

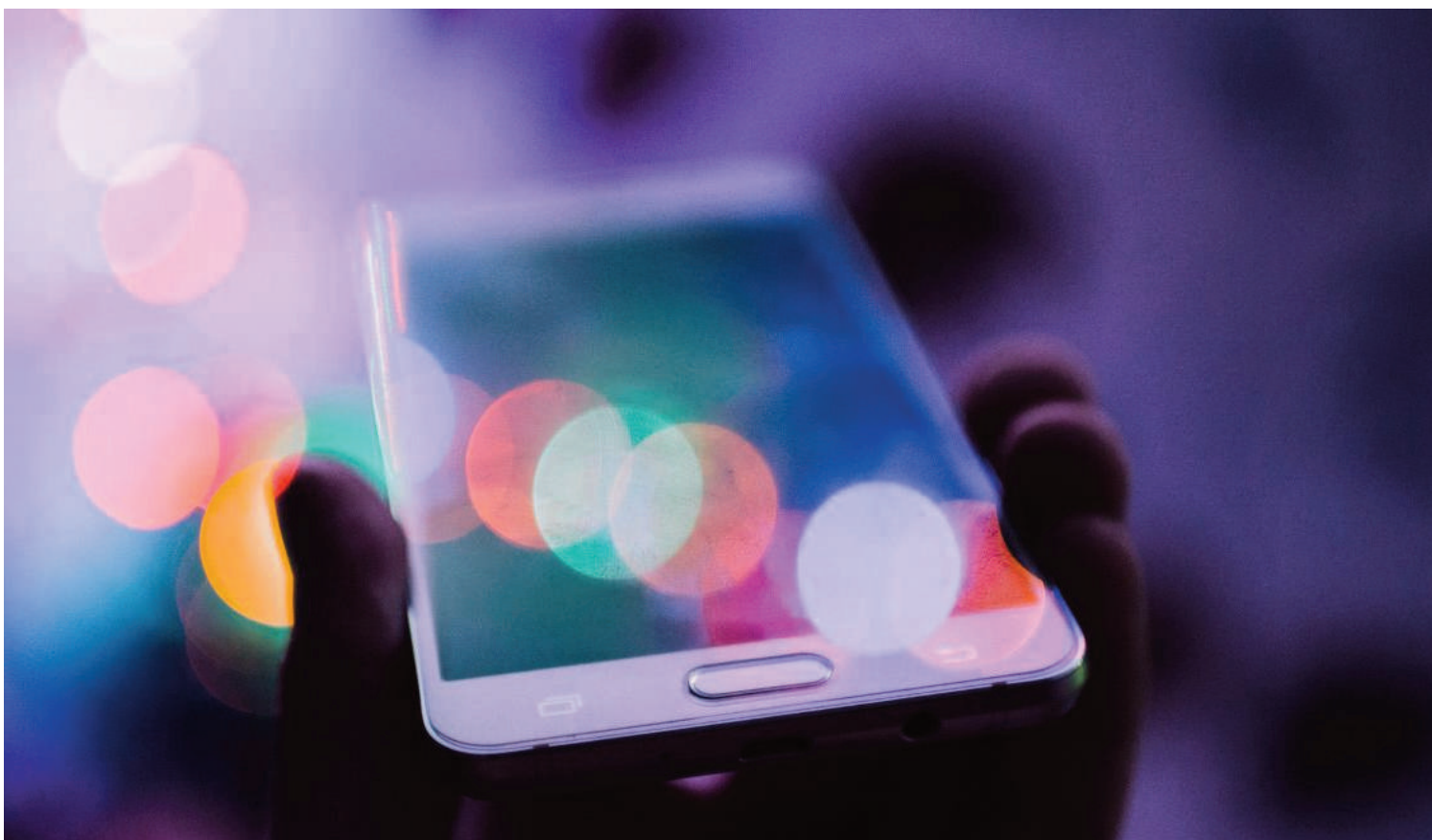
THE DIGITAL TRANSITION IN THE EU'S SOUTHERN NEIGHBOURHOOD: PROGRESS, OBSTACLES AND OPPORTUNITIES

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EuroMeSCo has become a benchmark for policy-oriented research on issues related to Euro-Mediterranean cooperation, in particular economic development, security and migration. With 116 affiliated think tanks and institutions and about 500 experts from 30 different countries, the network has developed impactful tools for the benefit of its members and a larger community of stakeholders in the Euro-Mediterranean region.

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As part of this project, several Joint Study Groups are assembled each year to carry out evidence-based and policy-oriented research. The topics of the study groups are defined through a thorough process of policy consultations designed to identify policy-relevant themes. Each Study Group involves a Coordinator and a team of authors who work towards the publication of a Policy Study which is printed, disseminated through different channels and events, and accompanied by audio-visual materials.

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Policy Study

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Executive Summary

The main findings of this study demonstrate that the digital transformation in the Southern Neighbourhood (SN) of the European Union (EU) has the potential to offer new economic opportunities and improved public service delivery. However, it also stresses that governments and donors need to make more efforts to ensure that amidst the current economic downturn the digital transition does not deepen existing inequalities and violate people's rights in the digital space.

Despite improvements over the past few years, the cost of internet access remains an issue that risks being exacerbated due to a region-wide squeeze on household incomes. For example, the Lebanese government's decision, amidst the country's unprecedented economic crisis, in May 2022, to raise telecoms tariffs is estimated to have led to internet prices almost quadrupling. Lebanon's internet usage gap is likely to have significantly increased as a result of this. The case of Lebanon also underlines the need to ensure the reliability of the basic infrastructure enabling internet access, including a steady supply of electricity.

Jordan has developed an advanced digital ecosystem. Despite these efforts, a lack of inter-ministerial coordination prevails, which hinders a speedy implementation of digital transition plans. Lebanon and Jordan also serve as examples of the importance of the political context to understanding and supporting the digital transformation in the SN.

Analysis of the digital transition in Morocco and Tunisia confirms that internet use, as well as the access to digital devices, is not equally distributed among the population and, while growing, is still relatively lower in rural and poorer regions, and among more disfavoured parts of the population. Moreover, digital skills are not equally distributed within each country, with rural regions lagging behind. The government policies being implemented do not address these issues in a satisfying way. Public-private partnerships (PPPs) are seen as a solution, but such investments are predominantly implemented in richer, well-developed regions, leading to risks of increased social inequality.

Morocco seeks to implement the digital transformation broadly, supporting healthcare, social security, and e-governance services, at the same time facilitating the well-being of individuals. Tunisia focuses on using the digital transformation as an opportunity for decreasing unemployment and providing new jobs to the young generations.

In Egypt, the government has developed Digital Egypt 2030, which has led to more than 164 government services being delivered through an online portal. Additionally, billions of euros have been invested in establishing robust infrastructure, enhancing connectivity, delivering capacity-building for public servants, and enhancing digital skills, especially among youths for employment and education.

While the digital transformation in Egypt is considered by all relevant state and non-state stakeholders as a national strategic goal, there are needed improvements related to human capacities, infrastructure and legal framework in order to fully capitalise on digital transformation's potential.

Financial technology (fintech) is a crucial cog in the engine of the SN's digital economy that can also boost financial inclusion, but this requires a sufficient level of both digital and financial literacy, which is lacking among parts of the SN population.

There is significant overlap between European and American interests and goals on digital development in the Middle East and North Africa (MENA) region, which include the creation of an open and inclusive digital ecosystem there. The high-level nature of political coordination involved in the Trade and Technology Council (TTC) negotiations could serve as a vehicle for deeper strategic coordination and joint efforts on digital development.

This study also analysed the right to privacy in the digital age in the EU's SN. All countries reviewed for this chapter foresee some level of institutionalisation of the right to privacy, but the levels of actual data protection on the ground vary tremendously. Data Protection Authorities (DPAs) have a key role in ensuring the respect of the right to privacy, but important concerns remain regarding their independence and capacity to actually oversee state data protection practices.

As the case of Morocco shows, the multiplication of governance digitalisation initiatives raises questions about whether this increase in data collected, processed, exchanged and stored by the state is matched by a parallel growth of the political will to ensure the right to privacy. While Morocco's national DPAs have to cover a broad spectrum of activities, there is no clear indication that it has actively scrutinised the state's use of citizens' personal data.

Recommendations

Based on the research for this study, the authors present the following recommendations, some of which are specific to the case studies, while others are applicable on a regional scale.

Donors including the EU as part of the New Agenda for the Mediterranean and Global Gateway and EU member states should continue and expand funding for digital inclusion initiatives, such as digital skills programmes for vulnerable populations. As the New Agenda is in its early stages, European policy-makers should expand programming plans on digital transitions to more SN countries, ensuring that the benefits will not mostly be limited to a relatively small number of countries.

Regarding Lebanon, the international community can help fund a revamping of the digital infrastructure and provide options for Lebanon to offer affordable internet access. This can include the distribution of internet-enabled end devices such as smartphones or tablets and support for community hubs with free internet. The caretaker and future fully formed Lebanese government, with the support of the international community, needs to ensure internet price hikes are reversed and electricity reliability is improved. The EU should make a strategic investment in Lebanon's digital transition as an investment in the country's future.

With regards to Jordan, the EU and the United States (US) in partnership with international organisations should use Jordan as a test case to elevate their coordination on development programming to the strategic level, meaning that coordination happens while strategies are being developed.

Donors should fund surveys to find out how people would want to use fintech across the region, as part of an effort to boost uptake as a way to improve financial inclusion. Donors should also fund digital and financial literacy programmes targeting disadvantaged populations across the SN.

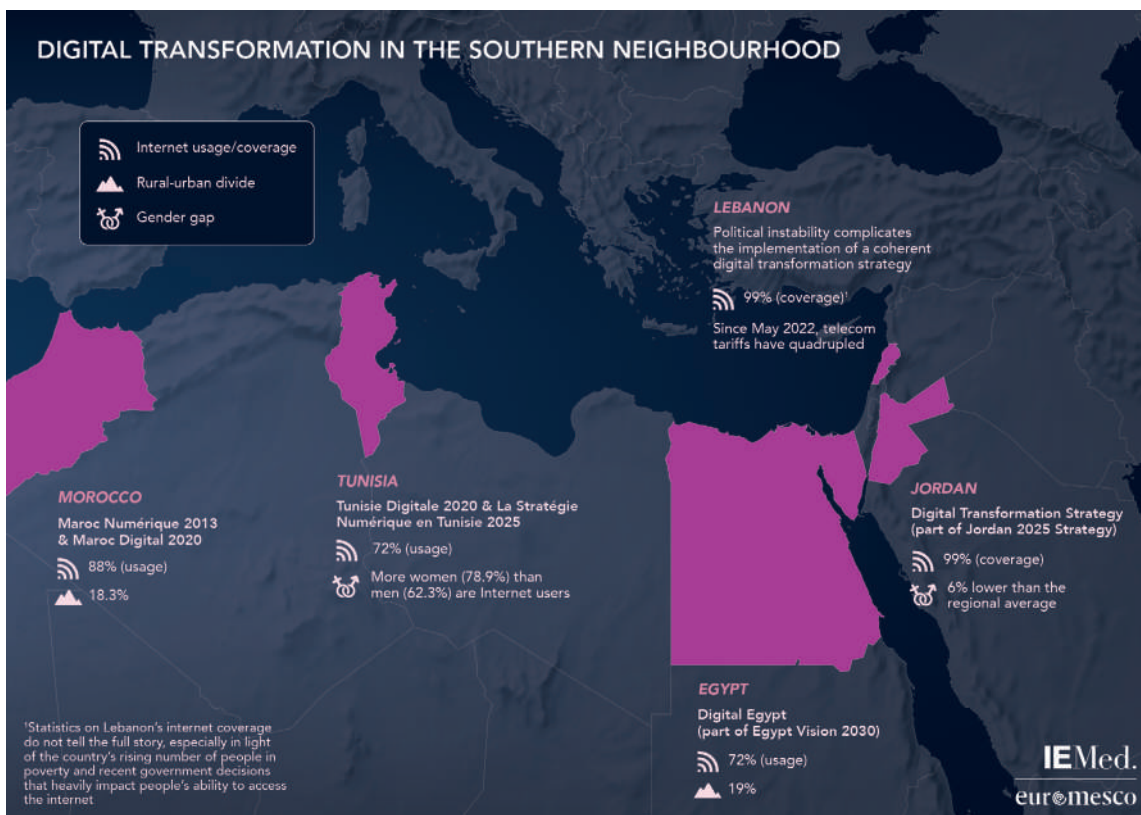
In Egypt, but also in other regional countries, the government should develop a national coordination network among public servant advocates from different ministries to ensure efforts are synchronised in order to standardise the digital transformation practices across all national entities. Moreover, all public servants on a regular basis should receive tailored digital skills trainings as part of their induction and then on a quarterly basis. This can be implemented through employing a digitised learning management system.

SN governments should promote digital employment opportunities for youths via local and international platforms, in Egypt for example through the "Forasna" online portal for job opportunities or the "Tawar w Ghayar" employment online bank. Job-hunting skills trainings should be integrated into formal education as a mandatory course.

As part of a participatory approach, including local and international development organisations, regional governments should develop a strategic inclusion roadmap with a detailed action plan that employs a gender and diversity lens to ensure different vulnerable and disadvantaged groups can fully access and utilise the potential of the digital transformation. This should also be seen as part of broader reforms to ensure measures to tackle digital divides as part of education curriculums. Moreover, PPPs should focus on the most disfavoured groups of individuals, the less educated, women or poor, and disadvantaged regions of the SN.

In addition, the EU should support the scaling up of corporate social responsibility programmes and the social economy, which could bring the benefits of private investments in digital transformation to the most disfavoured groups of people and regions.

With regards to data protection, the EU's continued engagement for the right to privacy should be transversally integrated in EU-Morocco bilateral cooperation, especially in terms of issues related to digitalisation and digital governance. Beyond substantial economic interests, the EU's collaboration with third countries should protect people's right to privacy by putting it at the centre of its digital development policies.



Introduction

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The COVID-19 pandemic has severely impacted socioeconomic developments in the Middle East and North Africa (MENA) region, leading to a rise in unemployment and an economic slowdown. This shock has been compounded by an increasing volatility in food and energy prices, particularly affecting import-dependent countries.

However, COVID-19 has also sped up the digital transition in the MENA region, forcing governments and populations to embrace digital tools in an unprecedented manner. As multiple chapters in this policy study will analyse, the accelerated push to digital technology brought new economic opportunities, but also laid bare the risk of digitalisation exacerbating existing inequalities.

Governments in the Southern Neighbourhood (SN) of the European Union (EU) have in the past years launched a wide range of digital transformation policies, hoping to build and capitalise on the region's nascent digital economy. In 2022, MENA startups raised 3.94 billion US dollars (Wamda, 2023).

The digital transition also encompasses the public sector, with several regional countries introducing a host of e-governance initiatives. Efforts to measure and counter the pandemic have led governments to increase the amount of data they seek from citizens, raising important questions about data protection and digital rights in the SN and the EU's role in supporting those.

This policy study will analyse key opportunities and obstacles of the digital transition in Egypt, Jordan, Lebanon, Morocco and Tunisia. This includes an analysis of digital gaps in these countries, an evaluation of steps taken to use

financial technology (fintech) to improve financial inclusion, and an assessment of the extent to which digitalisation has worsened societal inequality in Morocco and Tunisia. In the case of Egypt, the SN's most populous nation and a key player in the region's nascent digital economy, the study will provide a deep-dive into the potential and shortcomings of the government's digital transformation strategy. The study will use the example of Morocco to analyse the implementation of data protection policies in the region. These aspects will all be reviewed with a particular focus on how the EU and its member states could lend support to ensure the digital transition is as inclusive as possible.

The analysis presented in this policy study is based on extensive primary and secondary research, including interviews with national and international policy-makers, donor representatives, private sector actors, and information and communications technology (ICT) students. Not all interlocutors could be named. Secondary research included a comprehensive literature review of relevant data, published analysis and official documents.

This policy study is guided by the question of how the digital transition in the SN is affecting existing socioeconomic inequalities and how it can become more inclusive. It also focuses on the important question of data protection in the digital age.

