This gap in academic preparation extends to inadequate development opportunities at an entry-level, where practical, hands-on experience in digital technologies is often lacking for new graduates or those entering the workforce. Moreover, there is a noticeable lack of collaborative efforts between employers and educational institutions, which is crucial for ensuring that the skills taught in schools and universities meet the specific needs of the industry. Another significant barrier is the limited interest among students in pursuing digital careers, partly due to a lack of awareness about the opportunities and potential career paths available in the digital sector. This disconnect not only affects the current job market but also has long-term implications for the readiness of the future workforce in the GCC region to engage with and contribute to the global digital economy effectively. Addressing these challenges requires a concerted effort to enhance digital education, foster industry-academic partnerships, and raise awareness about digital career opportunities.

GCC countries are trying to overcome these challenges through initiatives that aim to build the relevant and needed skills in GCC youth and workforce like Cybersecurity, Internet of Things, Artificial Intelligence, Programming, Networking, Business Analysis, Cloud Computing, Information Security, Application Development and Basic Digital Technology Usage

> **While there is a growing trend towards technical skills, there is still a scarcity of skills in emerging technologies such as AI, cybersecurity, and cloud computing.**

A few initiatives undertaken

Digital infrastructure investment: Providing a world-class digital infrastructure to improve the overall quality of life for citizens and provide efficient digital platforms to citizens.

Saudi Arabia: US$24.7Billion (Arab News, 2023) worth of investments have been made in the last 6 years to build better infrastructure with a focus on improving 5G and fiber optic networks, and cloud computing, and cybersecurity infrastructures.

Oman: As part of the Government Digital Transformation Programme 2021- 2025, **a unified national portal for government eServices** is being developed for integrating services across multiple digital channels and improving digital experience of the citizens.

Digital capability upskilling: Raising the level of digital capabilities and skills for students, women, employees, and entrepreneurs to improve professional development opportunities.

Bahrain: The University of Bahrain launched 'Forsati for Her', a program to upskill female students from different majors and subject areas to become skilled programmers and empower them to set up their own tech businesses.

Kuwait: CAIT launched 'Technology Skills Development Initiative in the Governmental Sector' with Microsoft to raise the capabilities of employees in the government sector with cloud skills and optimal use of digital technology.

Digital transformation policies: Creating strategic frameworks, guidelines, and programs to keep up with the rapid digital and technological advancements to drive efficiency and innovation in the country.

Bahrain: The Digital Government Policies, initiated by the Bahrain Government, seek to achieve transparency, openness, and inclusiveness in government operations, and thereby implementing digital transformation in all the public and private sectors.

Saudi Arabia: The Digital Government Policy was launched to achieve digital transformation in the Kingdom with detailed policies focusing on digital services management; developing the necessary human capabilities; adopting modern technologies and methodologies.

Inputs from the GCC roundtable participants:

During the DCO GCC roundtables various perspectives were highlighted on developing digital skills among the youth, particularly in the context of government initiatives. The significance of such initiatives, exemplified by innovation awards in Saudi government entities, emerged as a crucial enabler. Participants stressed the importance of effectively closing the digital skills gap through collaborative solutions that span multiple levels. This includes academic and institutional efforts, corporate and organizational initiatives, as well as national strategies.

The discussion emphasized the need for an ongoing assessment of youth's digital skills, suggesting that these assessments should be integrated into the educational system to ensure continual development and relevance. To address this, several actions were proposed. Creating accessible digital learning platforms was viewed as a crucial action in making digital education available to all. Fostering public-private partnerships can leverage the strengths and resources of both sectors, while implementing mentorship programs can provide hands-on, experiential learning and guidance.

Additionally, the formulation of national strategies was considered essential for a coordinated approach to digital skill development. Finally, exploring inter-governmental collaborations for innovation was suggested as a way to broaden the scope and impact of these initiatives, allowing for shared learning and resource pooling across borders. These varied perspectives underscore the multifaceted approach needed to enhance digital literacy and skills among young people, which is essential for their participation in an increasingly digital world.

Considerations

Addressing the digital skill gap for youth in the GCC region is crucial, given the rapid pace of technological advancement and its implications for workforce readiness in a digital future. For GCC countries 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 addressing skill gaps. For example, innovation awards in Saudi government entities and targeted employment opportunities for graduates of Bahrain's Information and Government Authority demonstrate commitment and provide tangible support for skills development.

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 but also integrating digital skills through work opportunities, practical projects, and modernized curriculums.

Accessible learning platforms: Developing user-friendly digital learning platforms that are accessible to all youth is critical. These platforms should offer diverse and up-to-date content that aligns with industry demands.

Public-private partnerships: Effective partnerships between the public and private sectors can be instrumental in developing digital skills. These partnerships can provide 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 them 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 GCC region 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.

Conclusion

As the world experiences rapid technological advancements, a corresponding surge in technology-related job opportunities is evident, heightening the demand for digital skills. The Future of Jobs Report 2023 by the World Economic Forum anticipates that technological advancement will be a pivotal force in organizational transformation over the next five years. This shift is expected to lead to an increase in tech-related roles as organizations adopt a range of new technologies, including big data, cloud computing, and AI, with over 75% of companies planning to adopt these in the near future. Despite the positive impact of these technologies on job growth, certain roles, particularly administrative, clerical, and secretarial, are in decline.

Despite these efforts, employers are not satisfied with the current digital skills in the market. The lack of trained staff is a significant barrier to digital economy participation, with a notable deficit in basic computer skills in lower- and middle-income countries. This skills gap could lead to heightened youth unemployment, innovation bottlenecks, dependence on imported talent, reduced work efficiencies, increased cybersecurity vulnerability, and challenges in digital proficiency.

GCC countries, such as Saudi Arabia, Oman, Kuwait, and Bahrain, are actively engaged in large-scale digital transformations to overcome these challenges. Their visions for 2030 and beyond focus on diversifying economies, developing e-government services, and enhancing digital skills in the workforce. Investments in digital infrastructure, upskilling initiatives, and transformative policies are underway to bridge this gap and prepare the youth for a digital future.

In conclusion, while technology is rapidly reshaping job landscapes and skill requirements, there is a pressing need for concerted efforts to address the digital skills gap. This requires an integrated approach involving government initiatives, academia-industry collaboration, and strategic investments, particularly in regions like the GCC, to ensure a workforce ready for the challenges and opportunities of a digital future.

4

ONLINE CONTENT **MISINFORMATION**

Digital Cooperation Organization

Online Content Misinformation

Online content misinformation encompasses the deliberate or inadvertent circulation of deceptive or inaccurate information via digital channels, predominantly within the realm of the internet and social media platforms. The spreading of false, biased, and incorrect information can minimize trust on digital channels, especially social media platforms, and poses significant threats to the adoption of the digital platforms and thus, affects the digital economy. This wide-reaching category includes, but is not confined to, fabricated news stories, unfounded rumors, deceptive hoaxes, and manipulated media, all of which have the potential to mislead or misinform the public.

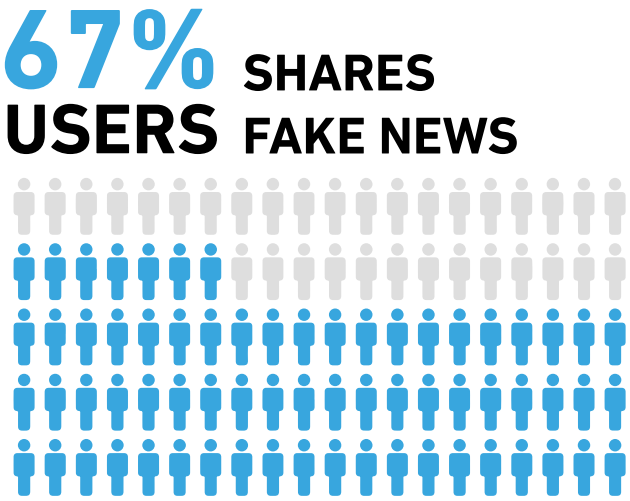
The expeditious spread of misinformation, notably through social media platforms, has raised a multitude of challenges to the stakeholders while combating misinformation in today's digital world. The immediacy of information dissemination, coupled with the sheer velocity and magnitude of its propagation, presents obstacles to the global community in assessing information quality within a reasonable timeframe and hinder the progress towards digital economy. These challenges encompass, but are not limited to, the rapidity of misinformation dissemination, the intricacies associated with misinformation mitigation, the absence of comprehensive media literacy initiatives, the dearth of standardized measures for stakeholders engaged in misinformation combat, holistic fact-checking tools, as well as the emergence of concerns surrounding individual data privacy, among other pertinent considerations.

The reason of the need to combat online misinformation is owing to its negative impacts and to protect the digital economy from such societal challenges.

There are various sources of information, like television, radio, printed newspapers and news magazines, online newspapers, social media platforms, messaging apps, social media bots, news aggregators, and video hosting websites. The spread of misinformation online impacts everyone online and offline. Social media platforms are technological architectures that facilitate innovation and the economic view and are considered vehicles for market exchange and interactions.

A recent quantitative study on misinformation on social media platforms showed that about 67% of users indicated that they had shared misinformation on social media themselves (see Figure13).[37]

Figure 13: Users shared misinformation on social media themselves.



A much higher percentage of users (94%) stated that they had seen other users share misinformation on social media.[37]

The role of online platforms in spreading misinformation and its wide-ranging negative impacts on trust and public health.

- **Online platforms and misinformation:** Online platforms, including social media and digital platforms, contribute to the rapid dissemination of information. This acceleration leads to misinformation spreading faster than accurate information.

- **Impact on trust:** Misinformation erodes trust in reliable sources, such as news organizations, government agencies, and other reputable institutions. This erosion results in a climate of skepticism and uncertainty, negatively affecting decision-making processes.
- **Public health concerns:** Misinformation, especially during health crises like pandemics, can have severe consequences. It poses public health concerns, affecting people's health and well-being.

In the literature, it was realized that the world, including GCC countries, has individually and collectively taken steps to combat online content misinformation and set various standards and regulations. These countries have recognized the importance of addressing misinformation and disinformation online, particularly in the context of social media and digital communication.

As these digital platforms are important for building successful and sustainable businesses, SMEs, and enterprises and to steer the growth of the all-inclusive, and sustainable digital economy However, the specific measures and benchmarks may vary from one GCC country to another. Here are a few examples of steps taken by some GCC countries:

Global collaborative strategies and integrated approaches to combat online misinformation:

The collective effort to combat misinformation in the digital era has brought to light the importance of collaborative strategies, the need for comprehensive guidelines, and the integration of technology with policy frameworks. These efforts aim to mitigate the adverse effects of misinformation by adopting a multi-faceted approach.

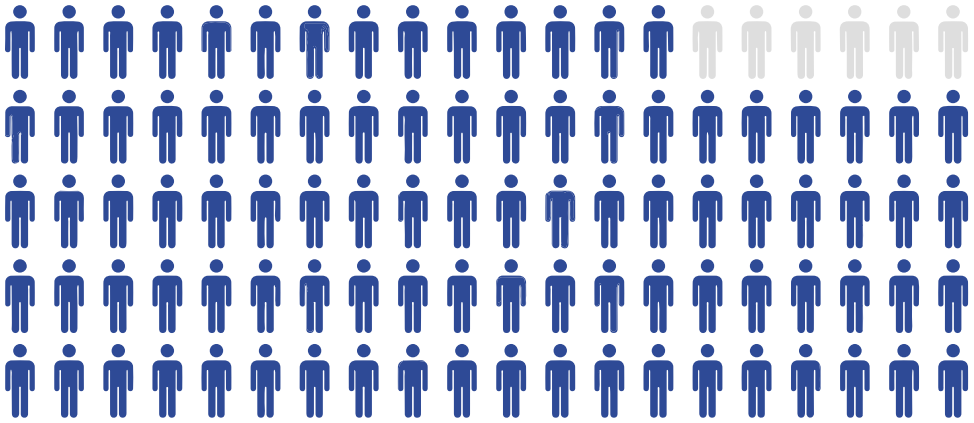
A significant consideration in this endeavor is the formation of international agreements to endorse source verification and governmental oversight in the sharing of content. This necessitates global cooperation to validate the credibility of information sources and to establish a regulatory framework that ensures the distribution of accurate information.

Enhancing collaboration between social media influencers and official authorities is also critical. Such partnerships are imperative for utilizing the influence and credibility of these individuals to guarantee the reliability of information that reaches the public.

The formulation and enforcement of pertinent policies and legislations are essential to provide a legal structure to tackle the spread of misinformation. Such regulations can act as a deterrent and offer a basis for action when misinformation causes societal harm.

Educational initiatives that highlight the dangers of misinformation and the importance of source verification are fundamental. These programs are designed to enable the public to critically assess information and distinguish between reliable and questionable sources.

Figure 14: User sees others share misinformation on social media.



94% USERS
Had seen other users share misinformation

Emphasizing the provision of reliable sources of information is vital, necessitating the creation and upkeep of information quality standards. Trustworthy channels and fact-checking bodies are central to this process.

Campaigns dedicated to the mitigation of misinformation are crucial. These campaigns should directly confront misinformation through diverse methods like public service announcements, educational outreach, and community leader involvement, which can foster awareness and critical thinking.

Furthermore, the responsible and monitored use of technology is key to preventing the spread of misinformation. Establishing and upholding responsible use protocols for digital tools and platforms is fundamental to ensure they are not misused for spreading falsehoods.

In summary, an all-encompassing, cooperative strategy that includes cross-border agreements, social media authority partnerships, stringent policies, public education, verified information sources, targeted misinformation campaigns, and regulated technology use is crucial. These combined efforts strive to forge a solid defense against the influx of misinformation in the digital sphere.

The subjectivity of when information is misinformation or disinformation depends on intent, which is difficult to prove and manage.

In the past discussion among experts, several critical gaps in the fight against misinformation were identified. It was noted that misinformation stems from a variety of sources, not only from digital platforms like social media and internet radio channels but also from traditional media outlets such as newspapers and TV channels. The negative impacts of misinformation are far-reaching and particularly detrimental to the digital economy, eroding consumer trust, impeding informed decision-making, misdirecting investors, and causing market distortions.

A key concern is the pervasive lack of awareness stemming from an absence of clear policy guidelines and delayed responses, which exacerbates the community's vulnerability to misinformation. The rapid progression of technology further complicates the issue, presenting continuous challenges in mitigating misinformation at a national level. Current laws and policies often have limited scope and lack clarity, struggling to keep pace with technological advancements and lacking jurisdiction over offenders based outside their country.

The nuanced nature of misinformation and disinformation, where intent is a defining factor, presents a significant challenge in both legal and policy contexts, as intent is notoriously difficult to prove. Misinformation can also arise from trivial information being misinterpreted as significant, especially given the rapid spread of

information through social networks. Moreover, there are instances of fabricated and intentional disinformation campaigns, where malicious actors may use unsuspecting agents to disseminate false narratives.

Lastly, spontaneous misinformation can arise from a lack of clarity and authorized channels for information verification, particularly when trying to verify information from other countries. This can lead to confusion and the unintentional spread of misinformation. These gaps highlight the complexity of combating misinformation and underscore the need for a multifaceted approach that includes legal, technological, and educational strategies to strengthen the collective defense against misinformation.

Inputs from GCC roundtable participants:

During the roundtables conducted for GCC countries, insights with respect to Online content misinformation were highlighted that underscored the global challenges posed by online content misinformation, emphasizing key insights from the delegates. Collaborative global strategies, a balanced regulatory approach, and holistic standards were highlighted as crucial components to combat misinformation. Delegates stressed the need for bias-free AI integration and empowerment through media literacy. The efforts of GCC countries, including the introduction of laws and public awareness campaigns, were acknowledged. Challenges in maintaining the accuracy of community-driven fact-checking and addressing biases in AI tools were recognized, underscoring the complexity of combating misinformation. The insights culminated in the identification of strategic considerations for a comprehensive framework to effectively navigate the intricate landscape of online misinformation and protect the digital economy from its societal dangers.

The GCC countries' are making considerable efforts to combat online misinformation in the region, some of these efforts are highlighted as follows:

United Arab Emirates UAE: Introduced laws and regulations to combat online misinformation. They have established the National Media Council to regulate and oversee the media sector, including digital and social media content. The UAE has implemented comprehensive guidelines regarding the verification of information and news sources. [38]

The UAE has implemented comprehensive guidelines regarding the verification of information and news sources. Additionally, international organizations and collaborations, such as the UNESCO-initiated Global Alliance for Partnerships on Media and Information Literacy (GAPMIL), aim to promote media literacy and combat misinformation on a global scale.

Bahrain: Introduced measures to counter online misinformation, including legal frameworks to address the spread of false information and defamatory content. The Bahrain government uses the Penal Code, which includes content restrictions that prohibit vague and overbroad categories of expression. Article 168 punishes with up to two years' imprisonment and/or a fine of up to BHD 200 (USD 531), anyone who shares "false" or "malicious" information that seeks to "damage public security, terrorize the population, or cause damage to public interest," as well as the possession of such information with the intention of distribution, and the possession of devices intended for the distribution of such information.[41]

In **Saudi Arabia,** under the auspices of the Digital Content Council, the Cabinet's resolution No. 125 dated 28/09/2021 set the framework for the development and regulation of digital content platforms. The initiative is geared towards fostering a safe and dynamic environment for these platforms, aligning with international standards and best practices. The Digital Content Platform Regulations aim to support the Commission's strategic growth goals while adhering to legislative requirements.[39]

Oman: took steps to address misinformation online and promote responsible digital media usage. The country has engaged in public awareness campaigns to educate citizens about the risks of misinformation and the importance of verifying information. Each GCC country has its approach

to combatting online content misinformation, and the effectiveness of their efforts may vary.[42]

Qatar: The law, issued by Emir Tamim bin Hamad Al Thani, amends the Penal Code by adding a new provision, Article 136 bis, which authorizes the imprisonment of "anyone who broadcasts, publishes, or republishes false or biased rumors, statements, or news, or inflammatory propaganda, domestically or abroad, with the intent to harm national interests, stir up public opinion, or infringe on the social system or the public system of the state.

Kuwait: Introduced laws and regulations to combat misinformation and the spread of false information online. The government has implemented penalties for those found spreading false information through digital channels.[40]

The effectiveness of the efforts made by the GCC countries, the measures implemented, and their impact on addressing misinformation can vary widely. This remains an ongoing challenge as the digital landscape continues to evolve.

The following challenges highlight the complexity of combating online misinformation and the need for thoughtful and multifaceted approaches:

- **Ensuring accuracy of community-driven fact-checking:** It is crucial for government authorities to maintain the reliability of information contributed by the community, which is crucial in combating misinformation and ensuring accuracy can be challenging due to potential biases or inaccuracies.
- **Crafting holistic regulatory standards:** Establishing holistic regulations centered on standardized standards and principles is vital in effectively combating online content misinformation, ensuring a balanced approach that encompasses both regulatory oversight and corporate support while addressing the diverse international landscape and engaging all stakeholders.
- **Addressing biases in AI tools and algorithms:** Ensuring that AI tools and algorithms used for fact-checking or content moderation are free from biases is crucial. Biases in AI systems can perpetuate or even exacerbate existing misinformation.
- **Standardizing media literacy:** Educational institutions, governments, and technology platforms must collaborate in establishing and implementing standardized media literacy programs. These programs are essential to empower individuals with the critical skills needed to discern, analyze, and counteract online content misinformation effectively.

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 engaging with non-governmental organizations, media outlets, and fact-checking entities becomes imperative. 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. 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 centered on standardized principles is paramount. Such an approach would address the diverse international landscape, ensuring that regulations neither stifle innovation nor overlook the nuances of combating online misinformation. It necessitates

engaging stakeholders across sectors to ensure a harmonized 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, 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 in 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.