This policy study aims to provide policy-makers in the SN and Europe with policy recommendations based on timely analysis of the digital transition process in the SN. On the EU level, it aims to influence policy discussions on digital aspects of the Global Gateway strategy and the Joint Communication on a 'Re-

newed partnership with the Southern Neighbourhood: a New Agenda for the Mediterranean' (European Commission, 2021a) and advocate for an expansion of the New Agenda's digital portfolio to all SN countries. Within this context, it aims to support decision-makers by presenting timely insights into the opportunities and shortcomings in the SN's digital transition, while outlining ways in which European governments and the EU can intervene to make the digital transition more inclusive and safeguard citizens' rights.

The Digital Transition in the Southern Neighbourhood: Gaps, Financial Inclusion and the Potential for Transatlantic Cooperation. The Cases of Lebanon and Jordan

Manuel Langendorf
Independent Researcher

Introduction

The COVID-19 pandemic has sped up the digital transformation across the Middle East and North Africa (MENA) region as lockdowns forced governments and citizens to embrace digital tools in an unprecedented way. Governments scrambled to deliver services, such as education, online. However, this intensification and acceleration of the digital transformation process has highlighted existing inequalities, exposing the urgent need for regional governments and their development partners to ensure that the digital transition in the Southern Neighbourhood (SN) of the European Union (EU) is implemented in a more inclusive manner that takes into account the needs of vulnerable groups such as women, refugees and rural residents.

Jordan and Lebanon, which will serve as case studies for this chapter, have been hit economically by the pandemic and the global economic impact of the Russian invasion of Ukraine. Nevertheless, their current economic trajectories differ markedly, which has a substantial impact on each country's digital transition.

Jordan experienced negative growth in real GDP in 2020 and is projected to witness below average growth of below 3% in 2022 and 2023. Despite this recovery, COVID-19 has exacerbated the country's unemployment crisis. According to the World Bank (World Bank, 2022a), overall unemployment stood at 23.3% in the fourth quarter of 2021, with youth unemployment almost reaching 50%. At 14%, Jordan has one of the world's lowest female labour force participation rates. Meanwhile, Lebanon is experiencing the worst crisis in its modern history, as an

economic and financial crisis has been exacerbated by the impact of the pandemic and the 2020 Beirut port explosion. In 2021 the World Bank (World Bank, 2021b) classified Lebanon's economic and financial crisis as among the worst economic crises globally since the mid-19th century. As a result, Lebanon has seen a large increase in the number of new poor (World Bank, 2021c) as household incomes are being depleted amid triple-digit inflation and a severe depreciation of the national currency. More than half of Lebanon's population is estimated to live below the poverty line.¹

In both countries, the additional stress on household incomes and ongoing unemployment crisis has a profound effect on the digital transformation process. As will be explained in detail, the different political context in each country impacts the government and donors' ability to influence the digital transition in a positive way.

This chapter will analyse key indicators of the digital transformation process in Jordan and Lebanon to highlight where policy-makers and donors need to focus their interventions. These include internet coverage, cost, speed and digital divides. It will also explain the importance of the political context for the digital transition. Another focus of this chapter will be on the potential of financial technology (fintech) to foster financial inclusion. Among the various sub-sectors making up the digital transition, fintech holds special importance as large parts of the SN population remain unbanked. Fintech also plays a key role in growing various parts of the digital economy as a wider uptake of online payment could help e-commerce grow. A growth in digital lending

¹ The International Monetary Fund (IMF) did not issue any economic projections for 2021-2023 "due to an unusually high degree of uncertainty".

options could benefit customers and business owners if they are tailored according to their needs. In the context of this chapter, fintech is of particular relevance in Lebanon, as the country remains mired in an unprecedented economic and banking crisis, and trust in financial institutions is extremely low.

As donor programming on digital development by the EU, its member states and the United States (US) has risen exponentially in the past few years, this chapter will analyse the potential for improved donor coordination between the EU and the US, building on interviews with key stakeholders.

On the basis of the analysis of challenges and opportunities for the digital transition in the SN, the chapter will end with policy recommendations for regional authorities and international donors, particularly the EU.

The digital transition in numbers

Internet coverage and usage

Nominally, mobile internet coverage statistics on Jordan and Lebanon paint a positive picture, reinforcing the trend of increasing internet access across the SN. In 2020, the latest year when data was available, over 99% of Lebanon and Jordan's population was covered by at least 4G LTE/WiMAX mobile network technology, with 100% coverage of at least 2G and 3G mobile networks according to International Telecommunication Union (ITU) estimates.

Echoing a trend in the MENA region, both countries have low numbers of fixed broadband subscriptions as mobile devices remain the main way to access the internet (Data Hub ITU, 2021).

However, in particular the statistics on Lebanon's internet coverage do not tell the full story, especially in light of the country's rising number of people in poverty and recent government decisions that heavily impact people's ability to access the internet. In May 2022, Lebanon's cabinet decided to terminate the whole 2G and parts of the 3G network in order to cut costs. This decision will render 2G mobile phones useless to make phone calls and exchange SMS, as they will stop receiving network coverage. According to Social Media Exchange (SMEX) (Ghandour, 2022a), a Lebanese non-governmental organization (NGO) working on digital issues, this would leave more than 230,000 people without access to mobile services, unless they are able to afford upgrading their devices. SMEX argues that this will have a negative impact on several levels:

"Shutting down the 2G network will affect mobile holders living in rural areas in Lebanon, where coverage is already very weak and newer phones are unaffordable to most. For the rest of the country, discontinuing the 2G and the majority of the 3G networks will strain the 4G network, making calls and cellular data much slower and less efficient."

Even if existent, coverage often does not equal internet usage. According to industry association Global System for Mobile Communications (GSMA) estimates (GSMA, 2022b), around 45% of the region's population in 2021 did not use mobile internet despite being covered by a mobile network. In the Levant, which Jordan and Lebanon belong to, this number reaches 59%. The ITU measured the usage gap for Arab states in 2021 at 28%.

Based on qualitative interviews, including with Marianne Rahmé, policy analyst at

Internet cuts cost the Lebanese economy around 10 million US dollars per day

SMEX, Lebanon's usage gap is likely to have significantly increased due to the deepening economic and financial crisis. A key factor in this is the government's decision to raise internet prices, as explained further below. Previously, 89% (Arab Barometer, 2021) of Lebanese said they used the internet throughout the day or at least once daily.

Internet cuts cost the Lebanese economy around 10 million US dollars per day, according to a study (Internet Society, 2022) by the Internet Society Lebanon Chapter, underlining the urgent need to address basic infrastructure needs.

In spite of almost 100% percent of the population being officially covered by a 4G network in Jordan, internet penetration in January 2022 stood at 66.8%, with a mobile penetration rate of 78.1% (Kemp, 2022b). Despite a drop in internet service prices, cost reportedly remains an issue as the taxation of mobile internet services is seen "as a key barrier to access, particularly for low-income individuals" (Freedom House, 2022b).

Cost

The United Nations (UN) Broadband Commission has set a target that entry-level broadband services should not cost more than 2% of monthly Gross National Income (GNI) per capita. Both Jordan and Lebanon do not meet the UN's affordability target. In Jordan, the price of postpaid and prepaid mobile data plans (1GB) is 5.09% and 3.06% of monthly GNI per capita, according to The Economist's Inclusive Internet Index 2022 (Economist Impact, 2022). ITU data for 2021 showed that particularly the price of a fixed broadband basket, 11%

of GNI per capita was above the affordability target.

Amidst Lebanon's unprecedented economic crisis, a government decision in May 2022 to raise telecom tariffs (including calls and mobile data) to Sayrafa rates is estimated to have led to internet prices almost quadrupling, according to SMEX (Amine, 2022), reaching up to one sixth of the minimum wage.²

Moreover, the drastic rise in diesel prices and a scarcity of diesel also have had a negative impact on Lebanon's digital transition, said Nicolas Rouhana, President of the Internet Society Lebanon Chapter, as power cuts made the internet unavailable and thus contributed to less internet usage in the second half of 2022.

Many people in Lebanon had to resort to purchasing limited internet packages following the almost four-fold increase in tariffs, while others had to stop subscribing to internet services on the whole. "If we look at the current prices, we can see how someone who used to pay LBP 150,000 for 30 gigabytes of internet is now paying 15 dollars, or around LBP 570,000," according to SMEX. The price increase also has a negative impact on technology-enabled jobs, such as delivery drivers who are reliant on internet access to generate income (Amine, 2022). A reduction in internet usage due to high costs is also likely to lead to fewer people building the digital skills needed to participate in the digital economy at home and abroad.

Internet speeds

Broadband speed is another important factor impacting a country's digital tran-

² The Central Bank of Lebanon in June 2021 launched the Sayrafa electronic platform, which identifies the exchanges rates for Lebanese pounds at any given time.

sition, in particular its potential to develop a digital economy.

Jordan and Lebanon differ with regards to the performance of fixed and mobile broadband. Jordan (Speedtest Global Index, 2023a) in February 2023 ranked 97th out of 137 countries when it comes to mobile internet speeds, but fared much better regarding fixed broadband, according to the Speedtest by Ookla. Mobile download speeds were measured at 20.59 megabits per second (Mbps), and upload speeds at 14.04 Mbps. Lebanon (Speedtest Global Index, 2023b) ranked 71st during the same month with mobile download speeds of 29.59 Mbps and upload speeds of 9.06 Mbps. However, Lebanon ranked in the bottom quarter globally for fixed broadband speeds at 167th place. Between 2015 and 2019, internet speeds in Jordan (ITU, 2021) increased by 57.4%, the second-highest increase after Syria.

In regional comparison, Morocco was ranked 62nd regarding mobile internet speeds in February 2023, the best-ranked country in this category among SN countries, while Egypt and Tunisia were ranked 91st and 95th respectively in the same category. Both Morocco and Tunisia had significantly worse rankings for fixed broadband speeds, underscoring the regionwide issue of a lack of access to fast fixed broadband. Israel by far had the best speed ranking regarding fixed broadband speeds, climbing to 26th place globally.

Internet speeds are on average faster in urban than in rural areas, disadvantaging rural populations in the digital transition.

Urban-rural divide

The gap in access to fast and reliable internet remains a persistent problem in the

MENA region. In Arab states, 80% of the population in urban areas used the internet in 2022, while only 56% in rural areas did so. This urban-rural divide (ITU, 2022b) is also present when it comes to the availability of different types of mobile networks. Whereas 91% of the population in Arab states living in urban areas was covered by a 4G network, only 55% living in rural areas of the region had access to 4G.

The Lebanese government's decision to shut down the 2G network and parts of the 3G network will particularly affect mobile users in rural areas, deepening the urban-rural divide. Another factor contributing to this divide is that Lebanon suffers from frequent electricity cuts, a long-standing problem since the 1990s. This leads to internet outages, as generators used by incumbent Internet Service Providers (ISPs) like Ogero also suffer from power cuts owed to fuel shortages, which results in part of the population losing internet access. Rural areas are more often affected by electricity cuts than urban areas, leading to more internet service disruptions (Freedom House, 2022a).

Up-to-date quantitative data on the urban-rural divide in Jordan and Lebanon is not publicly available at this stage, but qualitative interviews have shown that in Lebanon bad or no internet service is often encountered in already disadvantaged regions such as the Beqaa and northern Lebanon.

Analysis of GSMA network coverage maps (GSMA, 2022a) in Jordan shows no mobile network coverage in the sparsely populated east and northeast of the country. A Jordanian government survey for 2017 showed that cost was more of a factor impeding internet access in rural areas than in urban areas. (Freedom House, 2022b)

Internet speeds are on average faster in urban than in rural areas, disadvantaging rural populations in the digital transition

Another divide that persists in the Arab states region is the gender digital divide, meaning that fewer women than men are using the internet

Gender divide

Another divide that persists in the Arab states region is the gender digital divide, meaning that fewer women than men are using the internet. The gender gap in Arab states narrowed from 14% in 2019 to 10% in 2022, with 65% of women vs. 75% of men using the internet in 2022.

This can be due to a range of factors, including lack of access to an end device, lack of income to purchase internet bundles, lack of digital skills, cyber-violence, and a lack of relevant content. In Lebanon, particularly women and members of the LGBT+ community experience online harassment and doxing (Freedom House, 2022a). If used as a proxy for internet access in Lebanon, the number of male social media users was 7% higher than female internet users, indicating a potential digital gender gap (Kemp, 2022a).

An upcoming EU survey using a small sample conducted during the COVID-19 pandemic found that all the existing gaps regarding internet usage and skills (gender, location, refugee status, etc.) were compounded since the start of economic crisis in Lebanon, according to an EU official at the delegation of the European Union to Lebanon.

In Jordan, the gender gap in 2018 amounted to 6%, lower than the regional average. The gender gap in social media users amounts to around 11% in favour of men (Kemp, 2022b).

Politics matters

The political context plays an important role in determining whether a country has created an environment that enables the digital transformation to proceed in an inclusive manner.

Despite the vast influx of refugees in the past decades, Jordan has benefitted from greater political stability than Lebanon. Also in 2019, the kingdom established a ministry of digital economy and entrepreneurship, which is tasked with being the sponsor of the digital transformation, digital economy and entrepreneurship in Jordan, thus bringing together various tasks related to the digital transition process. The ministry developed a Digital Transformation Strategy and subsequent implementation plan based on the Jordan 2025 strategy which aims to promote economic growth. A senior international ICT specialist interviewed for this study said that Jordan was on the right track to strategically advance its digital transformation.

As a result of reforms to liberalise the Jordanian ICT sector starting in 1999, the kingdom has managed to establish itself as a hub for ICT investments in the MENA region. According to the World Bank, Jordan benefits from being one of the few MENA countries with an “open and liberalised telecommunications market, with an independent regulator” (World Bank, 2018). This is exemplified by the presence of global ICT companies like Microsoft, HP and Cisco in the kingdom. The three leading telecom companies in Jordan – Orange Jordan, Zain Jordan, and Umniah – all have significant foreign participation. The Digital Transformation Strategy also demonstrates high-level coordination and commitment to growing Jordan’s digital economy at the highest echelons of the Jordanian state.

However, the frequent changeovers in government – barring Abdullah Ensour no prime minister has lasted more than three years in office since 2003 – have led to fragmented regulation on digital transformation in the kingdom, according

to a donor representative working on economic development in Jordan. Another interlocutor stressed that the implementation of legislation was not always 100% accurate. Moreover, a lack of inter-ministerial coordination and the high turnover of ministers present a challenge for the international community and other stakeholders in the digital transition process.

Interviews with stakeholders show that other challenges remain, including low levels of collaboration between academia and the private sector, which hinders the commercialisation of innovative ideas. Despite the presence of various incubators and accelerators, access to finance remains a problem as banks have remained risk-averse when it comes to supporting digital startups and innovative small and medium-sized enterprises (SMEs).

Lebanon's digital transition has been severely affected by prolonged periods of political paralysis and the impact of the ongoing economic and financial crisis. Lebanese lawmakers in June 2022 picked incumbent Prime Minister Najib Mikati to form a new government following elections on 15 May that year. At the time of writing, Mikati was still acting as caretaking prime minister, not having managed to agree on a new government. This political instability, which weighs on negotiations over a bailout deal with the International Monetary Fund (IMF), also complicates the implementation of a coherent digital transformation strategy. It has to be noted that in its caretaking function the cabinet in October presented an updated national digital transformation strategy.

In contrast to Jordan's ICT market, Lebanon's telecommunications market is heavily controlled by the government and is not open to competition. The government gave exclusive rights to only two carriers: Touch and Alfa. This lack of com-

petition is linked to a lack of innovation. Both carriers have also charged high prices in return for limited service as outlined in the previous sections, while generating high revenues for the Lebanese state (Mansour, 2022). A 2022 report by Lebanon's Court of Audit identified a significant rise in capital and operating expenses by Alfa and Touch in the mobile sector – with expenses since 2012 managed by the Ministry of Telecommunications. The court's report highlighted two examples of squandering funds relating to the 2G network expansion and 3G network construction. Lebanon's fixed broadband network continues to be operated by Ogero, a public institution founded in 1972 and supervised by the Ministry of Telecommunications. The court report criticised high spending by Ogero on staff pay, sponsorship and employee missions abroad. The report said Ogero should limit its spending to, among other things, improve the quality of service and incentivise competition (SMEX, 2022).