Conclusion

Online content misinformation, encompassing deceptive information spread through digital channels, poses significant challenges to the global community. The rapid dissemination of misinformation through social media platforms has led to erosion of trust, public health concerns, impacts on individual decision-making, and poses threats to the digital economy. The negative consequences underscore the urgency of combatting misinformation comprehensively.

Efforts to combat misinformation involve a combination of legal, technological, and educational strategies. Global collaboration, standardized media literacy programs, and robust fact-checking tools are pivotal components. Countries, including those in the GCC, have implemented various measures, highlighting the need for diverse approaches.

Challenges persist, such as ensuring the accuracy of community-driven fact-checking, balancing regulation and corporate support, addressing biases in AI tools, and empowering individual users. However, collaborative models, guidelines, and technological solutions form the backbone of a multifaceted approach.

Journalists play a crucial role by prioritizing fact-checking collaborations, maintaining transparency, and engaging in media literacy advocacy. Digital media platforms must focus on algorithmic transparency, user reporting mechanisms, and content labeling. Fact-checking tools, coupled with public awareness, data analytics, and collaborative research, offer a united front against misinformation.

In a nutshell, addressing online content misinformation requires a collective and dynamic effort. By fostering collaboration, enhancing media literacy, and implementing strategic guidelines, countries can build a resilient defense against the pervasive challenges of misinformation in the digital era, thus, to protect the digital economy from such major societal dangers.

5

DIGITAL RIGHTS

Intellectual Property Protection Online and Safe Digital Space for Children

Digital Cooperation Organization

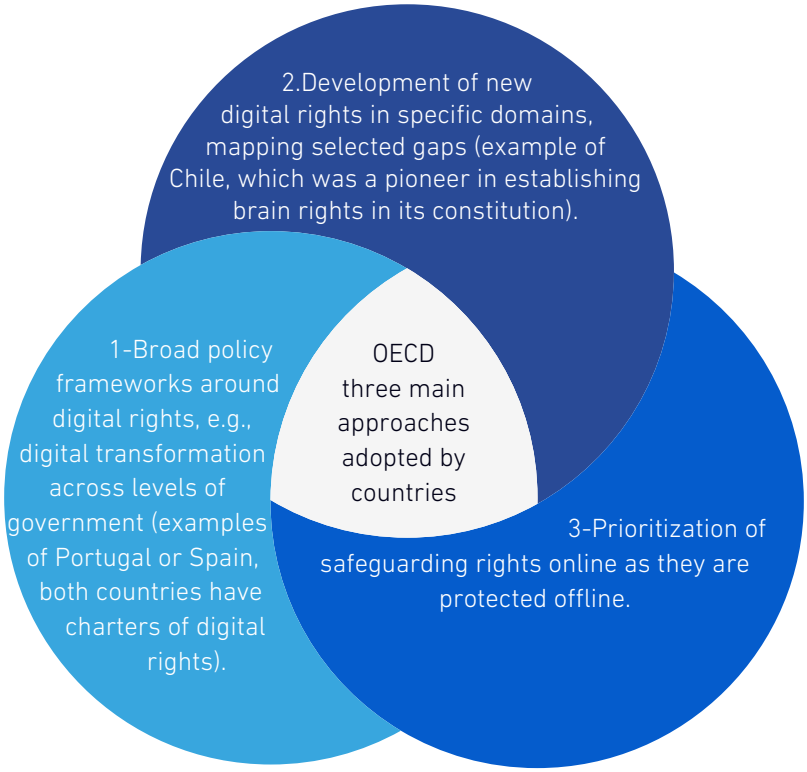
Digital Rights:
Intellectual property protection online and safe digital space for children

Digital rights are indispensable today. The extent to which technology permeates people's lives presents a complex challenge to the understanding of those rights. Ensuring that technology serves people and acts as a catalyst for further economic and social development is critical.

Digital rights should be understood as rights related to the use of digital technologies and are becoming increasingly important because:

- **Technology is unavoidable:** Technology plays a central role in everyday life, whether it is in how people work, interact, access public services, and how they conduct business, or even how transactions are carried out. Technology becomes more integrated into people's lives.
- **Data collection is exponential, and privacy is important:** As technology becomes ingrained in people's daily lives, entities that utilize it collect personal information. The use of this data and the terms under which it is done represent one of the greatest challenges faced.
- **Cybersecurity and digital safety are critical:** The advent of technology also brings vulnerabilities due to cyberattacks and security breaches that can occur. These are threats to individuals, governments, businesses, as well as to trade and the economies of States themselves. Vulnerable people are one of the concerns.
- **Intellectual property protection is complex:** The openness and sharing of information online pose challenges to intellectual property and copyright. Emerging technologies reinforce the necessary balance between the two.

Numerous recognized digital rights spans across diverse areas and domains: Without establishing an exhaustive list of digital rights, countries have been adopting very different approaches. The OECD divides this into three main approaches that have been followed by countries:



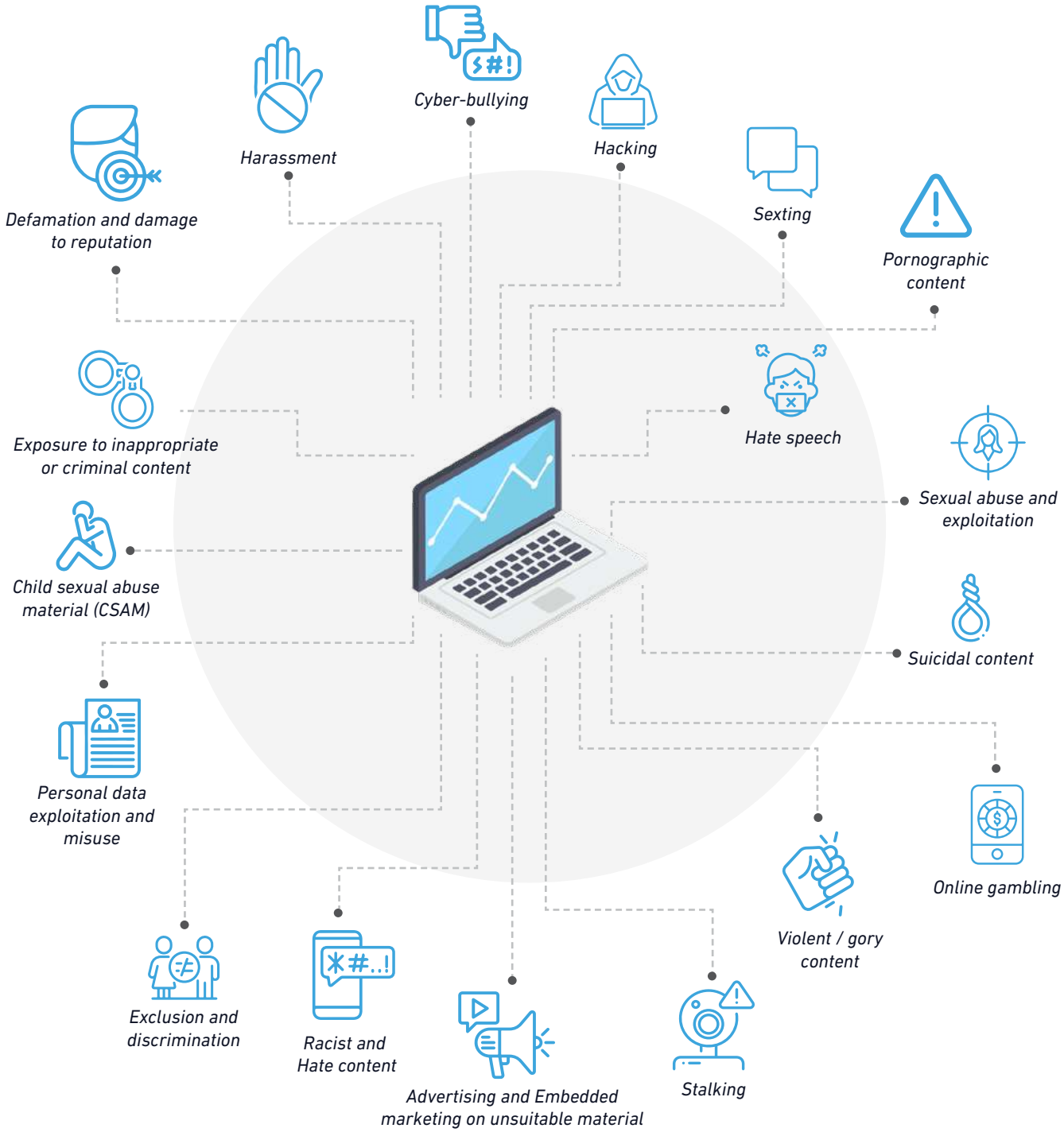
A non-exhaustive list of rights that are considered important in different part of the world include equitable and quality access to the internet, reasonable access to information, balanced promotion of opinion and expression in digital space, right to digital association, right to digital anonymity, right to be forgotten, right to protection against misinformation and disinformation, personal digital identity, protection against algorithmic bias especially in the context of AI, mental privacy right, right to digital literacy, right to digital property, intellectual property protection in the digital world, data protection and privacy, right to digital security and safety, digital consumer rights; right to digital will, protection of children's rights online, children's digital safety, and safe digital space in general.

The GCC countries have been promoting a series of changes and reforms to keep up with digital transformation and the rapidly advancing digital economy. Some of these changes involve the recognition and strengthening of digital rights. Amongst numerous other digital rights, the GCC has the capacity to thrive in two vital spheres: **Safe digital space for children and intellectual property protection online.** These two rights have significant potential for further development globally. The GCC countries are specifically committed to protecting children in the digital world and safeguarding intellectual property online.

The clear leadership of the GCC countries in the digital economy enables an acceleration of organizational innovation, creates opportunities, speeds up the adoption of emerging technologies, and promotes sustainability as well.