Fintech and financial inclusion in Lebanon and Jordan and the wider MENA region

Among the various sub-sectors making up the digital transition, fintech holds special importance as large parts of the SN population remain unbanked. Fintech also plays a key role in growing various parts of the digital economy as a wider uptake of online payment could help e-commerce and other sectors grow. A growth in digital lending options could benefit customers and businessowners if they are tailored according to their needs. In spite of its negative economic impact, the COVID-19 pandemic "has spurred financial inclusion – driving a large in-

crease in digital payments amid the global expansion of formal financial services," according to the World Bank's Global Findex Database (World Bank, 2022b). Financial account ownership³ on a global basis reached 76.2% in 2021. The global gender gap in account ownership has also narrowed to 4.4%. The MENA region as a whole has also followed these trends, with account ownership reaching 52.8% in 2021 and the gender gap decreasing from 18.8% in 2017 to 14% in 2021.

However, the case of Lebanon's ongoing banking crisis highlights the urgency of supporting financial inclusion as the number of people with a financial account (World Bank, 2022c) drastically fell from 44.8% in 2017 to 20.7% in 2021, with female account ownership dropping by almost half to 16.6% in 2021. The informal capital controls imposed by banks in Lebanon have eroded trust in financial institutions, and a large number of depositors closed their accounts. Jordan has fared better, with account ownership reaching 47.1% in 2021, around five percentage points short of the MENA average. The gender gap narrowed, but remained at 24.5% in 2021. Regionally, the de-banking process in Lebanon was offset by the increase in Jordan, according to Nadine Chehade, senior financial sector specialist at the Consultative Group to Assist the Poor (CGAP).

With its lockdowns and the need to transact online, the COVID-19 pandemic has led to an increase in the adoption of digital financial services. Fintech is seen as an opportunity to increase financial inclusion globally and in the SN. The fintech industry has consistently

been one of the top investment destinations for venture capital funding in the MENA region, in the third quarter of 2022 closing 94 deals valued at 747 million US dollars (MAGNiTT, 2022). According to a CGAP study (CGAP, 2020), as of November 2020, almost half of the 400 fintech solutions identified across 22 Arab countries had a financial inclusion mandate. Of the 400 fintechs, 75% were located in the United Arab Emirates (UAE), Egypt, Morocco, Tunisia, Jordan and Lebanon.

The situation in the two case studies, however, varies significantly. According to observers, Jordan has built a sophisticated fintech infrastructure. In 2020, the Jordanian central bank, for example, allowed (Khammash, 2022) digital onboarding, including an online Know Your Customer (KYC) system, e.g., for mobile wallets. Subsequently, government institutions such as the National Aid Fund and the Social Security Corporation started to send aid payments to mobile wallets instead of using cash handouts. This change reportedly resulted in the opening of 1.2 million mobile wallets in 2020. During the pandemic, an increasing number of billers connected to the Electronic Bill Presentment and Payment System (eFA-WATEERcom).

In June 2020, the Jordan Payments and Clearing Company (JoPACC) launched the CliQ instant payment system, which enables customers to send and receive money between bank accounts across participating banks instantly. CliQ also enables transfers between bank accounts and mobile wallets, targeting a broader customer base, including those not in possession of a fully-fledged bank

³ The World Bank defines the account variable as follows: "The percentage of respondents who report having an account (by themselves or together with someone else) at a bank or another type of financial institution... or report personally using a mobile money service in the past year."

account, and enables QR code payment at participating merchants.

COVID-19 boosted the uptake in digital financial services in Jordan, but it will be important to observe whether that trend will continue or slow down as the pandemic ends, according to Chehade. Interviewees for this policy study and analysis published on this topic identified several challenges faced by fintech companies that still need to be addressed in Jordan. These include access to infrastructure, markets and finance, as well as insufficient collaboration with traditional financial institutions. Interlocutors have also cited issues with understanding Central Bank regulation on fintech and whether particular parts of the regulation apply to them. There has been progress on open banking regulation as the Central Bank of Jordan issued open finance instructions in December 2022.

Poorer communities, including refugees, face particular issues of financial exclusion. This can include the high cost of smartphones, a lack of apparent use cases for fintech applications, and concerns regarding data security tied to a fear among some refugees that they would lose access to humanitarian assistance if they received other payments, according to Maha Bahou, CEO at JoPACC. Beyond the distribution of humanitarian or government assistance, for fintech to experience a wider reach requires people to be economically active and have clear use cases for fintech applications. This means that if the vast majority of daily transactions, for example of a refugee, are in cash, there will not be an immediate incentive to have a fintech account, according to Chehade. Rather, accounts might be a segway to accessing broader financial services tailored to people's needs. This applies to Jordan and Lebanon as well as the rest of the SN.

Lebanon simultaneously illustrates the key obstacles and opportunities when it comes to the introduction of fintech as a means to improve financial inclusion. Fintech companies were already active in Lebanon before the start of the economic and financial crisis, and new players have entered the market since to fill gaps they perceived, such as the cost of remittances.

One key factor in Lebanon that is an obstacle that could also present an opportunity is the complete loss of trust in the traditional banking system as a result of capital controls, which has played a large part in the de-banking trend in the country. Fintechs thus need to carefully identify potential customers' needs and build trust in order for people to move away from cash. At the same time, also owing to the devaluation of the local currency and very high inflation, cash has become a pain point for the population due to restrictions local banks have imposed on the withdrawal of US dollars, something digital financial service providers can tap into.

However, regulation in Lebanon is seen as outdated, and interviewees identified a lack of a clear licensing framework. Regulation for an e-wallet licence was recently established, yet not adapted to market conditions and needs. Interlocutors also identified a slow process for how to receive approval for an e-wallet, said Karl Naim, co-founder of fintech company Purpl. In spite of this, fintechs are threatening the business model of conventional banks, according to Toufic Koussa, co-founder of Whish Money.

Other obstacles include the aforementioned lack of digital literacy of parts of the population and the need for more financial literacy, particularly in connection with new digital offerings. The lack of a stable internet connection and the high costs of the internet also hinder the effec-

tive use of fintech in Lebanon. Similarly, while some fintech companies can use pre-existing relations with customers to build trust, the banking crisis has done immense damage to people's ability to trust in financial institutions, which will likely mean an enduring preference for cash among large segments of the population. Fintech alone, according to fintech expert Chehade, is not seen as the way to solve the trust issue.

Despite the increasing uptake in fintech services and investment in fintech companies, this preference for cash goes deeper than the current banking crisis in Lebanon. It is, for example, also rooted in a fear of taxation.

In Jordan, 63.4% of people aged 15+ working in the private sector reported having received money from their employer in cash only. In Lebanon, this percentage is even higher at 77.4%. The picture in both countries looks very different for those working in the public sector, where less than 1% in both countries said they had received wages in cash only (World Bank, 2022b).

The rise of fintech raises concerns regarding inclusivity that are important to consider for regional governments and the donor community. Directives to force the population to use digital financial services, e.g., to pay bills or receive one's salary, can drive the uptake of fintech, but also risk leaving behind the digitally illiterate and those of lower-income status who face hurdles when needing access to the internet and end devices. This illustrates how interconnected the issue of meaningful connectivity is with fintech and participation in the digital economy.

Both case studies show that fintechs are most likely to be successful when they respond to a particular need, for example

remittances. This means that fintech actors as well as the government regulators creating the regulatory environment need to understand where the pivotal pain points are for potential customers and how they could be solved.

The EU's support for Jordan and Lebanon's digital transition and the wider SN

The digital transition in the SN has become a priority for the EU because the bloc's New Agenda for the Mediterranean names seizing the digital transition as one of its key policy areas. Additionally, digital is named as one of the key investment areas of the EU's Global Gateway strategy launched in December 2021. One of the Global Gateway's flagship projects for 2023 is an agreement between the European Commission (EC) and European Investment Bank (EIB) to support a high-speed fibre optic connection between the Northern and Southern Mediterranean as part of the MEDUSA project, which is also part of the New Agenda for the Mediterranean. The goal is to improve connectivity for research and education institutions in Algeria, Egypt, Morocco and Tunisia (European Investment Bank, 2022). Additionally, the EU's Neighbourhood, Development and International Cooperation Instrument (NDICI) – 'Global Europe' instrument, with a budget of 79.5 billion euros, lists support for connectivity and digital transformation as part of its goals.

An in-depth analysis of the New Agenda for the Mediterranean is beyond the scope of this chapter, but a study (Sidlo & Cohen-Hadria, 2022) conducted at the request of the European Parliament's Committee on Foreign Affairs highlighted that questions remain regarding whether the New Agenda for the Mediterranean

Both case studies show that fintechs are most likely to be successful when they respond to a particular need, for example remittances

presents enough of an innovative approach to break with the existing European Neighbourhood Policy (ENP). It also questions whether it is "explicit" enough on how to support sub-regional integration. According to the authors, the agenda "does not offer a way out for the stalling pillars of the ENP, such as the Deep and Comprehensive Trade Agreement negotiations or the visa facilitation/readmission agreement double track approach." Based on the information available on planned interventions in the SN, the authors also raise doubts on whether only some SN countries will be able to benefit from investment schemes planned by the EU.

According to interviews with stakeholders, much of the EU's work on digital transition as part of the New Agenda for the Mediterranean is still in its early stages.

The EU's programming supporting the digital transition in Jordan and Lebanon is uneven. The EU is implementing or supporting a wide range of programmes on digital transformation in Jordan. In contrast, programming on the digital transition in Lebanon is, according to interviews with EU stakeholders, not a priority for the EU as other issues have taken precedence amid the country's economic crisis.

In Jordan, the EU supports digitalisation and innovation in areas including "private sector development, public administration, and human resource development", with a particular focus on private sector development. In September 2020, the EU launched (European Commission, 2020) the Innovation for Enterprise Growth and Jobs programme ("Innovate Jordan", in short) with a budget of 20 million euros. In collaboration with Orange Jordan, Endeavor Jordan and Engineering SAM, Innovate Jordan aims among other things to promote digital skills and help local companies grow. As part of this work, the EU sup-

ported the setting up of a Digital Village in Irbid to promote digital skills and entrepreneurship, opened an Innovation Hub in Amman, and facilitated a partnership between SAM Engineering and Siemens Digital Industries to open (INJO4.0, 2020) the Jordan Industry 4.0 & Digitalization Innovation Centre. Until July 2022, the EU also funded ShamalStart (now known as Jordan Start), a business incubator and accelerator which supports innovation and entrepreneurship in northern Jordan. Support was given in total to five business incubators and six business associations across the country.

In the area of connectivity, the EU provided high-capacity internet connectivity for Jordanian universities and the SESAME research centre. The EU also supported the Digital Jordan Strategy, drafted by the country's then-Ministry of Information and Communication Technology (now Ministry of Digital Economy and Entrepreneurship), particularly regarding the digitalisation of public service delivery in Jordan, including the digitalisation of 120 public services. In the field of justice, the EU supported the streamlining of access to case files electronically, including access to the non-criminal record certificate.

In Lebanon, the EU has worked to empower civil society organizations (CSOs) through the use of digital tools, and supported information campaigns to raise awareness of digital threats. The EU has also been actively supporting the development of digital literacy and digital skills, planning a collaboration with Oxfam and other partners to train teachers and trainers who often lack digital skills and equipment. This is done in the context of support for digital technical and vocational education and training (TVET). The EU has identified a need for Lebanon to focus more on digital literacy (a step prior to digital skills) as many people are not

The EU and its member states work with local governments, businesses and civil society to support the digital transition

literate in digital tools, including how to write an email, according to the EU official in Lebanon.

The EU and its member states work with local governments, businesses and civil society to support the digital transition. EU support can be particularly impactful and important when it addresses digital divides in the SN, for example by funding digital skills initiatives for girls and women or supporting entrepreneurship programmes in economically deprived areas of a country. Given the early stage of the implementation phase of the EU's comprehensive digital development strategy, its full potential is yet to be realised, making it imperative to adapt programming to local circumstances.

The next section provides one way of further amplifying the EU's impact on digital transformation in the SN – particularly as more digital elements of the New Agenda for the Mediterranean and the Global Gateway are being implemented – by focusing on collaboration with partner countries.

The potential of donor coordination on digital development: the example of EU-US collaboration

As long-standing donors to many SN countries, both the EU and the US have increasingly focused their development programming and funding on digital development issues. In 2020, the United States Agency for International Development (USAID) published its first-ever Digital Strategy (2020-2024) (USAID, 2020), which is currently under revision. The EU and the US approach to technology regulation differs markedly in various

areas, such as the ongoing discussions on the regulation of big social media platforms or the usage of consumer data illustrates, but is not inherently antagonistic (Ringhof, Torreblanca, 2022). On digital development in the MENA region there is significant overlap between European and US interests and goals, which include the creation of an open and inclusive digital ecosystem in the region. Both sides are also increasing their cooperation to counter China's growing influence in the region, including through the Partnership for Global Infrastructure (PGII) agreed by G7 leaders.

Amidst an increasing number of donor initiatives on digital development, improving donor coordination has become increasingly urgent. Coordination already exists at the local level, both in Jordan and Lebanon, according to interlocutors. In Jordan, for example, there is a coordination platform on trade and private sector development. In Lebanon, there are bi-weekly economic counsellor meetings involving the EU, the US, the United Kingdom (UK), Norway, the World Bank and IMF, where economic development issues are being discussed, but, at the time of writing, digitalisation had not been a priority in these meetings of late.

However, this coordination predominantly focuses on ex-post coordination in the form of sharing information on planned and implemented initiatives, but does not include the joint development of strategy and programming. This information sharing after the fact is seen as positive, but limits the transformative potential that more strategic coordination could have in terms of allocating resources more efficiently, using each other's strengths for the benefit of improved programme outcomes and pooling resources and clout to lobby for an open, inclusive and secure regulatory environment. On various is-

sues, the EU and the US could benefit from each other's soft power to enhance development outcomes and engagement with local governments.

Coordination at an early stage where budgets are being decided could be beneficial in identifying where each side's focus and gaps lie. In interviews for this chapter, interlocutors on both sides have indicated an interest and willingness to expand existing coordination mechanisms, but pointed to the need for the political level to prioritise and lead on improved coordination.

The current geopolitical context has made improving donor coordination a more urgent topic. Key factors include the impact of the COVID-19 pandemic, Russia's invasion of Ukraine and a global semi-conductor shortage in the context of heightened tensions between the US and China.

The Trade and Technology Council (TTC), established by the EU and the US in 2021, serves as an example of how the EU and the US could deepen their relationship as technology allies and cooperation based on shared democratic values. There are currently 10 TTC working groups, (European Commission, 2021b), including on technology standards, promoting SME access and use of digital technologies, and the misuse of technology threatening security and human rights. One EU interlocutor described the TTC negotiations and the working group setup as a "serious effort", which would be followed by a focus on delivering concrete results together.

Notwithstanding current tensions between Brussels and Washington, the high-level nature of political coordination involved in the TTC negotiations could serve as a vehicle for deeper strategic coordination and joint efforts on digital development. As

highlighted by a 2022 paper (Ringhof & Torreblanca, 2022), the EU and US should "strengthen their cooperation on export controls, technology platform regulation, standards development, and telecoms security and connectivity investments in third countries – within the agenda of the TTC's ten working groups." All these issues are highly relevant for the design of digital development programming and would benefit from improved coordination at the highest political level. The G7's PGII includes plans to invest in digital connectivity, one of its key priorities, in partnership with low- and middle-income countries. At the time of writing, as part of the TTC, the EU and the US unveiled joint support for digital infrastructure and connectivity projects in Jamaica and Kenya (Office of the United States Trade Representative, 2022), whose implementation could provide valuable lessons for similar projects in the SN or wider MENA region.

Given the already existing mechanism for donors to exchange information and the EU and US focus on digital development in Jordan, the kingdom could serve as a starting point for deeper donor coordination between the two sides. The choice of Jordan as a test case would be timely as the US in September 2022 signed (United States Embassy Jordan, 2022) a Memorandum of Understanding worth 1.45 billion US dollars in foreign assistance over seven years. Furthermore, given their involvement in the field of digitalisation and entrepreneurship, efforts to improve coordination would benefit from integrating the World Bank and the UN as well.

Conclusion and recommendations

Whereas the COVID-19 pandemic has been a boon to digitalisation, the pandemic has also demonstrated the persist-

Coordination at an early stage where budgets are being decided could be beneficial in identifying where each side's focus and gaps lie

The current global economic downturn, which is also affecting SN countries, makes interventions to close these divides ever more urgent

ence of digital divides regarding gender, age and location. The current global economic downturn, which is also affecting SN countries, makes interventions to close these divides ever more urgent.