Safe digital space for children

Children and young people around the world tend to embrace the internet early, often becoming pioneers and innovators in online spaces. They possess advanced skills and understanding, surpassing many adults in their use of the internet, especially in interactive and social networking platforms. The internet has created entirely new social spaces globally, reshaping the way individuals interact. While these spaces can be incredibly creative, they also pose challenges, especially for children, that adults may not fully comprehend. The main challenges of children's presence in the online world are as follows:



- **The positive and negative impact of emerging technologies,** as children are constantly exposed to a myriad of emerging technologies, including artificial intelligence, augmented reality, virtual reality, machine learning, blockchain, cloud computing, robotics, and more. Indeed, emerging technologies hold the potential to positively influence children's cognitive development. Educational apps, games, and interactive tools can improve problem-solving, critical thinking, and information processing skills in an enjoyable manner. But the relationship between children and emerging technologies is not solely defined by positive aspects. Concerns regarding these technologies are escalating as developments in these areas unfold rapidly. The most significant concern revolves around how frequent and prolonged exposure to virtual environments affects mental health.
- **Cyberbullying, online harassment and inappropriate content** can result in extremely negative consequences for children are also challenges. Recently, the OECD [43] released the first benchmarking report examining the policies and procedures related to child sexual exploitation and abuse (CSEA) of the world's top 50 global online content-sharing services, a clear indication that these issues are at the forefront of the global agenda.
- **Impacts on mental health** is also a concern, highlighting the addictive nature that many applications and websites have, even in their design. In fact, the widespread use of digital technology has raised the alarm amongst parents, educators, governments, and young people themselves. There is a growing concern that digital technologies and social media platforms are exacerbating anxiety and depression, disrupting sleep patterns, promoting cyberbullying, and distorting body image.
- **Online gambling** is a global concern. The rising popularity of online gambling, driven by its progressive legalization and technological advancements, has made it especially prevalent among young individuals. The effects of gambling on the youth are multifaceted. Apart from direct financial loss, gambling debts can also lead to a ruined credit rating. The addictive nature of gambling is the most concerning aspect. Children often engage in gambling uninterrupted and undetected for hours at a time. Gambling may lead to isolation. Despite legislation in numerous countries making gambling illegal for minors, the absence of effective age verification mechanisms for players makes gambling one of the significant challenges of making children's presence in the digital world safe.
- **Data privacy** represents an enormous risk. It is a considerable challenge in media literacy for children, as well as their parents and teachers, as they strive to comprehend and critically engage with the digital landscape. It is essential to understand why the issue of online privacy is so urgent concerning children. Firstly, because it is often children who pioneer the experimentation and use of new digital devices and content, navigating the risks associated with these uses without adult awareness. Secondly, the growth of the data economy makes the collection of data profitable, especially from more vulnerable targets such as children, who lack the necessary literacy to comprehend the dangers of data access or the significance of privacy. Children's data is frequently gathered and processed without true informed consent, encompassing details like geolocation, biometrics, and other sensitive information. This practice can potentially result in misuse, identity theft, privacy invasion, exposure to inappropriate advertising and spam, and incurring undisclosed costs.
- **Cybersecurity** should be prioritized, due to the increase of internet connectivity. Multiple risks are linked to children's presence in the digital world, underscoring the need to enhance cybersecurity. One of the reasons why cybersecurity is becoming increasingly important is the prevalence of cyberbullying.
- **Technology in schools** has shown significant growth during the pandemic, and it is now a challenge. With the closure of schools, learning continued thanks to technology, despite its limitations. In the realm of online safety, numerous

attacks have been perpetrated against schools, jeopardizing educational institutions as well as the protection of students' and children's data.

- **Ethical, policy and moral dimensions** should also be considered. The safety of children in the digital space raises several ethical, political, and moral questions. These dimensions shape the choices policymakers must make and the path taken in terms of public policies and legal frameworks.

Safe digital space in the GCC

When it comes to **protecting children in the digital space,** the concern of GCC countries to effectively address the risks children face online is evident. Children of this era are often referred to as digital natives as they are comfortable using digital tools and platforms.

However, there are several threats that may profoundly affect children and young people, undermining their well-being. These threats include harassment, cyber-bullying, hacking, child sexual abuse material, pornographic content, advertising and embedded marketing on unsuitable material, sexting, stalking, personal data exploitation, defamation and damage to reputation, exposure to inappropriate or criminal content, exclusion and discrimination, suicidal content, online gambling, and hate speech.

With the objective of protecting children in the online world, several reforms have been advocated by member countries of the GCC:

United Arab Emirates: The UAE has established a legal framework and guidelines, such as the Child Rights Law, Cyber Crimes Law, Internet Guidelines, and Data Protection Law, to prioritize children's online protection, driven by a commitment to safeguard children's rights, regulatory authority, and a focus on awareness, education, and international cooperation.

Bahrain: The Telecommunications Regulatory Authority offers resources for children's online protection through its Safe Surf initiative. They have released a comprehensive report on the state of internet safety and conducted lectures in schools to educate parents and teachers about online safety challenges faced by children.

Saudi Arabia: The Digital Content Platforms Regulations draft was released for public consultation by the Saudi Communications, Space and Technology Commission (CST) with the aim to regulate platform providers and operators in alignment with existing laws and cover various aspects of the digital content industry. In addition, Saudi launched an awareness campaign to protect children's personal data on the Internet.

Oman: Oman's legal framework for child protection is robust, with Child Protection Committees (CPCs) established in all 11 governorates to prevent and address child abuse. The Child Law of 2014, along with the 2019 executive regulations, prohibits violence against children in all settings, including schools. This law mandates the reporting of all child abuse incidents and facilitates the swift removal of children from violent situations.

Qatar: The efforts made by the Government of the State of Qatar in the context of implementing its National Vision 2030 attaches great importance to the protection of the right of the child and to the development and care of children especially in the digital space.

Kuwait: released the Data Privacy Protection Regulation in 2021, outlining detailed guidelines for data collection, storage, processing, and transfer, which includes specific provisions regarding information of individuals under 18 years of age.

Intellectual property protection online

The challenges and risks facing the protection of intellectual property today are numerous. Primarily, these challenges and risks are associated with the factors that make intellectual property so crucial in the digital and knowledge-based economy being promoted worldwide. The more significant intellectual property becomes, the greater the threats to its protection and integrity. It is crucial to dissect some of the primary challenges and risks that confront the protection of intellectual property in a digital world:

- **The impact of emerging technologies** is one of the main challenges, as AI technologies, especially machine learning algorithms, hold the capability to generate, augment, and utilize intellectual property in different ways. The swift progress and widespread use of AI across diverse domains poses substantial challenges to the safeguarding of intellectual property. As AI systems grow more proficient in generating creative content, inventions, and trademarks, legal frameworks must confront questions about who can be considered the author, rightful owner, and eligible recipient of protection. The resolution of this challenge hinges on striking a balance between encouraging innovation and creativity and simultaneously safeguarding the rights of human authors, inventors, and businesses.
- **Cybersecurity** is also pivotal for safeguarding intellectual property for businesses and beyond. The digital age has made it easier to store and share large amounts of information, including valuable intellectual property-related data. This is compounded by the fact that innovation and creativity, which companies now consider as one of their most significant corporate assets, are protected in the form of intellectual property (IP). Moreover, as organizations enhance interconnectivity among their devices during their digital transformation, especially with the digitization of crucial corporate data and intellectual properties, vulnerabilities to cyber threats have inevitably risen.
- **Digital piracy** represents an enormous challenge, which leads to significant economic losses for businesses and creators. Indeed, digital piracy constitutes a violation of the intellectual property rights of creators, publishers, and copyright holders, resulting in financial losses and legal ramifications. One of the major issues related to digital piracy concerns awareness about the practice and its non-compliance with laws. It also involves the devaluation of the behavior, even if it is perceived as contrary to the law.
- **Legal framework** should be prioritized as a very important challenge, and the main topics are the breadth of copyright protection, copyright infringement, fair use, creators' compensation, rights in data, tech/software patents, and data privacy. A good legal framework should allow IP rights in emerging technologies to be recognized, protected, commercialized, and enforced easily.

Intellectual property protection in the GCC

When it comes to protecting intellectual property online, there has been a rapid adoption of IP law and membership in a few, but not all, international IP-related treaties by GCC countries. There are also GCC treaties for unified patent and trademark applications, demonstrating the importance of intellectual property protection for these countries.

In the realm of protecting intellectual property online, several changes have been advocated by countries of the GCC:

United Arab Emirates: UAE promulgated its Federal Law # 38 of 2021 on Copyrights and Neighboring Rights that went into force as of 2nd January 2022 and is an upgraded legislation dealing with the copyright protection in the UAE with the view to match international best practice.

Bahrain: In September 2023, the Ministry of Industry and Commerce of Bahrain unveiled an initiative aimed at fostering innovation and protecting intellectual property rights within the country. This endeavor includes reducing the official fees for patent registration for individual applicants.

Saudi Arabia: Founded in 2018, the Saudi Authority for Intellectual Property (SAIP) oversees issues pertaining to the protection, regulation, and enforcement of intellectual property rights in Saudi Arabia. SAIP's objective is to encourage local innovation and enhance the competitiveness of the national economy by assisting local businesses in strategically utilizing intellectual property. As an autonomous intellectual property authority with a global outlook, SAIP is also striving to establish itself as a prominent intellectual property hub in the Middle East and North Africa region.

Oman: Since 2008, Oman has implemented the Royal Decree No. 65/2008 - the Law of Copyrights and Neighboring Rights. This

legislation includes provisions aimed at protecting intellectual property in the digital space.

Qatar: Qatar has been enhancing its involvement in international treaties managed by WIPO and refining its domestic legal framework related to intellectual property. These endeavors are directed towards creating a favorable environment for attracting investments in knowledge-based sectors, aligning with Qatar National Vision 2030.

Kuwait: In 2019, Kuwait enacted a new copyright law, Law 75 on Copyright and Related Rights, introducing potentially significant changes to the copyright regime, particularly concerning enforcement. Notably, Article 36 grants designated officials broader administrative enforcement authority compared to the provisions in the previous Copyright Law.

From the above, it is evident that there is commitment from the GCC countries for these two important domains: protecting children in the digital world and protecting intellectual property online.