The case of Lebanon shows that, without a functioning government, there will be a lack of a coherent government strategy. The lack of an enabling environment makes it more likely that Lebanon's digital transition will suffer and become more unequal. The sharp increase in poverty and the hike in internet prices risk reversing gains when it comes to digital inclusion. Many of the issues that negatively impact the digital transition in Lebanon are not just related to infrastructure or a lack of skills and cannot easily be fixed by donor funding, but policy-makers need to tackle the roots of the crisis, which are linked to corruption and political instability, among other factors. A lack of a coherent strategy and implementation plan results in insufficient support from and engagement with international donors, which negatively affects much-needed support for its digitalisation. Donors should seek to empower civil society and the private sector directly where possible as a way to support different communities directly.

Jordan, despite its own political challenges, provides a more stable environment and is quite advanced when it comes to its strategic plans for the country's digital transitions. However, several issues still need to be tackled, including further empowering the private sector and improving a fragmented regulation and innovation framework with different government ministries working in silos.

The digitalisation process in both case studies highlights the difference between strategy and implementation, an issue the chapter on data protection studies in greater depth in the case of Morocco.

Fintech is a crucial cog in the engine of the SN's digital economy, as digital transactions can play a large enabling role in boosting e-commerce and other parts of the digital economy. Considering this, training on digital literacy and skills as well as financial literacy are crucial to ensure vulnerable populations can benefit from the fintech boom. However, the case of Lebanon serves as a reminder that fintech alone will not solve the trust issue when it comes to financial institutions and a prevalence of cash in the SN. Due to the severe banking crisis in Lebanon, fintech does however provide an opportunity for people to transact more reliably.

This chapter also highlighted the potential for improved donor coordination as deepened EU-US cooperation on technology on the strategic level could be extended to the digital transition in the SN and wider MENA region. The TTC can provide the overarching strategic framework for deeper coordination on development policies.

Recommendations

Donors including the EU as part of the New Agenda for the Mediterranean and EU member states should continue and expand funding for digital inclusion initiatives such as digital skills programmes for vulnerable populations to ensure that the digital transition in the SN does not exacerbate existing inequality. This can take the form of supporting the development of policy initiatives on digital skills and accessibility in SN countries or direct financial and logistical support for on-the-ground projects.

As the New Agenda for the Mediterranean is in its early stages, European policy-makers should expand programming plans on digital transitions to more SN countries, ensuring that the benefits will

not mostly be limited to a relatively small number of countries.

Steps such as the agreement to support a high-speed fibre optic connection between the northern and southern Mediterranean, which are part of the EU's Global Gateway and Agenda for the Mediterranean, should be supplemented by in-country initiatives that focus on digital inclusion. The digital transformation is a key priority not only of the Agenda for the Mediterranean and Global Gateway, but also the Commission's NDICI external action instrument. It is thus imperative that decision-makers ensure that support for digitalisation is well-coordinated (also with Team Europe members) and that the different mechanisms work together coherently in a way that gives local stakeholders the support they need to turn the digital transition into an opportunity for everyone.

Regarding Lebanon, the international community can help fund a revamping of the digital infrastructure and provide options for Lebanon to offer affordable internet access. This can include the distribution of internet-enabled end devices and support for community hubs with free internet or the setting up of community networks where feasible as a way to directly involve local communities in the process of providing more affordable and stable internet. The caretaker and future fully formed Lebanese government, with the support of the international community, needs to ensure internet price hikes are reversed and electricity reliability is improved.

The EU should make a strategic investment in Lebanon's digital transition as an investment in the country's future as digitalisation can be part of the way out of the

country's multi-pronged crisis. Amidst the multiplicity of crises which demand donor attention, support for the digital transformation must not be neglected, particularly as internet accessibility is under severe threat. Given the sharp increase in poverty amid record inflation, without efforts to improve digital inclusion the country's digital transition will suffer even further, with the largest burden carried by lower-income populations.

With regards to Jordan, the EU and the US should use Jordan as a test case to elevate their coordination on development programming to the strategic level. Following the announcement of joint digital connectivity projects in Jamaica and Kenya, the EU and the US in the TTC format should actively explore planning similar projects in Jordan or other SN countries.

To further improve its standing as a regional hub for ICT investment, the Jordanian government should work to end the fragmentation of digital transformation policies and frameworks, establishing mechanisms to ensure different ministries do not work in silos, and embrace a whole-of-government approach as envisioned in the country's digital transformation strategy.

Donors should fund surveys to find out how people would want to use fintech, as part of an effort to boost the uptake of fintech as a way to improve financial inclusion. The results could then inform government policy and donor engagement on this issue. Donors should also fund digital and financial literacy programmes targeting disadvantaged populations as part of financial inclusion initiatives led by local governments and supported by donors.

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Digital Transition or Digital Divide? Will the Digital Transformation Cause Social Inequality to Increase? The Evidence from Morocco and Tunisia

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Introduction

Digital transition changes the way we live, work and entertain. Globally, the digital economy and new value creation support companies in leveraging technology to create new digital business models in a sustainable and inclusive way. The Webforum estimates that 70% of new value created in the economy over the next decade will be associated with digitally enabled platform business models. But at the same time 47% of the world's population is not connected to the internet (O'Halloran, 2022). The question for the Middle East and North Africa (MENA) region is how to adapt its markets, infrastructure, human resources and societal development in order to benefit the most from the digital transformation.

In order to respond to the digital transformation opportunities, seven African countries in October 2013 created the Smart Africa Alliance with the aim to accelerate socioeconomic development through information and communications technology (ICT). Morocco and Tunisia are part of this organisation with over 30 members from the continent. The countries set up ambitious aims to accelerate their digital transitions, and as a consequence several initiatives, policies and strategies have been coordinated, with the aim to improve the regulatory and infrastructural ICT framework. The other example supporting the digital transformation is the Strategy of African Union on the Digital Transformation Strategy for Africa (2020-2030). Each country, although committed to the digital transformation, implements its programmes differently, with different aims and priorities, limited to regional and country-specific realities (Nyakanini, Sayinzoga, Gates, Almqvist, & Erkan, 2020). In Morocco, since the creation of the National Digital Strategy in 2012, called "Maroc Numérique 2013", several national pro-

grammes to enable digital development have been established. The introduction of e-government was a lead initiative in this respect. The ambition of the Moroccan government is to set up the country as a digital trendsetter and to position itself as a strong African digital hub (Digital Transformation Center Morocco, 2022).

Tunisia perceives the digital transformation as a way to escape from its high and persistent unemployment rate, especially for young people. By setting up the "Tunisie Digitale 2020" and "La stratégie numérique en Tunisie 2025" national strategic plans, the country aims to promote and develop the digital economy and leverage its employment potential. Tunisia's aim is to become a leading international location for information technology (IT) services, a digital port for Africa (providing submarine cables in Bizerte), offshoring investment for European enterprises, and providing services for their data storage facility (Digital Transformation Center Tunisia, 2022).

Considering all the opportunities the digital transformation might bring to a country, the question arises about how governments include the social inequality aspect in their digital transformation programmes – especially in developing countries with high levels of inequality. Drawing on theories in the field of the digital divide, digital (ICT) technologies might exacerbate existing (social) inequalities, if groups with higher levels of digital literacy use them more often and leverage them more than groups who do not possess proper digital skills.

There are at least three main determinants of the digital divide:

- Lack of adequate infrastructure in different regions of the country leading to uneven access to internet services (information accessibility);

- Different level of internet usage between different groups of individuals (gender, age, educational differences and region) (information utilisation);
- Inequality in digital literacy between individuals (information receptiveness).

The digital transformation will lead to an increase in the efficiency of services being provided, improving the productivity, access to high-quality education and e-government services. However, if some groups of individuals are left behind, societal inequalities will intensify.

The aim of this chapter is to assess the digital transition in Morocco and Tunisia, two MENA and Southern Neighbourhood (SN) countries, which both aim to become the leader in the digital transformation on the African continent. A focus will be on the potential inequalities the digital transition might cause. In particular, this article will concentrate on two potential risks leading to the digital divide: internet usage and access to digital devices in different regions and different age groups; and digital skill levels by different groups of individuals. The objective is to assess whether the digital transition plans in both countries respond to social inequalities in terms of the adaptation of the education curricula and Vocational Education and Training (VET) systems in order to minimise the digital divide.

In the first section of this chapter, the country-specific context for both countries is presented with special attention being given to their respective digital transformation strategies, social inequality policies, as well as education policies. The next section presents the trends in changes of the two potential risks that might lead to a digital divide: the distribution of internet access and usage; and the distribution of digital skills and com-

petences among the population and the distribution of social inequality by region. The following section summarises activities and initiatives being undertaken in the education system in order to respond to the digital transition in a comprehensive and socially sustainable way. Then the conclusions and policy recommendations follow. The methodology adopted includes desk research of existing national documents and strategies, statistical data analysis, as well as interviews with selected stakeholders related to the digital transformation in each country.

Country-specific context

Morocco and Tunisia both aim to be direct beneficiaries of the digital transformation and perceive this transition as a huge opportunity for their societies. While the aims are common, the detailed motives of each country slightly differ. Morocco wants to implement the digital transformation broadly, supporting health-care services, social security services, as well as e-governance services, at the same time facilitating the well-being of their individuals. Tunisia meanwhile sees the digital transformation as an opportunity for decreasing unemployment and providing new jobs to the young generations. Both countries have taken different paths in their approaches towards digital transformation when it comes to its implementation.

Moreover, as well as their stability, different political regimes heavily affect the macroeconomic performance of each of them, as well as the speed of the responsiveness of the policies to the existing challenges. By way of comparison, since 2011, the wave of social and political upheaval destabilised Tunisian policy-making decision processes, which resulted in gross domestic product (GDP) growth in Tunisia declining to 1.7 % on average be-

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tween 2011 and 2019 (World Bank, 2022), job creation slowing down, low investments, limited innovations and reduced trade, and the decrease of sufficient opportunities for the country's population. On the other hand, the Moroccan Arab Spring was not aimed at revolutionary changes, like the removal of Mohamed VI, or the abolition of the monarchy. Critical constitutional reforms were demanded, together with a decrease in corruption and social marginalisation. As a result, the country was not politically destabilised, and, in contrast to other North African and Middle Eastern countries, the system remained stable with GDP growing by about 4.3% in 2011-2021 (World Bank, 2022). Being seen as one of the most liberal of all the authoritarian systems in the region, the monarchy engaged in several political, economic and social reforms, which were aimed at responding to societal challenges.

Morocco

In Morocco the topic of the digital transformation, the digital divide, as well as the reduction of social inequalities, has been on the national agenda for years now. The two programmes supporting digitalisation – “Maroc Numérique 2013” and “Maroc Digital 2020” – were comprehensive strategies supporting the digital development of the country's economy. In order to support national initiatives in this respect, in 2017 the government established the Digital Development Agency (ADD) with the aim to support the digitalisation of public services, such as healthcare, social care and education, leading to the implementation of e-government, as well as supporting private sector actions. The ADD activity is also aimed at decreasing the urban-rural digital gap and supporting Moroccan citizens' access to digital services and providing vocational training programmes. During the last five years of its existence,

the Agency supported and promoted several initiatives introducing digitalisation in the country in different areas. It has also been significantly active during the COVID-19 pandemic.

In December 2019, Morocco also joined the Smart Africa Alliance with the aim to create a single digital market in Africa by 2030. The following activities include the creation of the “Maroc Numérique 2025” guidance note. After the evaluation of past initiatives, the report identifies ambitious aims for the country's digital transformation: making the public administration digitally available to citizens and businesses; helping Morocco to become a leading Digital & Technological Hub in Africa; creating a competitive economy based on digital and innovative ecosystems; and creating an inclusive society based on the digital transformation. The documents also highlight the urgent need for the reduction of the digital divide in the country, support for different sectors, as well as an increase of digital educational activities (Digital Talent Review, 2021).

The reduction of social inequality has also been on the national agenda for many years and has been included in all national strategies or policies related to the digital transformation or public policy reforms. In 2019, King Mohammed VI announced the introduction of a large-scale social protection reform in order to reduce social inequalities and social disparities. The priority of the programme was the inclusion of the most disfavoured group of people in the compulsory health insurance system. The government also planned the digitalisation of the social security system, sped up by the COVID-19 pandemic (Alijla, Marcinkowska, Aref, & Cherif, 2022). The “Cities of Trades and Skills” programme announced by King Mohammed VI in 2019 can be seen as a strategy supporting the reduction of regional inequality in Morocco.

The reduction of social inequality has also been on the national agenda for many years and has been included in all national strategies or policies related to the digital transformation

The programme focuses on all 12 regions with the aim to identify the sectors being developed in each region and to provide local support in integrating people into the labour market. There is a strong commitment from the public agencies and private sector to make the programme successful. Indeed, in 2021 the General Confederation of Moroccan Enterprises agreed to reallocate 500 million dirhams of the Vocational Training Tax to assist the programme (Agence Marocaine de Presse, 2021).

Despite significant progress on digitalisation at the country level, the public education system lags significantly when it comes to the introduction of digital upskilling in the education curricula of schools. Morocco, similarly to other Northern African countries, has made significant improvements in terms of increasing obligatory school enrolment at the first two levels of education (primary and secondary). Nevertheless, there is still no strategy to integrate ICT in education curricula in order to make access to digital upskilling trainings universal, especially in lagging rural areas (OECD, 2016).

Tunisia

Tunisia, similarly to Morocco, has the ambition to embrace the digital economy in order to increase the country's competitiveness, create jobs, and decrease poverty. Due to both countries' location, Tunisia's objectives are slightly different from Morocco's. The country aims to become a digital port for Africa, building on the existence of the submarine cables in Bizerte, by becoming a data storage facility for European companies, and a location of offshoring investments for them, overall establishing itself as a leading international location for IT services. In 2020, the digital economy was already the strongest and fastest growing sector in the country, contributing more than 11% of national GDP

(GIZ, 2020). But the Tunisian government recognised the need to continuously invest in individuals' skills, which has been included in national strategic documents.

A national shortage of properly digitally skilled individuals motivated the government to prepare the Digital Tunisia 2020 strategy, where existing challenges are addressed. Several priorities have been defined since 2018: tax breaks and subsidies supporting the development of startups; an Industry 4.0 programme to help national companies becoming more competitive globally; extending digital infrastructure and providing a safe internet; introducing cybersecurity, or digitalising various national sectors (Central Bank Digital Currency; e-commerce, digital health among others). The follow-up on the programme is the Digital Tunisia 2025 strategy, where upskilling through different channels is considered as a relevant element of a successful transformation.

Economic, social and regional inequalities are a relevant concern in Tunisia, especially with high regional differences, high unemployment, particularly among young people, different levels of economic development between regions, as well as different levels of access to education (Dridi, 2021). Existing governmental reforms have proven not to work when it comes to tackling social inequality and regional disparity. The inequalities, which fuelled the Arab Spring revolution in 2010-2011, seem to have remained persistent since then due to the turbulent governmental changes and unstable political economy. This phenomenon is even more troublesome for the goal of a societally just implementation of digital transformation (World Bank, 2016).

Tunisia's education system, although well developed with its nine years of basic education and additional four years of secondary education, faces some significant

drawbacks when it comes to the teaching of digital skills. Education specialists argue that there is a significant gap in integrating ICT skills in the education curricula. Graduates leaving the education system do not possess these skills and their confidence in the labour market remains low (El-Khoueiri, 2019). Additional barriers in enhancing digital upskilling exist, like the lack of a permanent collaboration with labour market stakeholders in order to create tools anticipating skills demands and supply, a lack of skills projections, no work-based learning mechanisms, a weak TVET system, and a weak regional collaboration in the field of skills anticipation (UNESCO, 2017).

Summing up, both countries focus significantly on the digital transformation in their national policies. The Moroccan government takes this as an opportunity to combat social inequalities, especially by investing in the education system and upskilling. On the other hand, Tunisia, while seeing the digital transformation as an excellent boost for the economy, seems to have no capacities to build a clear holistic strategy encompassing diverse societal challenges and opportunities. Struggling with political instability, national challenges, related to high unemployment, and significant and persistent regional disparities, Tunisia seems to be at a higher risk of a social divide led by digital transformation than Morocco. The next chapter will assess country-specific risks, which might lead to a deepening of the digital divide if governments do not take the proper measures taking into consideration the most disadvantaged groups.