Inputs from the GCC roundtable participants:

During the roundtables conducted for GCC countries, insights with respect to safe digital space and intellectual property online were highlighted:

Safe digital space for children

- Regarding the key trends and priorities to develop a safe digital space for children across GCC, key points highlighted included a need for involving the education sector, raising awareness amongst children and addressing the issues of cybersecurity and online safety.
- In addition, the need to introduce new regulations and encourage new organizations to work on regulations and privacy was also highlighted.
- In the context of key challenges facing the GCC countries today related to the promotion of safe digital space for children, it was acknowledged that children today are more exposed to the possible digital harm than the earlier generations and the risks associated with emerging technologies are an increasing concern.
- The areas that were mentioned and require more policy intervention include personal data privacy, regulation of emerging technologies, and AI.

Intellectual property online protection

- The participants discussed the key challenges and risks that will need to be addressed regarding intellectual property online protection.
- Regarding the current IP trends in the GCC region, material created by Artificial Intelligence was considered one of the trending topics.
- In terms of the opportunities created using GenAI, the need to view these technologies as a tool to organize and facilitate peoples' lives was one of the identified opportunities.
- As for emerging technologies, the implications of AI as well as immersive technologies on intellectual property were considered a challenge.

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 different dimensions and risks involved, which includes:

- Identify the various stakeholders involved, ranging from children and parents to schools and teachers, large technology platforms, governments, policymakers, regulatory and supervisory entities, as well as healthcare professionals and scientists, consider the impact technology has on children's health and development today.
- 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 the recommendations made by studies conducted on the impact of technology on children. Since many have been inconclusive, associating the development of the national strategies that are concurrent in-depth research on the impacts of technologies on children, considering

different age groups and developmental stages is important.

- Design the strategy to align 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 the GCC region.
- Given the significance of international treaties and conventions in intellectual property protection, an area of consideration is to establish a common regional strategy for accession to international treaties or conventions related to intellectual property protection, particularly in the digital space.
- Due to the complexity of IP disputes, a new approach to the judicial systems should be considered, whether it is the possible creation of specialized IP courts or the establishment of alternative dispute resolution (ADR) and an emphasis on mediation as alternative means for dispute resolution.
- The regulation of AI usage is unavoidable today given the significant impact of emerging technologies on the IP rights. Europe, the United States, and China are adopting various distinct approaches to regulating AI. Hence, within the GCC framework, an important consideration would be to develop a strategy with guidelines on AI, considering the various relevant stakeholders in this domain.

Conclusion

The importance of digital rights in today's technology-driven world cannot be overstated, as these rights pertain to the use of digital technologies that are increasingly becoming central to people's daily lives. Technology's ubiquity in various aspects of life, from work and social interactions to public services and business transactions, underscores its growing integration into human existence. The resulting data collection and concerns over privacy, coupled with the vulnerabilities posed by cyberattacks and security breaches, highlight the critical need for robust digital rights frameworks.

Digital rights also grapple with issues surrounding intellectual property in the age of online openness and information sharing. Balancing the rights of creators with the public's access to information in the digital realm presents a unique challenge, necessitating thoughtful approaches to intellectual property rights in the context of emerging technologies.

In the GCC region, there is a growing recognition of the importance of digital rights in the rapidly evolving digital economy. Efforts are being made to reform and strengthen these rights, particularly in areas such as safe digital space and online intellectual property protection. The commitment to protect children in the digital world and safeguard intellectual property online is evident in these initiatives.

In conclusion, digital rights are an integral part of an increasingly digital world. They encompass a broad spectrum of issues ranging from data privacy and cybersecurity to intellectual property and children's safety online. The GCC countries' proactive stance in enhancing digital rights demonstrates a commitment to navigating the challenges of the digital age while fostering an environment of innovation, security, and equitable access. As technology continues to evolve, so too must the approaches to digital rights, ensuring they remain relevant and effective in protecting the interests and well-being of all digital citizens.

In the GCC region, there is a growing recognition of the importance of digital rights in the rapidly evolving digital economy.

6

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

Digital Cooperation Organization

Tax and financial incentives for the ICT sector

Digitalization across the economy and society has the potential to create opportunities for new businesses to emerge, drive productivity growth, stimulate trade, and improve the quality of, and access to, public services. The digital economy is estimated to account for 24% of the global GDP by 2025[44]. There are four ICT building blocks for the digitalization of the economy and society. This includes the underlying infrastructure that provides connectivity and the hardware and devices through which consumers and businesses connect and access digital products, services, data, and content. However, there are a range of barriers that can hinder the development and growth of ICT building blocks including high upfront costs and low or uncertain returns on investments and affordability challenges. The development of the ICT sector and the digital transformation also depend on several supporting enablers including digital skills, R&D, effective regulation, and access to finance.

The ICT sector provides the underlying foundation for the digital transformation of the economy and economic growth. Increased digitalization can also help unlock a range of socioeconomic and generate overall improvements in quality of life, as well as education and healthcare.

Against this backdrop, the DCO is undertaking a study, focusing on five benchmark countries, on tax and financial incentives to understand how these can support the ICT sector and enable its development. For some GCC economies, the introduction of corporate income tax across some countries over the last few years has implied a potential scope for tax incentives to be used as a policy tool to accelerate development of the ICT sector. Meanwhile, several GCC countries with corporate income taxes that are already low have additionally adopted financial incentives targeted at the ICT sector.

Tax and financial incentives can play a role in fostering development of the ICT sector. On the demand side for example, incentives can address affordability challenges, improve digital literacy and access to capital, which may otherwise limit the extent of digital adoption. On the supply-side, incentives can stimulate investment in underlying ICT infrastructure and R&D, by reducing the effective cost of investment. Providing loans and grants to small businesses that are unable to access capital and increasing the number of ICT professionals through government-funded upskilling programs can enable the development of digital technologies, products, and services.

However, the efficacy of incentives depends on a wide range of factors, and there are risks associated with the use of incentives that need to be considered. For example, the evidence on the effectiveness of tax and financial incentives is mixed. While some studies find a positive impact of tax and financial incentives on levels of investment for example, others suggest that levels of investment may not be responsive to tax or financial incentives.[45] [46] [47] Factors such as a stable investment environment and clear eligibility criteria can impact the effectiveness of incentives.[48]

Tax incentives in particular have the potential to create distortive effects on investment and competition (e.g., income-tax-based incentives can create a bias towards investments with shorter-profit time horizons) and can help facilitate profit shifting by multinational firms potentially reducing tax revenues to fund public services.[49]

The GCC countries place relatively well compared to developing economies in terms of ICT development, which are mostly within the first quartile of some ICT-related indices, but still have some work to do to catch up to the advanced economies that find themselves in the top quartile.

Some GCC countries within the DCO have largely adopted financial incentives to support ICT sector

development, which may in part be due to tax rates already being relatively low. Financial incentives have largely been in the form of government subsidies, direct grants, or government-backed loans and guarantees, as shown in Table 1. For example, Qatar provides internet subsidies for low-income families to bridge the digital divide, and Bahrain has assigned funding to support the growth of new ICT start-ups. Others such as Saudi Arabia offer tax incentives for data centers and has set up special economic zones for ICT activities such as cloud computing, with special tax concessions.

Even so, tax incentives have predominantly been introduced by DCO member states where there have historically been relatively higher levels of taxation. For example, in Jordan where studies have suggested that parts of the ICT sector face relatively high corporate income tax, software and application developers are eligible for a reduced income tax rate. Similarly in Rwanda, Ghana, and Bangladesh, where ICT-sector specific tax payments and headline tax rates have historically been high compared to GCC countries, income-based tax incentives such as tax holidays and exemptions have been introduced.

To understand the nature of tax and financial incentives adopted in countries with a well-developed ICT sector, incentives in five benchmark countries (Singapore, Finland, Malaysia, Thailand, and the Philippines) were reviewed. These countries have a high performing ICT sector and are broadly representative of the different income levels of the DCO Member States. Whilst evaluating the effectiveness, incentives are inherently challenging and there are limited published evaluations across a few countries. There are examples of incentives adopted in benchmark countries that have been effective. For example, in Finland, government grants provided to broadband providers has contributed to accelerating the availability of high-speed connectivity in rural areas.[50] In Thailand, introducing lower import duties for electronic manufacturers was found to have had a positive impact on the international competitiveness of the local electronics industry, potentially due to enhanced access to more varied and cheaper inputs.[51] [52] In Singapore, a subsidy scheme for first time automation of business functions supported SMEs in digitalizing core functions and contributed to them growing.[53]

Table 1: GCC countries within the DCO have largely adopted financial incentives to support ICT sector development.

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

For example, as set out in Table 1, the DCO Member States and benchmark countries have introduced a set of similar tax and financial incentive archetypes; however, these incentives are generally more targeted in benchmark countries. For example, Thailand, Philippines, and Malaysia have introduced direct and indirect tax incentives that seek to incentivize investments in the ICT sector and potentially in other sectors. Across the benchmarks, subsidies and grants are commonly targeted at supporting consumer and business digital adoption. Grants and loans have been directly targeted at stimulating investment and innovation in upcoming digital sectors such as gaming, animation, and start-ups developing cross-industry ICT applications. Conversely, while a similar range of incentives have been adopted across the DCO Member States, they are sometimes more broadly available to businesses across the ICT sector, as observed in the case of tax incentives in The Gambia and Nigeria.

The level of ICT development varies across the DCO Member States, as reflected by wide disparities in connectivity coverage, cloud service availability, ICT service exports, digitalization of government services, and public e-participation.

Figure 15 shows that there are wide variations in the development of mobile and fixed network infrastructure across the DCO. For example, some DCO Member States have achieved high levels of 5G rollout, with Bahrain, Kuwait, and Cyprus attaining relatively high levels of 5G population coverage. However, some others are in the early stages of 5G rollout or are still expanding 4G connectivity. [54] While mobile subscriptions as a percentage of the population ranges from 46% to 181%, mobile download speeds range from 7 Mbps (7%) and 100 Mbps (100%) across DCO Member States. Similarly, there is a wide variation in the use of internet services and fixed broadband penetration. For example, internet usage ranges between 21% and 100% of the population across DCO Member States, while fixed broadband subscriptions range between 0.2% and 40%. [54] [55]

Figure 15: Variation in the fixed and mobile networks of the DCO Member States and accessing the internet

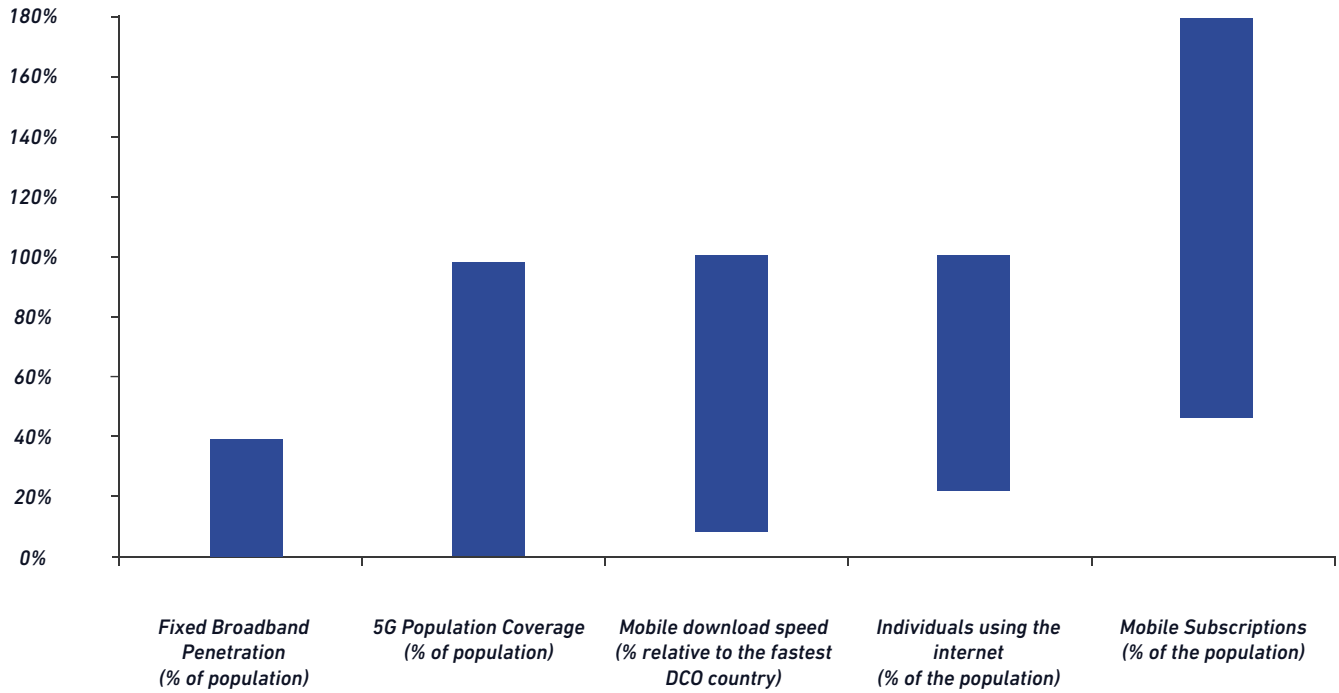
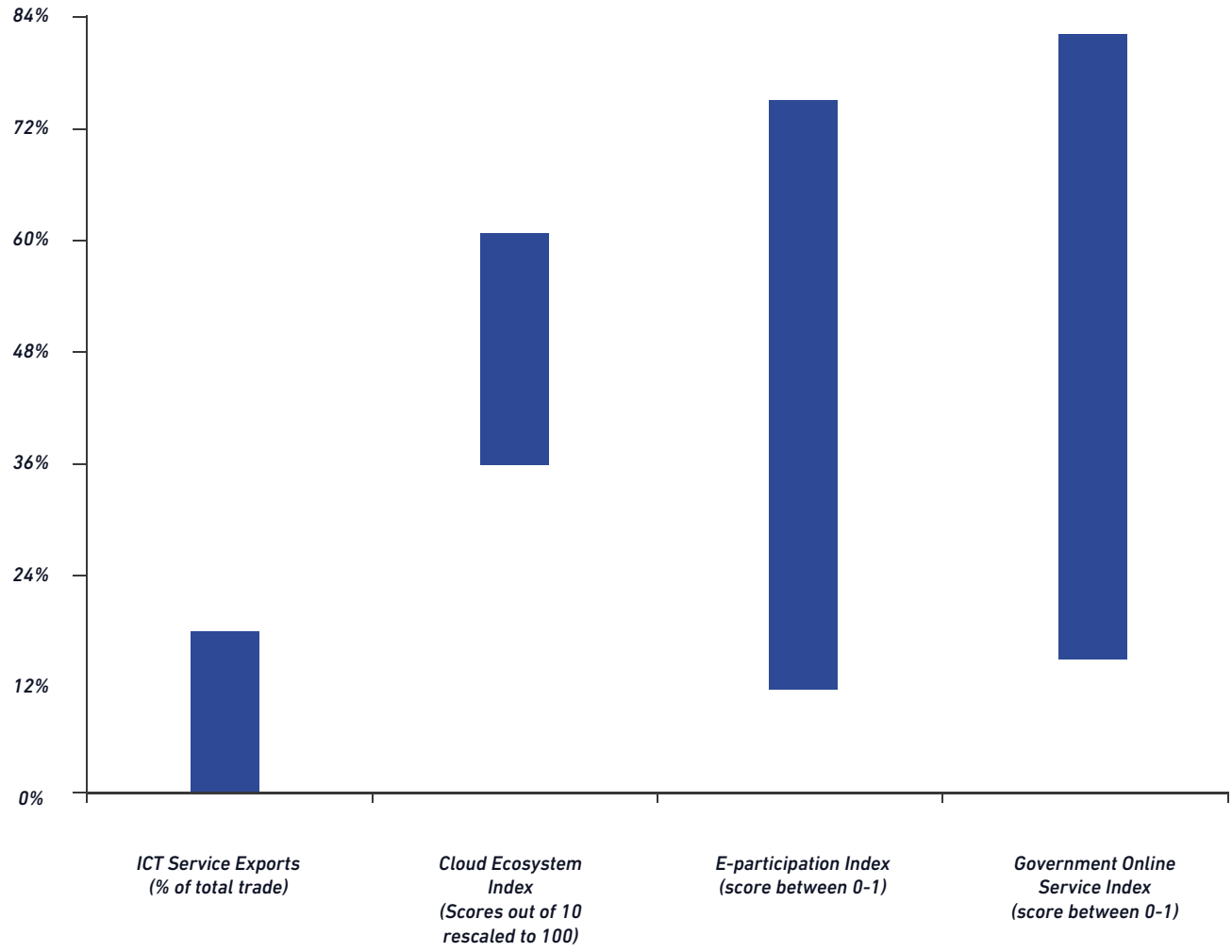


Figure 16 [57] [58] [59] shows the variation in provision and adoption of ICT products and services among DCO Member States. While not all DCO Member States are included in MIT's Cloud Ecosystem Index, there are significant differences in the capabilities of Member States to promote the availability of cloud services, and there are areas for improvement even for the most advanced DCO Member States. Differences in the level of ICT sector development are also reflected in the level of development and export of local ICT services. While the share of ICT service exports in total trade is less than 1% for nearly half the Member States, it is 18% for Cyprus[55]. Use of ICT technologies by governments and public engagement in e-government services also vary considerably among DCO Member States.

Variation in the current development levels and barriers facing the ICT sector among DCO Member States may result in different priority areas for consideration within the ICT value chain. For DCO Member States with a relatively well-developed ICT sector, such as Qatar and

Figure 16: Variation in the provision and adoption of ICT products and services



Note: The Cloud Ecosystem Index covers only 8 DCO members including Bangladesh, Ghana, Kuwait, Morocco, Nigeria, Pakistan, Qatar, and Saudi Arabia. ICT service exports are not available for Djibouti and The Gambia

Saudi Arabia, maintaining network leadership and promoting investments in the development of next-generation technologies could be priorities. For some other Member States with relatively underdeveloped ICT sectors, prioritizing fundamental building blocks of the ICT sector such as widespread access to reliable internet and ICT devices may be more immediate priorities before moving up the ICT value chain. For example, Nigeria is targeting 70% mobile broadband penetration by 2025 through 4G/5G coverage, [56] ensuring up to 10 Mbps download speed in rural areas, [57] while Pakistan aims to make low-cost devices and affordable data widely available. [58]

Differences in ICT priority areas can guide the nature of interventions required and the extent of their use. DCO Member States may have to prioritize growth in different areas of the ICT value chain and address market-specific barriers which may vary significantly across countries. These differences can guide the choice of government interventions such as tax and financial incentives or regulatory reforms tailored to local market conditions to correct market failure, secure structural transformation, and support the optimal provision and adoption of ICT goods and services.

Tax and financial incentives can be used to help develop the ICT sector by reducing the upfront cost of investment, facilitating market entry and expansion, innovation, and overcoming barriers to the adoption of digital technology.

From an economic theory perspective, government interventions, such as tax and financial incentives, may be appropriate to help address market failures that result in the market not delivering economic and socially optimal outcomes. For example, parts of the value chain where the upfront sunk cost of investments are high and there are significant positive externalities (e.g., in the deployment of telecommunications infrastructure or R&D in electronics and software development) or where there is a high dependence on a pipeline of specialist ICT professionals (e.g. software development). This may be due to a range of factors including the existence of externalities and barriers to entry and digital adoption.