Risks leading to digital divide

The way the digital transformation is implemented and the way national educa-

tion policies respond to its development is key in ensuring social inequality decreases and does not lead to a regional digital divide in any country. This subchapter examines three elements, which are pivotal in assessing the national needs and risks of digital transformation:

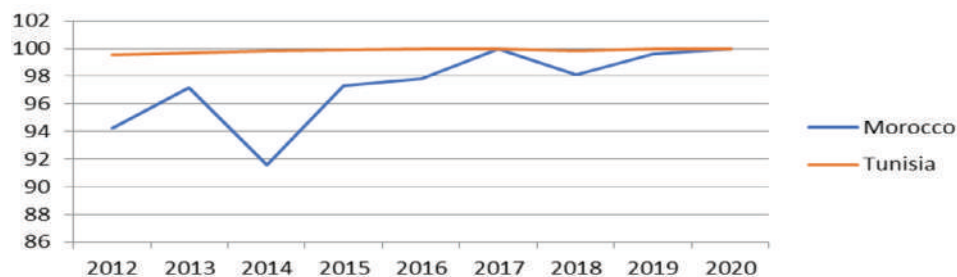
- Distribution of internet access and usage
- Distribution of digital skills and competences among the population
- Distribution of social inequality

Internet access and usage

Both Morocco and Tunisia have set up their ambitious goal to invest in digital transformation in order to deliver a boost to their country's respective economy and well-being. This phenomenon is happening naturally in tandem with the global development of ICT technologies and devices. It is important to remember, however, that North African countries are still very behind on basic infrastructure capacities, which prevents them from using ICT technologies and digital innovations effectively. While in Tunisia almost the whole population had access to electricity from 2012, in Morocco the whole country was only electrified in 2020 with the possibility to be connected to the public electricity grid (Graph 1).

It is worth noting that Morocco has experienced an unprecedented improvement in its energy access rate since the early 1990s through its electrification programme, which supports the development of solar systems, especially in lagging rural regions (Jacquot, Pérez-Arriaga, Nagpal, & Stoner, 2020). The innovative approach of energy production in both countries (with Morocco as a leader) has the potential for the sustainable implementation of digital transformation in a region.

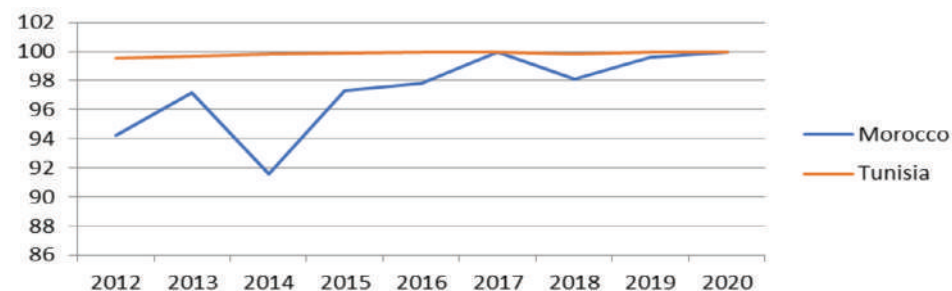
Tunisia seems to be at a higher risk of a social divide led by digital transformation

Graph 1. Access to electricity in Morocco and Tunisia (in %)

Source: World Bank Indicators.

While access to fixed broadband subscriptions per 100 people increased significantly in Tunisia (from 5 people per 100 persons to over 11 in 2020), the increase seems less spectacular in Morocco (from 2 people/100 persons to almost 6/100 persons). Although access is still lower in Morocco, it has tripled dur-

ing the last decade, when compared to the doubling of the rate in Tunisia (Graph 2). More recent statistics (ITU, 2022) show that the development of fixed broadband infrastructure is continuously progressing in both countries, confirming their commitment to invest in digitalisation.

Graph 2. Fixed broadband subscriptions (per 100 people) in Morocco and Tunisia, 2012-2020

Source: World Bank Indicators.

In Tunisia, access to ICT is wide and relatively affordable, and public authorities are working to extend access to more distant rural regions (Freedom House, 2019). That is the reason why broadband subscriptions have expanded so significantly since 2017. In Morocco, on the other hand, the MarocTelecom company dominates the market, which makes the development more difficult. New operators, like Inwi or Orange Morocco, try to offer complementary digital subscriber line (DSL) services, but their reach is still very limited.

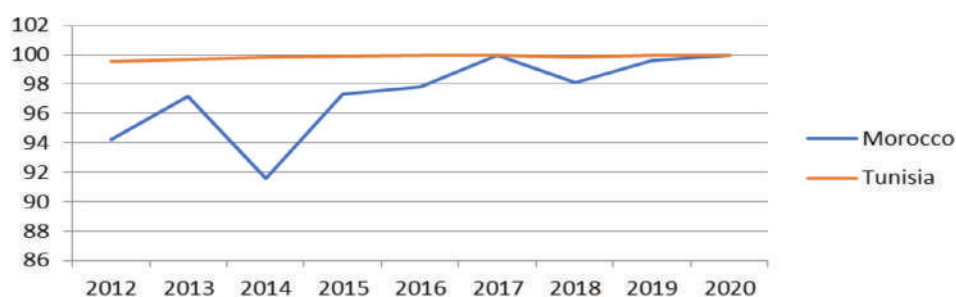
However, in both countries people predominantly access the internet via their mobile phones. Mobile internet access accounts for around 80-85% in each country (Graph 2). It might be assumed that, with the better and more innovative development of long-term evolution (LTE) services (3G included), this type of internet connection will become dominant over fixed broadband internet in both countries, allowing for better digitalisation of individuals country-wide. Nevertheless, the continuous development of fixed broadband

(and in particular fibre optic) is important to ensure more stable internet access, especially for businesses that require the fast transfer of large amounts of data.

The population using the internet is constantly increasing in both countries. During 2012-2020 this number increased by 30% in both countries, reaching around

85% in 2020 in Morocco, compared to 72% in Tunisia (Graph 4). In 2021, the corresponding number was 88% for Morocco (ITU, 2022). The remainder of the population that is not using the internet faces the highest risk of digital exclusion if they are not identified and no measures supporting their ability to access the internet are implemented.

Graph 3. Individuals using internet in Morocco and Tunisia (% of population)



Source: World Bank Indicators.

A rural-urban gap persists when it comes to the usage of internet in Morocco. The gap amounts to 18.3% in 2020 – a decrease of 25.6% when compared to the gap in 2018 (ANRT, 2021).

When it comes to the distribution of the usage of internet by age groups, people aged 60 plus use the internet the least (less than 30%). The highest internet use (over 96%) is observed among the population aged 15-39 in both countries. Interestingly, over 86% of the youngest Moroccans (aged 5-11) use the internet. The statistics are comparable between genders (87% for men, in comparison with 81% for women). In Tunisia, more women than men use the internet (78.9% of women vs. 62.3% of men) (Sarray, 2020).

The mobile phone usage saturation in both countries is 100% (World Bank Statistics, 2020), showing that almost all people possess at least one smart-

phone. The situation is not that optimistic when it comes to the usage of a computer or tablet in both countries (Graph 4).

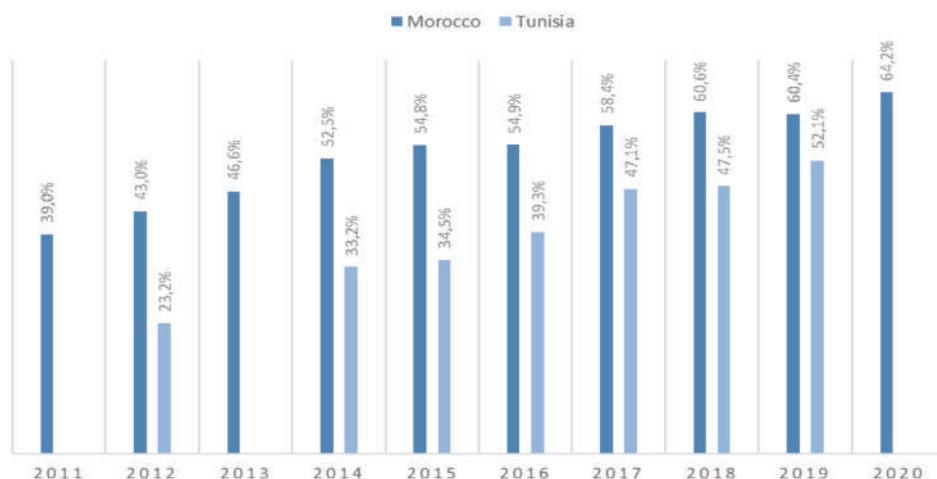
In 2020 in Morocco, only 64% of people used a tablet or computer, marking a slight increase of 4%, when compared to the previous year. The situation in Tunisia is even worse since only 52% of households use or possess a computer. A significant divergence can be observed in this respect when it comes to the differences between rural and urban regions in both countries (Ben, Methamem, & M'Henni, 2009). In rural regions in Morocco less than 45% of the population uses a tablet or computer, while in urban areas the corresponding number stood at almost 74% in 2020.

The gap is even higher when usage is disaggregated by age groups. The highest share of people using a computer or

tablet is observed among individuals aged 19-24 (40% of them). The older the population, the lower the usage of a computer or tablet. The same applies to

the younger population. People below the age of 19 have less access to a computer, when compared to the group aged 19-24.

Graph 4. The usage of tablet or computer in a household in Morocco and Tunisia, 2011-2020



Source: République Tunisienne, Ministère des technologies de la communication (MTC, 2022), Royaume du Maroc, La Chef du Gouvernement, ANRT, 2021 (ANRT, 2022b).

To sum up, the access to adequate infrastructure in supporting ICT development is improving in both countries at different speeds. Rural regions still lag with regards to access to high-speed broadband internet, and populations there mainly use mobile, slower and more expensive internet. The more worrying fact is, though, that a still significant group of the population does not use the internet, especially those from poorer regions or the elderly. Their access to digital devices other than a smartphone is still limited. These findings pose serious risks regarding the uneven access to internet services, which then might lead to a deeper digital divide and an increase in social inequality.

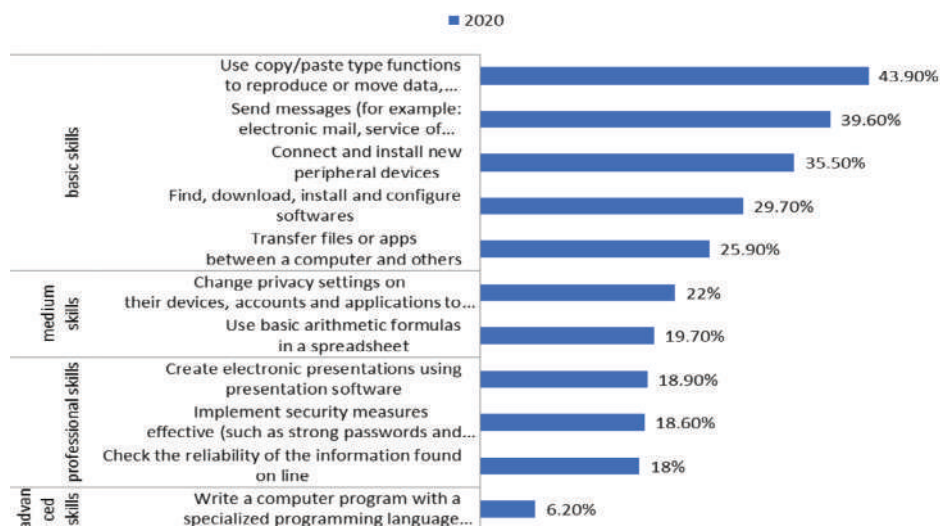
Digital competences distribution

This subchapter analyses the inequality in digital literacy between individuals in Mo-

rocco and Tunisia. There is a significant lack of comprehensive data when it comes to detailed analysis of digital literacy in both countries. Instead, irregular difficult-to-compare data can be found in this respect. Possessing monitoring tools like the European Digital Economy and Society Index (DESI) would strengthen North African economies by allowing them to monitor the obstacles to a fair digitalisation. The data collected by the Moroccan National Telecommunications Regulatory Agency shows that only around 35% of Moroccans have basic digital competences, which include copy-paste functions (44%), sending messages (39.6%), or transferring files (26%) (Graph 5). For example, the corresponding number for the Netherlands or Finland is almost 80%, whereas for the whole EU it is 54% (EUROSTAT, 2021).

A significant group of the population does not use the internet, especially those from poorer regions or the elderly

Graph 5. Digital competences, by rural-urban region, 2020



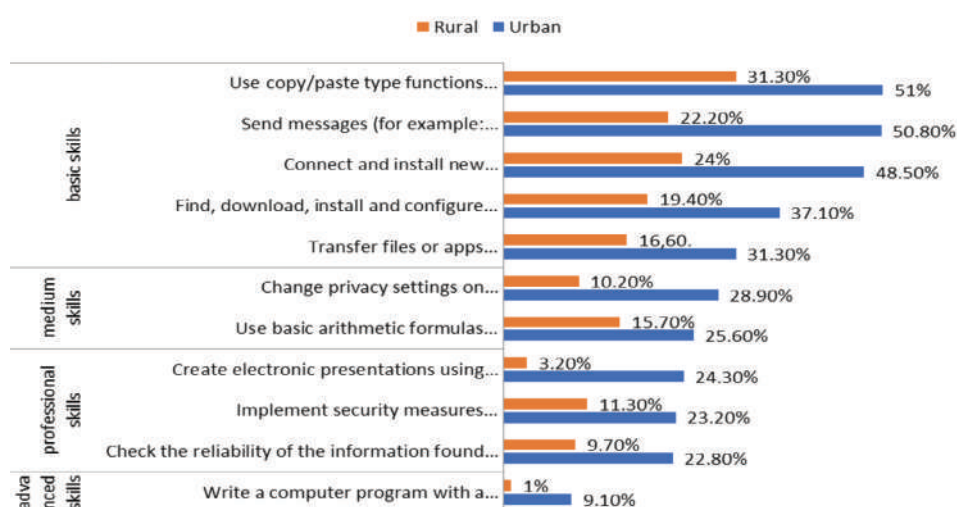
Source: Royaume du Maroc, La Chef du Gouvernement, ANRT, 2021 (ANRT, 2021c).

Professional skills, like the preparation of presentations, or implementation of security measures like strong passwords, are possessed by only 18.5% of individuals.

When it comes to regional differences (Graph 6), the results are even more sig-

nificant. In rural regions only around 25% of the population possesses basic digital skills, compared to almost 50% of the urban population. These statistics show a significant digital divide in the country, which poses the risk of social inequality developing further with the growth of the digital sector in Morocco.

Graph 6. Digital competences, by rural-urban region, 2020



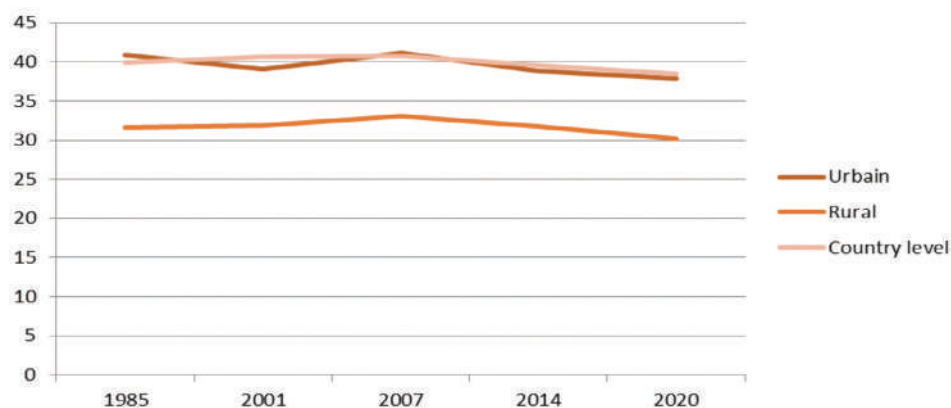
Source: Royaume du Maroc, La Chef du Gouvernement, ANRT, 2021 (ANRT, 2021d).