In the context of the ICT sector, a range of tax and financial incentives can be used to further develop the ICT sector including as follows:

- **Support investment in the ICT sector by reducing the effective cost of investment:**
  - High capital costs and low and uncertain returns on investment in ICT infrastructure and R&D can lead to under-investment in the sector. Tax and financial incentives can in theory help to bring down the effective cost of an investment such that the return on investment is at or above the hurdle rate required for an investment to be made. For example, government subsidies, tax exemptions, or low-interest loans for infrastructure investment can help telecommunications operators reduce the effective investment cost of deploying broadband networks to rural areas, such that the return on investment incentivizes operators to extend network deployment beyond what they may otherwise have done.
  - on investment in ICT infrastructure and R&D can lead to under-investment in the sector. Tax and financial incentives can in theory help to bring down the effective cost of an investment such that the return on investment is at or above the hurdle rate required for an investment to be made. For example, government subsidies, tax exemptions, or low-interest loans for infrastructure investment can help telecommunications operators reduce the effective investment cost of deploying broadband networks to rural areas, such that the return on investment incentivizes operators to extend network deployment beyond what they may otherwise have done.
- **Facilitate market entry and expansion by improving access to capital for ICT sector start-ups.**
  - Government loans and grants can provide the capital ICT sector start-ups need to enter, expand, and develop products, but may not be able to access from financial markets.
- **Overcoming barriers to digital technology for specific consumers and businesses by mitigating affordability challenges and improving digital skills.**

- For example, loans and grants can make digital technologies more accessible to small businesses, encouraging widescale adoption of connectivity and digital technologies. Similar subsidies on hardware and devices (e.g. smartphones) can make it more affordable for consumers and businesses to access devices and adopt digital technologies.

However, tax and financial incentives alone may not be sufficient to address barriers to ICT development. Other forms of intervention may be required to address non-financial barriers and supporting enablers (e.g. regulatory, institutional, and cultural barriers). For example, levels of private sector ICT investment may also depend on having a stable, predictable, and transparent regulatory environment with strong and independent institutions, which are routinely ranked above incentives in investment decision considerations. Similarly, structural issues in the market may also limit levels of investment (e.g. lack of effective competition). For example according to a report by Fitch, limited competition in the provision of fixed-line services in Kuwait may have contributed to underinvestment in fixed infrastructure. [59] As a result, in seeking to develop the ICT sector, a broader range of interventions may need to be considered to either substitute or complement tax and financial incentives.

The evidence on the effectiveness of individual tax and financial incentives on a standalone basis is mixed (for e.g., some studies have found tax allowances to be effective while others do not find a positive impact). Furthermore, according to the IMF, impact of tax and financial incentives can vary across industries and firms, making it challenging to assess whether one type of incentive is more effective than the other in all contexts. [60] However, there is evidence that tax and financial incentives can be complementary. For example, in the context of R&D, subsidies can be effective during the early innovation phase and can be complemented by tax incentives providing across-the-board incentives to all firms investing in R&D. [60]

Nonetheless, tax and financial incentives are widely employed around the world. While financial incentives are more widely adopted in developed countries, tax incentives are a preferred policy tool in emerging markets. [61] The literature attributes the widespread use of tax incentives to budget constraints that may make it difficult to provide direct financial support in emerging markets. [48] Further, greater visibility and ease of providing incentives can make them more attractive to policymakers rather than correcting deficiencies in the overall investment climate. [48]

Furthermore, there are risks and costs associated with the use of tax and financial incentives, which should be considered when assessing the form of government intervention. If not, well-designed incentives have the potential to create distortive effects on investment and competition. For example, income-tax-based tax incentives may disproportionally benefit more profitable firms, or investments with a shorter profit horizon which may distort investment and competition. This may distort investment by creating an investment bias towards projects with lower upfront costs and shorter profit time horizons. [49]

Furthermore, if government subsidies target investments that would have been undertaken by the private sector absent the intervention, this could lead to crowding out of investment. Tax and financial incentives can be costly to administer, particularly if they are complex or require significant monitoring and evaluation. As a result, while tax and financial incentives can be effective in promoting investment and achieving government objectives, there are also risks and costs associated with their use that governments should consider.

Tax incentives in particular have the potential to inadvertently help facilitate profit shifting by multinational firms, which has prompted international tax reforms, for example in the form of the OECD's Pillar Two. Tax incentives can create an environment for Base Erosion and Profit Shifting (BEPS) activities by multinational enterprises that exploit gaps in different countries' tax rules to avoid paying taxes. To prevent profit shifting to low-tax jurisdictions, the OECD has introduced Pillar Two reforms which will result in a minimum effective tax rate (ETR) of 15% on large Multinational Enterprises (MNEs). Large MNEs

are multinationals with consolidated revenue over EUR 750 million (USD 785.9 million), which account for two-thirds of global FDI. [45] As a result, Pillar Two policies can potentially impact local tax regimes and limit the effectiveness of certain types of tax incentives for MNEs.

Some GCC countries also offer direct and indirect tax incentives. These include income-based incentives such as lower- or zero-income tax rates and import duty exemptions. While lower tax rates can increase the after-tax return on investments, indirect tax concessions can reduce the costs of investments and adoption by customers:

Bahrain: has launched a development program to support the growth of technology-focused entrepreneurs which includes funding, capacity building, coaching, mentorship, and other services to enable the translation of new ICT business ideas into commercial ventures.

Saudi Arabia: offers custom duty exemptions, reduced income tax rates, and a discounted power tariff for energy inputs for data center investments with a view to boosting cloud computing operations in the country. In addition, Saudi Arabia has launched a Cloud Computing Special Economic Zone in 2023 to attract ICT investments in smart mobility, digital healthcare, and Industry X.0 which uses advanced technologies to restructure existing products and services from design and manufacturing and support. [62] Investments in the SEZ will be subject to special tax treatment along with administrative and regulatory incentives.

Qatar: has launched a specialized incubator in partnership with Ooredoo to develop promising technology-focused start-ups and SMEs, which provides funding solutions and other support across sectors including fintech, MedTech, edtech, Internet of Things, AI, and blockchain, among other.

Inputs from the GCC roundtable participants

some participants from the GCC member countries express the need to have a clear direction towards digital transformation, in respect of the following areas:

- Understanding the existing ICT costs incurred by users and companies for adoption of ICT for smooth transformation to digital economy.
- Ensuring small businesses and entrepreneurs are given the right support to tap the potential of high returns from the digital adoption.
- Providing an attractive environment for foreign direct investors by having a licensing framework that is easy to subscribe to and cheaper utilities and registration fees for data centers for example.
- Focusing on other areas such as developing the digital infrastructure, developing digital skills, and having an integrated taxation plan by the Ministry of Finance.

Some participants suggested prioritizing the following enables for incentives which are most important for some countries for swift digital transformation:

- Focusing on encouraging and incentivizing entrepreneurs in the digital field as these are essential to drive innovation and create jobs in the economy.
- Developing digital skills among the population to allow widespread digital adoption and benefits

Some GCC countries representatives mentioned that some financial incentives are already being used as part of efforts to support the ICT sector, with these including:

- Government-funded IT training for cloud computing as part of efforts to progress beyond traditional IT and achieve digital transformation.
- Funds and organizations provide small businesses with financial support, loans with low interest rates, as well as general trainings to develop some skills (including HR, accounting, sales skills).

Other financial incentives that countries are considering introducing include:

- Allowing entrepreneurs to set up their businesses without the need for having a physical office to reduce the costs related to rent or utilities for instance.
- Reducing or eliminating the fees related the employee registration such as the visa fees for foreign employees.

Some GCC countries expressed their willingness and interest in introducing tax incentives for the ICT sector given their use across different countries and examples of some incentives being potentially effective.

While some other countries also expressed willingness to have clear guidelines for the taxation of the ICT sector in general to design policies that incentivize investors.

GCC countries Challenges on tax and financial incentives in the ICT sector

A few challenges faced by GCC countries with respect to tax and financial incentives in the ICT sector include:

- Developing the underlying network infrastructure involves high fixed costs and the returns on investment may be insufficient in some cases, for example, network upgrades to standalone and advanced 5G, and coverage expansion in rural areas is likely to be a challenge for some GCC countries.
- Regulatory or institutional frameworks may be inadequate in some GCC countries. For example, as per ITU's ICT Regulatory tracker, GCC countries could be facing limited competition in the fixed and mobile markets with further scope for improvement in their regulatory regimes.
- Lack of a clear business case, uncertainty regarding timely returns, and high upfront costs of ICT technologies might limit business uptake of ICT, particularly for SMEs which is an area GCC representatives seemed to be aware of during the roundtable discussion.
- According to ITU, a lack of basic digital skills is one of the leading reasons for consumers not accessing internet services, which is an area acknowledged in the GCC roundtable as an area for further improvement.
- Evidence also suggests that a lack of economic integration between GCC member states can be limiting regional expansion and increasing competition in the ICT ecosystem from foreign multinationals with more experience in digital transformation.

Considerations

Designing tax and financial incentives that are helpful and effective in supporting the ICT sector would require several considerations from GCC countries. These include:

- Identifying 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 government's targets in this respect.
- Considering their 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.
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- Taking 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.
- Designing targeted incentives that seek to address specific barriers identified in the ICT sector and sub-sectors within it to overcome barriers faced in the ICT sector, as compared to general incentives benefiting all firms, as these are typically more effective at meeting government objectives. [48]
- Providing technology-neutral interventions, which focus on target outcomes (e.g. the percentage of households with access to >100 Mbps internet) while allowing the industry or market to determine the most efficient and

effective technology (e.g., fixed, mobile, or satellite technology) can potentially promote innovation and help efficiently deliver on outcomes.

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

Conclusion

In conclusion, tax and financial incentives, along with other government interventions, can help develop the ICT sector. However, the effectiveness of these is dependent on several factors including strong and stable institutional and regulatory frameworks, local market conditions, and targeted design of incentives.

Regarding targeted incentives tax and financial incentives can promote the development of the ICT building blocks and enablers by improving the business case for investment in infrastructure and R&D on the supply side, improving affordability on the demand side, enhancing access to capital for the sector, and facilitating digital upskilling.

Likewise, targeting specific barriers within each building block and enablers in areas where the private sector would not deliver without intervention may be effective as a package of interventions with complementary non-tax and financial interventions. This also helps to avoid crowding out of private sector investments and stifling innovation, wasting government resources, and mitigating risk of unintended consequences. Furthermore, there are other design considerations that governments should consider when designing effective tax and financial interventions, such as technology-neutrality, eligibility criteria, interactions with the existing tax system and ICT policy measures, and the OECD's Pillar Two.

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Due to the wide variation of ICT development across the DCO Member States, country-level assessments could be an important next step to understand the market barriers and relevant interventions. ICT sectors in DCO Member States are at different stages of development in terms of infrastructure, development of ICT products and services, and levels of digital adoption. As a result, the nature and the extent of common barriers is likely to vary by country as well as there being country-specific barriers that incentives may need to address. The macroeconomic, fiscal position and existing taxation system can also impact the tax and financial incentives that can be used to promote the ICT sector. Country-level assessments could focus on:

- Identifying the market barriers for each of the building blocks and enablers.
- Developing a long list of interventions targeting key market barriers.
- Assessing potential effectiveness and cost of interventions; and
- Developing a package of measures to address barriers and policy roadmaps.

7

WAY FORWARD

Digital Cooperation Organization

Way Forward

Public-private partnerships (PPP)

To build upon the current GCC countries successes and close the gap with top-tier advanced economies, the GCC countries should intensify efforts in the realm of **public-private partnerships (PPPs),** particularly within the digital economy. This requires adopting a comprehensive strategy, beginning with benchmarking against advanced economies to identify and adopt best practices. This process should be contextualized to regional specifics, with an emphasis on capacity building, especially in enhancing digital competencies within the public sector to efficiently design and manage PPPs.

Simultaneously, keeping pace with digital trends and maintaining investment in information and communication technologies is imperative for developing a resilient digital infrastructure. Central to this endeavor is fostering a culture of innovation and entrepreneurship, where both are actively pursued and duly rewarded.

As technological landscapes evolve, preparing the workforce for emerging digital demands becomes critical. Empowering the private sector with transparent communication and supportive policies will unlock its full potential. Furthermore, risk management in PPPs requires a joint effort between public and private entities, reinforcing trust and sustainability. Implementing robust regulatory frameworks will offer the necessary clarity and stability, thereby attracting further investment and engagement in PPPs.

Incorporating inputs from a broad array of stakeholders, including civil society and the intended beneficiaries of services, is essential for crafting inclusive and effective digital strategies.

Sustainability must also be a cornerstone, ensuring the long-term impact and environmental alignment of digital initiatives.

Adopting a people-centered approach will ensure that technological advancements improve the quality of life for all citizens. Ensuring country ownership of digital strategies will lead to more committed and coherent implementation. Promoting cross-sectoral PPPs can drive innovation and synergies, and leveraging blended finance models can mitigate investment risks, making digital projects more appealing to private investors.

By focusing on these aspects, the GCC countries can not only strengthen their PPPs strategies but also contribute significantly to a competitive global digital economy, ultimately resulting in substantial societal benefits.

Empowering women in and through ICT

Building on this momentum, the GCC countries must also pioneer strategies **that focus on empowering women in and through ICT.** Forward-thinking strategies must be adopted that intertwines women's digital career development with financial inclusion.

This approach for boosting women's workforce participation can be boosted by crafting comprehensive digital career toolkits, which would include resources for resume building tailored to in-demand digital roles like programming, software development for AI, graphic design, social media management, and data analysis... etc.. These resources should be offered in local and regional languages to maximize reach and impact. An innovative job matching platform could also be established, focusing on precision matching for jobs and mentorship opportunities, fostering women's leadership and career growth. To further encourage women's participation in

ICT, launching national media campaigns would be helpful – showcasing female role models. Integrating ICT and coding into national curricula, and utilizing a gender gap analysis to map and enhance workplace equality are also critical.

Women's economic empowerment can be significantly enhanced by integrating FinTech innovations, specifically through the creation of fintech accelerators that focus on digital financial inclusion for women. Schools should become arenas where financial literacy is promoted through dedicated sessions on finance fundamentals and the importance of financial planning.

To ensure women are fully integrated into the digital economy, industry stakeholders must collaborate to digitize wages, particularly in sectors with a high concentration of female workers. This should be complemented by banks creating financial products tailored for women and by building comprehensive databases that provide insights into women's access and usage of financial services.

A GCC-wide strategy for digital identity and infrastructure is paramount, which will further solidify women's digital financial inclusion. This strategy would be bolstered by educational initiatives employing gamification and Ed-tech to spread knowledge about financial products and investment opportunities.

By adopting these multifaceted and collaborative strategies, the GCC countries can create an ecosystem that not only facilitates women's workforce participation and financial empowerment but also contributes to the broader goals of social and economic development in the digital age.

Digital Skills

For the GCC region to remain at the forefront of the global digital economy, it is vital to address the digital skills gap among its youth. This challenge can be met by executing a strategy that marries education with opportunity and innovation. To enhance the impact collaboration between the private and public sectors is imperative.

By creating synergies between governmental initiatives and private-sector resources, we can establish comprehensive programs that not only provide quality upskilling but also bridge the gap between learning and real-world opportunities. Public and private collaboration will not only amplify the scale and reach of digital skills initiatives but will also ensure alignment with industry needs, fostering innovation and sustainable growth. This strategic partnership between the two sectors is essential to propel the region towards sustained leadership in the global digital economy.

The next chapter must also include government-led initiatives that incentivize digital innovation, such as awards for groundbreaking ideas and the creation of targeted employment opportunities in tech sectors. Collaboration between academic institutions, the corporate sector, and policymakers will lay the foundation for a digitally skilled workforce, reinforced by ongoing evaluation and development of digital competencies. Accessible learning platforms need to be developed, offering equitable opportunities for skill acquisition, while mentorship programs can provide the guidance necessary for youth to navigate the digital landscape effectively. A comprehensive national strategy, supported by inter-governmental cooperation, will ensure a unified approach to digital skill development, standardizing education, and training across the GCC countries.

Combat Online Misinformation

In parallel, a resilient defense against online misinformation is crucial, a theoretical framework has emerged from a combination of research and practical strategies. Key considerations involve collaborative efforts with organizations, including NGOs, media outlets, and fact-checking entities, to verify and disseminate accurate news. Regulatory measures, including limitations on licenses, aim to control the spread of misinformation by imposing specific criteria on entities like media organizations and content creators. By setting constraints on licenses, such as mandatory verification processes, only authenticated information is disseminated to

the public, thereby reducing the circulation of false or misleading content. Technological solutions include early warning systems for proactive detection, for instance real-time News Verification Platforms: Websites like Snopes or FactCheck.org actively monitor and verify news stories circulating online, another example is of platforms like FireEye or CrowdStrike provide threat intelligence services that monitor online activities, identify potential threats, and detect misinformation campaigns. , AI-based fact-checking tools to scrutinize and flag potential misinformation, and regulatory frameworks to enact and enforce laws against sharing unverified content and to tackle misinformation. Launch digital literacy campaigns aim to enhance public awareness, fostering critical thinking skills. Conduct social media advocacy encourages platforms to combat misinformation through reporting mechanisms and fact-checking processes. Recognizing and appreciating efforts to report false, biased, and incorrect content is essential for cultivating a culture of responsible information sharing. Together, these measures form a robust framework to effectively counter the pervasive challenge of online content misinformation.

Digital rights

When it comes to **digital rights** in the online environment, the GCC counties are well placed to tackle rights related to protecting children in the digital space (safe digital space) and protecting intellectual property online (intellectual property online protection).

To safeguard children in the digital space, comprehensive national strategies could be devised. Developing these strategies would involve recognizing diverse stakeholders, including children, parents, schools, technology platforms, governments, policymakers, regulatory bodies, healthcare professionals, and scientists, identifying the roles these stakeholders should play for children's online safety, while acknowledging the impact of technology on children's health and development. These national strategies should emphasize the need for informational campaigns and resources, such as guidelines for parents, teachers, and children, developed collaboratively with stakeholders.

Additionally, they should support decisions based on research findings regarding technology's impact on children, considering various age groups and developmental stages. These strategies should be designed to align with broader government and regional plans for economic and social development, emphasizing investment and resource mobilization for child online protection efforts. Overall, these holistic strategies should aim to address the multidimensional risks children face in the digital world while incorporating ongoing research and aligning with broader socio-economic development goals.

Protecting intellectual property online involves several key considerations. Firstly, the development of appropriate laws and regulations around technology intellectual property (IP) is crucial, considering international best practices and standards while establishing a minimum standard of IP rights protection across the legal systems and jurisdictions in the GCC countries.

Secondly, recognizing the significance of international treaties, a common regional strategy for accession to such treaties or conventions related to intellectual property protection, particularly in the digital space, is recommended. Given the complexity of IP disputes, a new approach to the judicial system is suggested, whether through specialized IP courts or alternative dispute resolution mechanisms like mediation.

Finally, with the inevitable regulation of artificial intelligence (AI), there is a need to develop a strategy within the GCC framework that includes guidelines on AI, considering the diverse stakeholders in this domain and learning from the distinct approaches being adopted globally in regulating AI's impact on IP rights.

Tax and financial incentives supporting the ICT sector.

In order to design effective **tax and financial incentives supporting the ICT sector** in GCC countries, several factors must be considered. These include tailoring incentives to each country's context based on the specific needs and challenges of the ICT sector and aligning them with the government's targets. Additionally, macroeconomic and fiscal positions should be taken in account, along with national objectives or vision plans that may influence ICT-specific goals. The impact of OECD's Pillar Two, introducing a minimum corporate income tax rate, should be considered. It is recommended to design targeted incentives rather than general ones, as they are typically more effective at meeting government objectives. Implementing technology-neutral interventions, which focus on target outcomes while allowing the industry to determine the most efficient technology, can promote innovation. Lastly, establishing robust monitoring and evaluation processes is crucial to identify and cancel unsuccessful programs and incentives.

By addressing these critical areas, the GCC countries can secure a digital future that empowers its youth, safeguards its citizens, protects its innovations, and stimulates economic growth through a dynamic ICT sector.

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