The measurement of Tunisians' digital competences is based on the Chaaben and Mansouri study (2017), which created the I-DESI (Digital Economy and Society Index) for Tunisia based on the existing data from the National Institute of Statistics and from the Ministry of Technology and Digital Economy (Chaaben, & Mansouri, 2017). A 2020 ITU study confirms that only 20% of the population has basic digital skills, 17% standard digital skills, and only 16% has advanced digital skills. The corresponding numbers for Morocco are: 37%, 28% and 9% (ITU, 2021). These results demonstrate that Tunisia is one of the worst performing countries when it comes to the human development in digitalisation. The scarce information about digital competences among Tunisian society also confirms the growing digital divide in the labour market. More skilled people are stronger beneficiaries of digital transformation (Youssef, 2021).

Social inequality distribution

The most popular and comparable measure of social inequality distribution, used by most economists and international institutions, is the Gini coefficient. Again the lack of regular data, especially for Tunisia, makes the assessment of the social inequality distribution difficult. The most recent studies have found that Morocco's Gini coefficient is slightly below 40%, much higher than in other North African countries. In Tunisia it stands at 35.8% (Dridi, 2021), meaning that there is greater equality in Tunisia than in Morocco. In Morocco the coefficient is almost 8% smaller in rural regions than in urban regions, suggesting that the cities and surrounding districts have the most educated talents, but also the poorest migrants looking for a better life, thus greater inequality. The poor rural areas make all individuals equally poor (Graph 7 and 8).

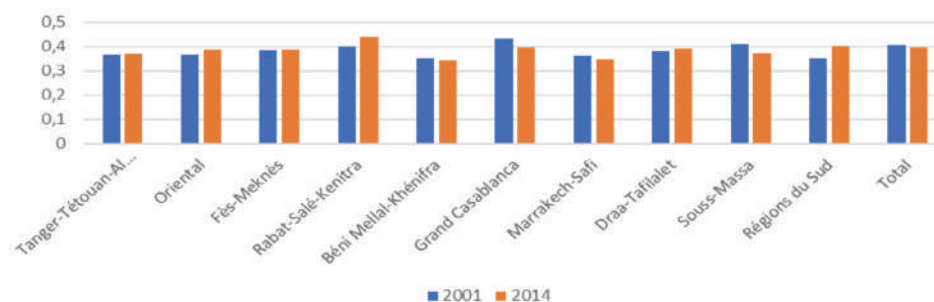
Graph 7. Gini coefficient in Morocco



Source: Haut-commissariat au plan.

When it comes to the regional disparities in terms of social inequality in Tunisia, the fragmented studies (Dridi, 2021) suggest that the urban-rural gaps result from policies that favour Tunisia's coastal areas and big cities. The highest poverty is still observed in rural areas (the northwestern

and southwestern part of the country). The factors behind this high level of inequality are related to the uneven distribution of infrastructure, worse levels of education and lower level of skills, which in social inequality studies are proved to be the main reasons for inequality.

Graph 8. Gini coefficient by region, Morocco, 2001, 2014

Source: Haut-commissariat au plan.

Education response to the digital transition

Morocco's education system is a very traditional, three-level system with compulsory school attendance up to the age of 13. The system still struggles in solving the illiteracy problem in the country, especially in rural areas and among the poorest populations (UNESCO, 2022). The education system also does not integrate any digital literacy at any education level in a holistic way. Nevertheless, together with the government's digital transformation plans there are several initiatives coming from the public and private sectors that aim to diminish the digital gap and to upskill people with competences needed to use digital tools effectively in their private and professional lives.

In 2006, the Ministry of Education launched the Genuine Interest in Equality (GENIE) programme in primary schools with the aim to introduce digital teaching technologies in rural and urban areas, addressed at teachers and administrative employees. The activities of the programme included the improvement of the digital infrastructure, including connection to the internet, and training activities as well as the purchase of digital resources, like the national ICT portal or libraries. Around 87% of managerial level educators were trained and 148 training

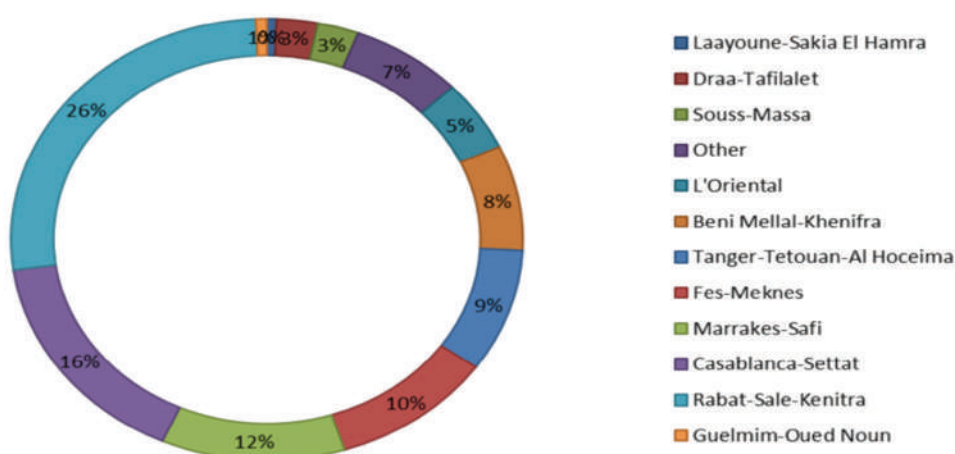
ICT centres have been created. Other initiatives included the provision of laptops or desktop computers to schools (INJAZ programme), training activities for teachers (LAWHATI programme), and connecting universities with high-speed internet (MARWAN programme).

More is happening at the tertiary education level as well as within the vocational education activities being offered by private companies. In 2019, the Ministry of National Education, Vocational Training, Higher Education and Scientific Research created the National Framework of Certification with the aim to introduce lifelong learning activities (LLL) to individuals' lives, facilitate training courses, improve geographic mobility, and improve digital literacy. In 2019 a new phase of the national MOOC (massive online course) was proposed with the aim to create the biggest education platform with free online courses in different professional skills: law, economics, business, health, engineering, and other subjects. The initiative was well used during the pandemic, thus aiding the continuation of upskilling courses in a relative stable way. Private sector initiatives in this realm are very fragmented, but are aimed at closing the (digital) skills gap on the labour market. They include public-private partnerships (PPP) initiatives, which are very broadly defined as ways and means of

cooperation between the public and private sectors in the areas of education and upskilling (Challenge Fund for Youth Employment, 2022). As an example, one could mention the creation of an ICT observatory to disseminate the data on skills available on the market (Data 4 Tech); the certification of teachers on new technologies and ICT (Microsoft); an online digital profession university, allowing training content to be published and certified (Digital Knowledge City); and the

training of students in rural areas and remote regions on coding (Orange). Nevertheless, when taking a closer look at the digital programme distribution by regions in Morocco, a territorial gap can be observed (Graph 9). The availability of such programmes is concentrated in the north-western parts of the country (Rabat-Casablanca-Marrakech), with over 54% of all offers being concentrated in these regions. These regions generate over 53% of Morocco's GDP.

Graph 9. Digital programs' distribution by region



Summing up, despite many initiatives to integrate digital upskilling activities in schools and education curricula in Morocco in general the efforts are still limited and unsatisfactory. Structural obstacles in the education system are still present (like the lack of infrastructure), and the lack of skills among teachers remains a burden. Only a couple of initiatives identified are focusing on Morocco's disfavoured regions, or vulnerable groups of individuals. The majority of initiatives are concentrated in the most productive regions of the country, where digital upskilling is mainly focused on responding to the needs of the labour market. There is no clear strategy focusing

on the poorer, less developed regions, or disadvantaged people.

The education system in Tunisia is generally well-developed with its nine years of compulsory education and a youth literacy rate of 96% among the population aged 15-24 (UNESCO-UNEVOC, 2021). The need for a change of the education system imposed by new businesses being developed in Tunisia, related to new technologies, is well-recognised by the Ministry of Education (El-Khoueiri, 2019). Although Tunisian schools offer traditional information technology (IT) and engineering courses, there is no adequate training for

Structural obstacles in the education system are still present (like the lack of infrastructure), and the lack of skills among teachers remains a burden

the dynamically changing digital sector, responding to labour market needs. In 2015 Tunisia's Ministry of Education launched the "Solution Numérique pour tous" (Digital Solutions for all) programme (Yarrow, 2017), which was a part of broader national reforms. It was aimed at improving the quality of education through the promotion of digital tools in the learning process. It was addressed at almost two million students and 150,000 teachers from primary and secondary schools. The government has also supported the creation of private training centres by subsidising private service providers with up to 25% of the private investment.

The EU has also significantly supported the upskilling of Tunisian students since the 2011 revolution. European financial support equals to 3.5 billion euros during 2011-2018, nearly 70 schools have been provided with EU grants, and around 90 schools participated in eTwinning Plus networks, which promote digitalisation in education (El-Khoueiri, 2019).

The need for PPPs has been identified as a key element in supporting efficient digital upskilling at schools. As a response, the Startup Act (Startup Tunisia) was the first step of the Tunisian government in recognising the country's new digital economy needs. The broader digital strategy comprises more than 60 projects, with the majority of them implemented as PPPs. Some of them are related to the expansion of digital infrastructure in schools and households. Unfortunately, regional disparities are prevalent in this respect. The majority of the ICT ecosystem (around 67%) is concentrated around the richest regions: the Greater Tunis region, El Manar, Carthage and La Manouba, Sfax and Sousse, while only 13% of companies are located in the rest of Tunisia. As a consequence, educational initiatives, related to tertiary education, are concentrated in regions that

already have an ICT ecosystem. Moreover, 66% of all universities are located in Greater Tunis and cities like Sousse and Sfax. This is a significant challenge for policy-makers when thinking about how to increase employment levels and counter societal inequalities.

In sum, although in Tunisia the education system works quite well, and several coherent initiatives are undertaken in order to introduce the skills of the future to the education curricula, the needs of the future are still not included in the overall system. Some education stakeholders complain that a lot of public funds are pumped into the economy to create opportunities, but there is not enough being done in order to invest in education, which should supply the markets with talent, thus aiding their growth (El-Khoueiri, 2019).

In a comparative perspective, both countries developed similar systems of primary and secondary education with nine years of obligatory attendance, although Tunisia is better off in terms of literacy rates among younger generations. While several initiatives can be recognised in Tunisia, they seem to derive from the private sector and to a large extent through PPPs, rather than created from strategic national policies. Morocco, on the other hand, seems to be more focused on the creation of a holistic approach of adding digital education to education curricula, although the country also heavily depends on PPPs. The geographical concentration of investments from private funds leads to higher investments in richer more developed regions, and in individuals, who already possess some ICT skills.

Conclusions

The aim of this chapter is to assess the digital transition in Morocco and Tunisia and its potential negative impact on digi-

tal divides and, consequently, social inequality. In doing so, the potential risks of digital divides were analysed: internet usage and access to digital devices in different regions and different age groups; digital skill levels by different groups of individuals, as well as the level and development of social inequality. Subsequently, the policies and initiatives supporting the digital transformation were reviewed from the perspective of the public and private sector.

The results presented confirm that the use of the internet, as well as the access to digital devices is not equally distributed among the population, and, while growing, it is still relatively lower in rural and poorer regions, and among more disfavoured parts of the population (elderly). Moreover, digital skills are not equally distributed among the country, with rural regions lagging behind. Although both countries recognise the need to support the digital transformation, the public policies in each country address the issue differently. While in Morocco the focus is placed on the holistic societal benefits resulting from the digital transformation, Tunisia, with its weak decision-making processes, risks becoming a beneficiary of the digital transition “by chance”. Both countries use so called PPPs, as one of the solutions to these challenges, but such investments are predominantly implemented in richer, well-developed regions, leading to risks of increased social inequality, especially in Tunisia in persistently lagging regions.

Policies supporting the equal opportunities of digital transformation for all, and lowering the risk of digital divides, should be implemented at the national level, partly by being holistically integrated into national education curricula.

In addition, the scaling up of corporate social responsibility and the social econ-

omy, supported by the EU, could bring the benefits of private investments in digital transformation to the most disfavoured groups of people and regions.

Recommendations

The digital transformation places Morocco and Tunisia in a very promising position: the usage of new technologies in the workplace and daily life, artificial intelligence (AI), remote work, or the Internet of Things (IoT), provide huge potential to North African countries in building a comparative advantage in these dynamically developing sectors with relatively low costs of entry, when compared to other traditional sectors. Being situated close to Europe, and having close links to other parts of Africa and the MENA region, these countries possess enormous potential for development.

Significant investments in ICT infrastructure, and the upskilling of individuals are needed, however, and both countries need to recognise this and develop strategies, policies and initiatives to fill this gap. Unfortunately, while in Morocco good progress has been made in this respect, Tunisia still lags behind.

On the top of that, while the initiatives are undertaken, the question arises as to whether the entire population is considered in this digital transformation process and whether all individuals will benefit from it equally. Unfortunately, the analysis above shows that the risk of a digital divide at a regional and individual level persists in both countries, which in consequence might lead to increased social inequality.

Firstly, the possibility of gaining digital competences should be available for all age groups and all individuals, regardless of their location. Therefore, digital upskil-

Policies supporting the equal opportunities of digital transformation for all, and lowering the risk of digital divides, should be implemented at the national level, partly by being holistically integrated into national education curricula

ling should be included holistically at the national level in education curricula. The equality of opportunities should be secured from the early stages of educational attainment.

Secondly, this reform should be supported by equipping teachers with skills and devices, allowing them to effectively educate their pupils.

Thirdly, public education programmes should be strengthened with an increase in the quality of internet access, as around 40% of the population in both countries still do not use a digital device other than a mobile phone.

Fourthly, PPPs should not mainly focus on the most talented populations, who already have high chances of being employed in the ICT sector. Some of the PPPs should also be addressed to the most disadvantaged groups of individuals, the less educated, women or poor. Integrating all individuals into the upskilling process could also decrease high and persistent social inequalities within urban regions, where the stratification of the population is well-observed.

Next, PPP investments should not concentrate exclusively on the richest regions of both countries, since this only increases the social inequality gap between regions. Big international companies that support the digital transformation in both countries should consider their social responsibility over the maximisation of profits and should also provide digital trainings in the poorest and least developed regions of the countries.

As part of the creation of PPPs, the national governments should consider the scaling up of corporate social responsibility (CSR) programmes. Such initiatives

could speed up the process of convergence between regions and could support the individual development of the most disadvantaged, digitally excluded ones. In implementing the above-mentioned recommendations, the New Agenda for the Mediterranean, the Global Gateway strategy, as well as EU financial instruments standing behind it (such as ESFD+) should be of the highest relevance. The EFSD+ programme can leverage the private funds in the region, which in turn can ensure that the infrastructure and services reach underserved regions. In this respect, the EU could be a regional leader in supporting CSR.

The New Agenda for the Mediterranean is focused on people, especially disadvantaged parts of the population like women and youths, to help support high-quality human development, prosperity and digital transition, or to generate green growth. With a dedicated Economic Investment Plan for the SN, the EU contribution could help increase the quality of life for people in lagging regions, supporting and increasing social equality.

EU support for the fair economy in Morocco and Tunisia in terms of its inclusion in the ICT sector development and digital transformation should help increase the awareness of just investments from the private sector encompassing all societal groups, which in turn should also lead to social inequality decreasing.

Last but not least, tackling the lack of comprehensive data on the development of digital infrastructure and the skills necessary to progress with digital transformation is an urgent necessity. The implementation of the Digital Index, comparable to the European Digital Economy and Society Index (DESI), would strengthen the monitoring of progress in different fields (connectivity,

human capital, use of internet, integration of digital technology, digital public services), which would in turn allow the more efficient direction of funds between priorities, regions and different societal groups. The EU experience might serve as an example in this respect.

Human development factors seem to be one of the critical factors supporting, or constraining, digital transformation. Therefore, the equal provision of digital education would turn the most disadvantaged into beneficiaries of the transition, leading to more equality and the fairer development of both countries.

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A Spotlight on Digital Egypt: How Transforming National Systems Promotes Citizens' Social and Economic Welfare

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Introduction

Digital transformation is recognised by the state and non-state stakeholders in Egypt as an essential process to reach an inclusive, efficient and transparent society while promoting innovative pathways for citizen's socioeconomic welfare. Consequently, by 2022, the Egyptian government had pledged 50 billion Egyptian pounds (2.9 billion euros)⁴ in investments to support the transition towards digitalisation (Ahram, 2022). In order to support the Egyptian government's strategy, international and local entities placed digital transformation as a key priority for financial and technical assistance delivered to the country. For example, according to the European Union (EU)'s multi-annual indicative programme (2021-2027), supporting green and digital transition is considered one of the priority areas for its cooperation with the Egyptian government. In June 2022, the EU announced plans to allocate 240 million euros to support Egypt with a focus on sustainable development, and green and digital transformation (Hegazi, 2022). Hence, with the support of international and local stakeholders, the Egyptian government is revolutionising governance systems, livelihood opportunities, and innovation pathways through a national strategy towards digital transformation. According to the Oxford Business Group (OBG)'s latest report on Egypt's digital transformation, the government successfully connected 90% of households with fibre-to-the-curb technology by 2020 and continued to advocate for high-quality technological infrastructure with a focus on the New Administrative Capital, in preparation for Egypt to lead an effective digitised governance system across its different services and ministries (OBG, 2022).

The different initiatives launched under the government's Digital Egypt vision aspire to enhance the socioeconomic conditions of Egypt's population through the use of innovative processes. For example, with more than 5,892,236 registered users on Egypt's e-government services portal, the population in Egypt has access to more than 164 government services online, saving time, effort and cost for both government systems and the Egyptian population. Additionally, the information and communication technology (ICT) sector in Egypt is considered one of the most promising fields to enhance income levels. The sector contributed to the national gross domestic product (GDP) with 5% in the 2020/2021 fiscal year with a growth rate of 16%, thus exceeding Egypt's overall level of GDP growth in 2021, which was 3.3% (ITA, 2022). However, despite these gains this chapter will highlight challenges and barriers towards an inclusive and effective transformation and provide policy recommendations to help ensure that Egypt's digital transformation will lead to improved socioeconomic conditions of the country's population.

This chapter comprehensively examines the Digital Egypt Vision 2030 and presents key achievements on this path while pinpointing areas facing challenges. The chapter also sheds light on international and non-state actors' contributions, such as the EU and other international entities, towards the Digital Egypt Vision 2030. The policy chapter embraced a qualitative approach combining available secondary data to shed light on the government's progress, achievements and challenges, while also interviewing key experts from the government, civic and private sectors supporting the transformation process. A total of 11 key informant interviews (KIIs) were

⁴ Calculated with a historical exchange rate as of March 2022 with 1 euro = 17.151 Egyptian pounds.

conducted with focal points from (1) the Central Agency for Organisation and Administration, (2) Ministry of Youth and Sports (Digital Skills programme), (3) international non-governmental organizations (NGOs) working on digital transformation in Egypt, (4) United Nations (UN) agencies working with the government on digital transitioning in governorate systems, (5) information technology (IT) companies working on digital transformation in the governmental and private sector, and (6) Digital Skills programmes graduates.

Digital Egypt Vision 2030 overview

In order to guide the country's digital transition, the government launched Digital Egypt in February 2016 as part of Egypt Vision 2030 to provide clear pathways for the joint governmental and civic efforts to build a digital society (Moniem, 2021). Digital Egypt is the result of assessments that the Egyptian government undertook between 2007 and 2010 to better understand and evaluate Egyptian citizens' preferences, capacities and potential barriers to access digitised services across different sectors such as governance, health-care, and education (Taher & Mohamed, 2019).

1. Led by the Ministry of Communication and Information Technology (MCIT) in collaboration with state agencies, Digital Egypt is based on three pillars:
2. Digital Transformation: introducing and enhancing e-governance,
3. Digital Skills and Jobs: investing in digital capacity-building and exploiting the digital economy for enhanced livelihood conditions,

Digital Innovation: building an ecosystem

that fosters ICT innovation and entrepreneurship.

The vision aims to place Egypt as one of the key destinations for innovative entrepreneurship in the region (MCIT-Digital Egypt, 2022). As part of this, the Egyptian government is working with key stakeholders from civil society and the private sector to transform the government services across all sectors, starting from the litigation process to issuing official documents. Additionally, many initiatives, supported by international and local organisations, have provided youths with comprehensive, inclusive and tailored skills trainings to enhance their employability and entrepreneurial skills.

By the end of 2021, the Egyptian government had issued 55 laws and policies with regards to the digital transformation, including regulation on data protection, cybercrimes and consumer protection (Kamel, 2021). Between mid-2018 and the end of 2021, investments worth 1.8 billion US dollars were also geared towards enhancing internet connectivity and broadband quality in Egypt, which has led to increased internet speed for fixed broadband from 6.5 Mbps in 2018 to 45.46 Mbps by February 2023 (Speedtest, 2023).

Digital transformation in governance systems in Egypt

Recent global research strongly correlates the introduction of electronic government (e-government) with the reduction of bureaucracy and corruption levels in the civic services (Sheryazdanova & Abdildina, 2020). Egypt embarked on its e-governance journey in 2004 with the goal to integrate technology in its governance system (Khamis, 2022). Egypt's National Struc-

tural Reform Programme (NSRP) focused on a key principle for sustainable development: "Raising the efficiency of public institutions through digital transformation" (World Bank, 2021).

Different initiatives were launched to implement the country's vision on e-governance. As a result, according to the official Digital Egypt platform, by October 2022 the Government E-Services Portal had reached 5,892,236 registered users. All Egyptian citizens can create an account with their national identification number to access e-services provided by nine ministries offering a total of 164 different services. According to the World Bank 2021 Egypt Economic Monitor report, Egypt's MCIT is aiming to provide over 500 government digital services by the end of 2023. The existing services provided through the e-services portal include civil affairs, official documentation, economic courts, social security, and health insurance. With an investment of 6 billion Egyptian pounds (350 million euros),⁵ the government of Egypt rolled out a nationwide system of fibre optic cables to link 32,000 government buildings to reinforce digital archiving and delivering e-services to Egyptian citizens (Ghoneim, 2021). During the Digital Egypt projects' inauguration ceremony in July 2022, Egyptian President Abdel Fattah el-Sisi indicated that the cost of secured digital networks in the New Capital is about 100 billion Egyptian pounds (5.8 billion euros), which would enhance governance practices and increase efficiency and decision-making on the basis of secure, transparent, automated processes (State Information Service, 2022).

According to a key informant from the UN office in Egypt, the Egyptian government and other key stakeholders consider digital

transformation a top priority to enhance practices and process management quality. For example, the United Nations Children's Fund (UNICEF) is currently working with the Ministry of Social Solidarity in Egypt to roll out a digitised case management system, which is expected to enhance the process's efficiency, transparency and overall quality.

The Digital Egypt Vision 2030 places a high level of importance on cultivating digital knowledge and skills among public servants in order to prepare them to embrace the digitalisation of government processes. According to an interlocutor at the Central Agency for Organisation and Administration in the Egyptian government, more than 76,000 public servants have so far been trained in digital transformation and digitised systems adopted by the different ministries. In coordination with MCIT, the agency is delivering different trainings on the utilisation of digital applications for communication, virtual meetings, and project management. This training effort is currently focused on public servants assigned to the New Administrative Capital. So far, this training was delivered to 1,200 staff on the digital systems. Furthermore, the government has made a total of 18 million official documents accessible through the digitised institutional memory system, which aims to enhance work efficiency and the decision-making process as information would be accessible by the government staff through the online archive (State Information Service, 2022).

The private sector also plays an important part in promoting digital transformation. According to the chief executive officer (CEO) of one leading IT company working with different ministries in Egypt, the government has come a long way on the digi-

⁵ Based on an exchange rate of 1 euro = 1.10 US dollars as of March 2022.

talisation pathway. This progress is boosted by a high-quality technology infrastructure managed by skilled communication and information technology experts hired by the government to ensure digitalisation reaches its full potential. Additionally, the company's CEO confirmed that MCIT is ensuring maximum protection for the data collected by the e-services portals through dedicated domains and hosting managed by MCIT's staff only. The key informant stated that his company is building and deploying a learning management system for the Ministry of Local Development in order to deliver a cost-efficient, effective, and fully automated capacity-building programme to the staff employed by the ministry across Egypt's governorates. The system's development and mainstreaming are funded by the World Bank to enhance the Ministry of Local Development's capacities and infrastructure with the goal of improving the quality of services delivered to the country's population.

The key informant also highlighted key challenges faced by IT companies working on e-governance digitalisation in Egypt. The first challenge is the low-tech capacity among staff at some ministries, which leads to the slow deployment of IT systems. Hence, he recommended that each ministry should hire a specialised team to lead and coordinate the digitalisation of the governance systems. The second challenge is the lack of troubleshooting assistance available for the staff at different ministries utilising e-governance systems, as it is essential to support the public sector staff in the case of a user error to ensure process efficiency and accuracy. Finally, the digital transformation sector in Egypt is largely dominated by international technology companies, which are mainly working on enhancing the government technology infrastructure. This hinders the chances of local and smaller IT companies contributing to this process. However, he attributed the key reason for

this to the lack of advanced IT capacities among the private sector for technology startups in Egypt compared to their international competitors who receive a more advanced level of training and knowledge on IT-related skills, which widen the skills and knowledge gap between Egyptian and international companies.

Despite the fact that the Egyptian government's efforts towards e-governance are undimmed, and supported with a national strategy, a more focused investment geared towards enhancing the capacities and skills of ICT professionals in the public and private sectors is essential for better results. This entails more efforts in creating training opportunities and accessible learning platforms for the public and private sectors on the necessary advanced level of skills and knowledge related to the latest technology solutions focused on e-governance. Additionally, use of existing established mechanisms is recommended, such as post offices, youth centres, learning hubs, and other public places to support with enhancement of providing e-services to the citizens and ensuring better accessibility. For example, the Egyptian government could provide a unit established within these public entities where citizens can access e-services platform or pay for any transactions required for their official documents to be issued. These units could thus enhance citizen's awareness of the available e-services in addition to overcoming challenges related to internet access or hardware availability.

Leveraging digital transformation for citizens' socioeconomic resilience

According to the World Bank, the government is strategically planning different in-

initiatives for sustainable and enhanced livelihood opportunities. This is done through capitalising on the potential of digital transformation to reduce the unemployment rate while attracting investments for digital entrepreneurship. With this strategy, the Egyptian government aims to establish the country as the largest digital hub in the Middle East and North Africa (MENA) region.

In order to reach the digital transformation's full potential for improved livelihood opportunities, different national initiatives led by the Egyptian government and non-profit actors were launched to improve the digital skills and capacities of youths and enable them to seize opportunities in the digital economy. In 2020, the MCIT launched the "Our Future is Digital" programme with the strategic goal of training more than 110,000 young Egyptians on digital skills to enhance their employability and attractiveness in the local and global job market (Ghoniem, 2021, p. 14).

The Ministry of Youth and Sports (MoYS) launched a digital skills programme in 2019 in partnership with Care Egypt. The "Tawar w Ghayar" programme aims to strengthen youths' digital capacities and equip them with relevant techniques to generate a stable income. This includes courses on job-hunting skills, digital courses on programming, digital marketing, data analysis, and other topics to empower them landing freelancing or employment opportunities. The focal point from the ministry for this programme said that "Tawar w Ghayar" provides an online portal with instructors to support learners and provides official certificates for all courses completed in partnership with Microsoft, which provides the courses. According to the interlocutor, the ministry has launched the "Egypt Bank for Employment" as a complementary approach to the digital training, pro-

viding courses on soft skills in addition to publishing available job opportunities for all youths to apply for.

Another example of a digital skills programme led by international organisations in Egypt is the "Tamkeen project", which is implemented by Terre des Hommes and funded by the United Nations High Commissioner for Refugees (UNHCR). The project aims to enhance digital skills and the inclusion of vulnerable refugees and Egyptian youths, with a focus on those from marginalised communities. The project provides five learning centres equipped with computer labs and access to digital skills training via the Coursera online platform, as part of the latter's partnership with UNHCR to support digital inclusion among vulnerable youths in Egypt. So far, the project has successfully reached more than 2,000 learners through the community hubs for digital skills mainstreaming. According to a "Tamkeen" project manager, the interventions conducted for this project directly contribute to Egypt's digital vision as they aim to enhance the capacities, infrastructure, and overall strategy for providing youths with access to livelihood opportunities in the digital economy. The project, in partnership with the Ministry of Youth, is according to the interlocutor currently in the process of establishing digital centres, which are to be integrated in the national youth centres managed by the government. This partnership started with a pilot of eight national youth centres in Greater Cairo and is expected to be expanded across the whole country by the end of 2023.

Interviews with five graduates from digital skills programmes highlight some of the opportunities and challenges facing job seekers in the digital economy. The graduates interviewed for this study mainly completed courses focused on program-

ming, coding and digital marketing. They pinpointed the importance of the knowledge they gained as they considered digital skills the new future for youths worldwide, especially for those who are living in countries with a high unemployment rate, as digitalisation gives them access to an international market beyond their saturated location.

However, the graduates highlighted different issues related to obtaining livelihood opportunities utilising their digital skills. This was attributed to three main reasons: first, the digital skills courses provided by the government and/or civil society organizations (CSOs) are not considered sufficient for local or international employers as the graduates lacked practical experience. Only one out of the five interviewees reported earning an income from their work as freelancers utilising their digital skills. This person reported a monthly income range of 1,500-2,000 Egyptian pounds (87-116 euros), which is less than the national minimum monthly wage of 2,400 Egyptian pounds (140 euros). Second, the graduates stressed that their local job market is not yet fully prepared to absorb the increasing numbers of digital skills graduates as many private sector employers and consumers still prefer traditional methods of selling or purchasing products and services. The third reason cited is the lack of training in techniques to search for and obtain jobs utilising their digital skills, as this is not part of the courses.

The digital transformation is expected to support job creation in Egypt while providing better access to skills development for persons from different backgrounds and even different nationalities. However, it is important to acknowledge the necessary adaptation still needed within the overall environment and the human capital contributing to this. Building the

capacities of the human capital to obtain digital skills is essential for the process. However, the market should be also prepared to absorb an increasing number of graduates of different digital skills trainings with different opportunities created for employment, which includes a better utilisation of digital transformation within businesses. It is also important to highlight the benefits provided through this transformation for non-Egyptian nationals residing in the country, including refugees and migrants, as it provides them with freelance opportunities for income generation.

Digital entrepreneurship and promoting ICT-based innovations

Egypt is considered one of the most promising destinations in the MENA region for digital entrepreneurship and e-commerce markets. As an essential pillar of the Digital Egypt Vision 2030, the state and non-state stakeholders in Egypt have been advocating for an enabling environment where ICT-based innovations can flourish and contribute to national advancement. This approach has proven effective as the Egyptian ICT Minister announced in September 2022 that the sector was able to maintain its high performance during the fiscal year 2021/2022, achieving a 16.3% growth rate, which is the highest rate among all national sectors in Egypt. This strategy is projected to enhance the financial gains reaped by the government and business owners as the ICT sector is projected to contribute 8% to Egypt's GDP by 2024, compared to 4.4% in 2020. The e-commerce sector alone contributed 5.2 billion US dollars to Egypt's economy in 2021 (Ghoneim, 2021). The Egyptian e-commerce and financial technology (fintech)

The digital transformation is expected to support job creation in Egypt while providing better access to skills development for persons from different backgrounds and even different nationalities

sectors have been able to attract international investments with 35 Egyptian companies raising more than 269 million US dollars during the first half of 2022 (Daily News, 2022). In October 2022, startups based in Egypt raised 113 million US dollars across 18 deals, the second-highest amount of investment in the MENA region after the United Arab Emirates (UAE) (Wamda, 2022).

As presented throughout this policy paper, different factors, including COVID-19, have accelerated the digital transition on the global and national levels. In Egypt, driven by the Ukraine war, the accelerated rate of inflation and cost of living underlined the importance of digital transformation as a key factor for businesses to survive. According to the International Monetary Fund (IMF), the inflation rate in the emerging markets and developing countries in 2022 is estimated at 10.1%, whereas Egypt witnessed an increase in inflation to 16.2%, the highest rate in the past four years. The Egyptian government has been encouraging local and international investments to direct their efforts towards the invention of new areas for services and products as well as reducing operational costs to enhance business conditions and performance. For example, in partnership with the Information Technology Industry Development Agency in Egypt, the prestigious venture capital firm “500 Global” established their office inside the national “Creativa Innovation Hubs” launched by the government. The company is expected to support more than 200 startups over the next three years while providing investments opportunities and technical knowledge to the targeted businesses (Wamda, 2022).

In order to achieve the goal of positioning the country as a regional hub for ICT-related projects, MCIT has led different initiatives to ensure a competitive ICT

landscape for digital entrepreneurship while promoting innovative ideas for embracing digital solutions. “The Creativa Innovation Hubs” is one of the projects adopted by MCIT, implemented across six governorates and located inside public universities to encourage students, entrepreneurs, and business owners to capitalise on digital transformation by building solutions that deliver vital services to the community through untraditional approaches. The hubs provide mentorship and training for youths seeking to launch a business while embracing digital and innovative solutions. They also offer design workshops, co-working spaces, and assistance with drafting business plans from specialised staff hired to assist the youth (MCIT - Digital Egypt, 2022).

Another initiative is “Our Digital Opportunity”, which aims to support small and medium-sized enterprises (SMEs) contributing to the national digital transformation projects. This initiative offers almost 3 million US dollars in investment for the selected SMEs leading to gains in both public and private sectors. As explained in this chapter, the digital transformation is seen by many as an innovative and sustainable pathway for enhancing industrial strategies, creating jobs and promoting economic growth, while offering a better access for livelihood opportunities for marginalised groups such as refugees and migrants in Egypt.

For example, according to the Ministry of Cooperation annual report in 2021, the Egyptian FinTech Association was able to establish a partnership with the World Bank Group in order to promote entrepreneurship in fintech, which is expected to contribute to better economic growth in Egypt (MIC, 2021).

Furthermore, according to a 2022 report issued by the Organization for Economic

Cooperation and Development (OECD) and the American University in Cairo, digitalisation in trade and production is expected to provide better opportunities for African countries to recover from the severe economic impact caused by the pandemic. Digitalisation in logistical processes for example would increase efficiency, allowing small producers from African countries to contribute to different trade and production fields leading to a better economic recovery. This efficiency is illustrated in the form of benefits created by digitalisation for production process optimisation and operations control, especially in the field of consumer goods. Hence, African countries are recommended to allocate investments and establish better regional and national coordination mechanisms to ensure digitalisation and that emerging technologies are mainstreamed in the industrial and trade sector.

On the other hand, different national frameworks and policies were developed, or are under development, in order to support the work of SMEs while embracing digital transformation pathways. For example, an e-commerce protocol is expected to be issued in order to support SMEs. Also, huge investments are geared towards startups in the fintech sector in Egypt, as “Tribal Credit” raised \$34.3 million in a Series A funding round in 2021 while “Paymob”, a payment solutions startup, has raised \$18.5 million (MIC, 2021).

Egypt has the opportunity to further leverage digital transformation to cultivate economic growth in industrial processes in the private and public sectors. With a high concentration of young people, the country is recommended to capitalise on the digital transformation with an essential goal in mind through national projects implemented in alignment with the Digital

Egypt strategy. International partners are also recommended to view job creation and industrial economic growth as key priorities for advocating for digital transformation in Egypt.

Local and international actors' contribution towards Digital Egypt 2030

Different international and local non-state actors view supporting the digital transformation process as a priority in their cooperation with the Egyptian government. According to the 2021 annual report issued by the Ministry of International Cooperation on the multi-stakeholder platforms, the ministry was able to raise 10.27 billion US dollars geared towards different topics including digital transformation and the promotion of e-finance. The report also highlighted the importance of the investments contributed by international partners towards the promotion of transformative digital solutions, which are working to enhance the results of the private sector in Egypt while creating more shares for innovative solutions embracing technology for better outcomes. The report highlights contributions from different international partners such as the EU, the United States Agency for International Development (USAID), the World Bank, the French Development Agency, Germany, and different UN entities.

Similar to EU countries' priorities for cooperation, USAID stated that supporting the Digital Vision 2030 in their Egypt development cooperation plan is one of the strategic goals to be achieved by 2025. Different UN entities in their planning also highlighted interventions related to strengthening Egypt's Digital Vision with

a focus on infrastructure investments, capacity development for public servants and youths, and promoting the digital economy.

For example, UNICEF, in partnership with international partners and the Ministry of Youth and Sports, launched six innovation hubs in September 2022. Located inside youth centres, the hubs are meant to provide young people, including Egyptian citizens, migrants and refugees, with the essential knowledge and skills to promote social innovation and digital entrepreneurship (UNICEF, 2022). Moreover, the World Food Programme in its country strategy plan until 2023 highlights the provision of assistance and capacity-building to provide local units with the necessary technological capacity and infrastructure to deliver high-quality services with a focus on the most vulnerable rural areas and Upper Egypt villages.

Finally, the World Bank has contributed to different key pillars of Digital Egypt's main objectives focused on using the digital transformation for job creation and enhanced e-services. For example, as job creation and enhancing socioeconomic conditions in Egypt are key themes of the World Bank country strategy in Egypt, the "Forsa" project is geared towards job creation through wage employment while also highlighting benefits generated from digital platforms. Moreover, in December 2022, the World Bank pledged \$500 million to support the Social Safety Net Programme in Egypt with a focus on the sustainable livelihood of marginalised populations to access and sustain economic opportunities, an area where digital solutions can play an integral role.

Digital transformation in Egypt is a strategic and long-term process that requires the provision of financial and technical support from international partners in

order to fulfil the objectives envisioned through Digital Egypt. It is apparent that the international community recognises the potential positive impact that the digital transformation in Egypt could have on social and economic growth at different levels. As the digital transformation is seen as an innovative pathway for supporting vulnerable populations, Egypt's international partners have put supporting this pathway as part of their strategies in Egypt as presented above. Finally, the Egyptian government, with the support of international partners, is better suited to continue with the economic and social reform process as part of the government's national strategy while placing the Digital Egypt strategy as an essential pillar to achieve these reforms.

Digital inclusion

According to a 2021 International Labour Organization (ILO) report on digital transformation and its impact on inequality, the digital divide happens when "disadvantaged and marginalised persons such as women, older persons, and persons with disabilities, face dual challenges associated with unequal access to digital technologies compounded by the lack of capacities to use them" (ILO, 2021). As digital transformation can be seen as the means towards a better future for Egypt, it also poses the threat of leaving the less advantaged behind. Countering digital divides entails a strategic pathway defined on the national level to ensure inclusive access to the benefits gained from the digital transformation (ILO, 2021).

By the start of January 2022, almost 72% of Egypt's population used the internet, which is an increase by 2% compared to 2021 (DataPortal, 2022). The digital transformation in Egypt presents a remarkable opportunity to bridge the gap

Digital transformation in Egypt is a strategic and long-term process that requires the provision of financial and technical support from international partners in order to fulfil the objectives envisioned through Digital Egypt

between female and male populations' participation in the labour market in Egypt. In 2021, the ILO reported that Egypt is considered one of the five countries globally with the highest unemployment rate among females, with 24.3% of women unemployed. This number was corroborated by the female skills programme graduates interviewed, mainly building on the prevailing social norms in Egypt. These norms usually entail that household chores and raising children are contributions expected of women, which limits their mobility. As highlighted by the KI from MoYS, digital skills programmes and freelancing introduce more suitable alternatives for females to generate income, without conflicting with their current social status. However, women continue to face limitations in accessing the internet compared to men in Egypt. In March 2022, MCIT reported that 61.5% of men aged 15-75 years old have used the internet over the past three months while only 53% females reported the same. In terms of utilising e-government services via the Digital Egypt portal, there was almost parity with 27% of male internet users utilising the portal vs. 26% of female users. The previous figures highlight the contribution of digitalisation towards eliminating barriers for accessing national services among different genders.

However, urban areas in Egypt are reported to be more advantaged than rural areas in terms of access to equipment, infrastructure and training opportunities to benefit from the digital transformation in their lives. In March 2022, MCIT reported that almost 72% of households located in urban areas own a computer, compared to 55% in rural areas. Moreover, 70% of households in urban areas have access to internet while only 51% in rural areas

enjoy the same. Moreover, as mentioned earlier, Egypt has been attracting global entities such as 500 Global, which is based in Cairo, in order to promote the digital economy and ICT-based innovations. The data presented above indicates that rural areas' limited access to infrastructure and opportunities would hamper their ability to capitalise on economic gains created by the digital transformation.

Another important factor to consider when rolling out different initiatives to reduce the digital divide is to address the conditions and needs of vulnerable refugees and forcibly displaced persons living in Egypt. Despite the fact that most adult refugees have access to smartphones and are able to subscribe to low-data mobile internet packages, as confirmed by different local associations in the country, concerns were raised by UNHCR and the ILO, especially since the start of the COVID-19 outbreak, to ensure that these groups are provided with an equal and safe opportunity to benefit from the digital transformation, with a focus on the potential for creating income through e-commerce (Anwar, 2022).

The Egyptian government, with support from international and local stakeholders, has taken steps towards achieving an inclusive digital access. For example, according to the key informant from MoYS, the "Tawar w Ghayar" programme embraces a unique mobilisation approach to reach targeted groups in rural areas with limited access to the internet, digital equipment, or little to no awareness of the courses on offer. The programme teams conduct offline campaigns using mobile units with computer labs in areas such as Siwa in western Egypt to reach out to youths, in order to encourage them to enrol in the courses. Also, the pro-

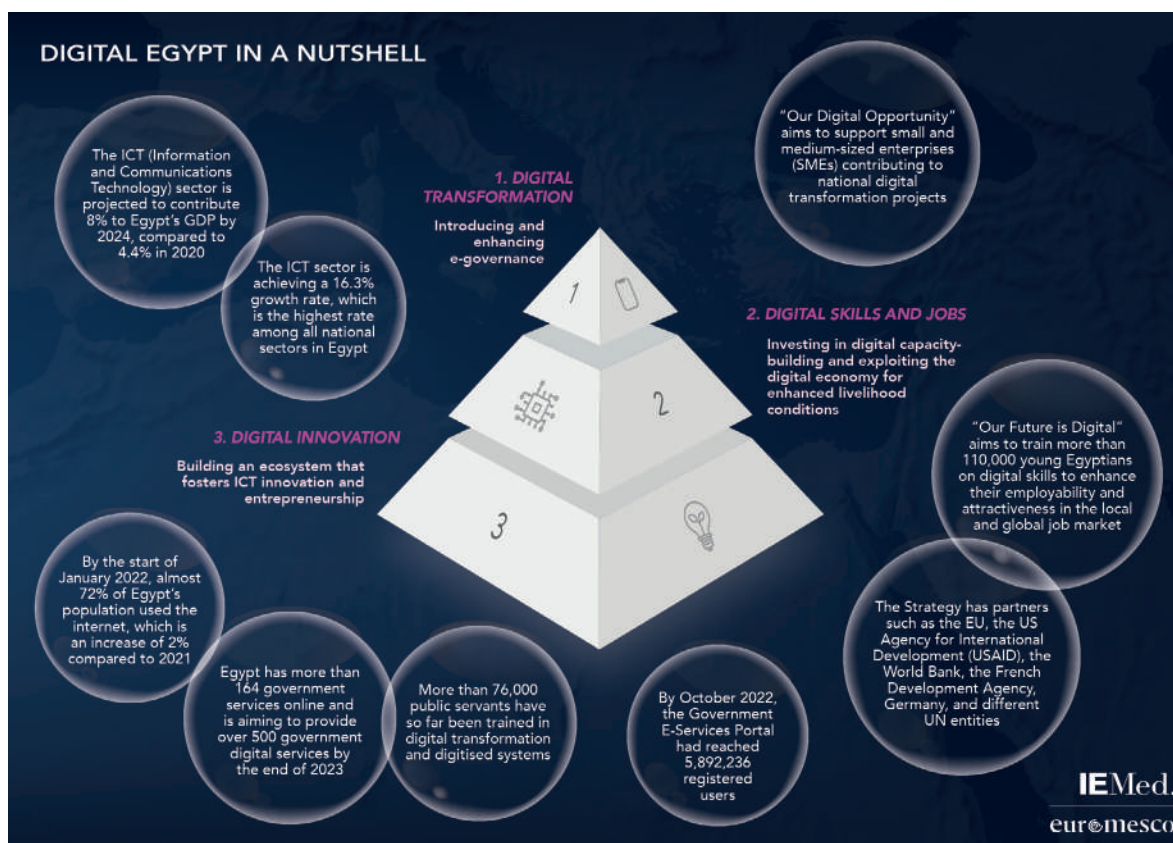
gramme is delivered through a Microsoft Teams channel which usually does not require a high volume of internet data to ensure youths are able to bear the cost of internet. However, the key informant acknowledged that inclusive access is one of the key challenges that the government needs to tackle with the current accelerated pace of transformation. Initiatives presented in this chapter by Microsoft, UNHCR and UNICEF along with other stakeholders have been working to improve inclusion, providing necessary infrastructure, such as establishing innovation labs in the national youth centres to ensure accessibility to marginalised youths, with a focus on those who lack the financial means to pay for the high cost of digital skills training.

As digital transformation introduces a remarkable opportunity for facilitating access to digital trainings designed to enable people to earn a living as presented in this chapter, this emphasises the importance of this transformation especially for persons with disabilities. Despite that fact that Digital Egypt tackles the challenges faced by this group in particular, more comprehensive efforts are still needed to ensure the inclusion of persons with disability to enhance their socioeconomic situation through this transformation. In 2018, the Egyptian president launched the National Academy of Information Technology for Persons with Disabilities (NAID) to ensure inclusive access to skills, knowledge and opportunities for social and economic development. The academy is not only accessible for Egyptians but also for Arabs of other nationalities, and Africans with a disability (Ghoneim, 2021, p. 15).

It is also essential to acknowledge that digital inclusion is best facilitated when

supported with robust policies that ensure the safety and security of the persons who access online platforms for different purposes. For example, with more agencies promoting livelihood opportunities for refugees and migrants settled in Egypt through digital channels, it has become a priority to ensure refugees' safety when utilising online channels for trainings, employment, or business. In one study, a community association focal point stated that some Syrian and Egyptian women were forced by their husbands not to use digital platforms for marketing purposes of their small businesses' products due to the fear of having these women exposed to online harassment or abuse (Anwar, 2022). The UNHCR highlighted in its report *Connecting with Confidence* that the online safety of refugees is an essential protection pillar to be strengthened given the increasing number of threats they face online in relation with employment and businesses processes.

As Egypt proceeds with its full digital transformation process, a comprehensive digital inclusion approach should be embedded in all laws, strategies and initiatives geared towards the realisation of the full transformation. As geographical areas, disability status, gender orientation, nationality and socioeconomic background could all be excluding factors, public and private sector actors should carefully assess key barriers for the targeted populations that might prevent these groups from fully capitalising on the transformation's potentials. By providing different pathways of inclusion for vulnerable groups to benefit from the digital transformation, Digital Egypt will not only achieve greater equality but also deliver better results for all groups.



Conclusion and recommendations

Digital transformation in Egypt has proven to be a success model on different levels. With an accelerated growth rate in the ICT sector in the country, boosted by national reforms and regulatory frameworks, digital transition is contributing to the enhancement of the government's service delivery while promoting sustainable and diverse livelihood opportunities. Moreover, as confirmed by the key informants interviewed for this chapter, digital transformation in Egypt is considered by all relevant state and non-state stakeholders as a national strategic goal and an essential part of policies aiming to enhance the living conditions of different populations in the country. However, essential enhancements related to the human capacities, in-

frastructure, and legal framework were highlighted as strategic priorities in order to fully capitalise on the digital transformation's potential.

Cultivating an enabling environment

The Egyptian government has made efforts to ensure a competitive, inclusive and accessible digital transition for all groups in the country. Nonetheless, the actions recommended below should be embraced by policy- and decision-makers to ensure the maximum number of benefits is reaped through this process.

- Develop a national coordination network among public servant advocates from different ministries to ensure ef-

Digital transformation in Egypt has proven to be a success model on different levels

forts are synchronised and relevant experiences shared in order to reinforce and standardise the digital transformation practices across all national entities.

- Ensure all public servants on a regular basis receive a tailored package of digital skills trainings as part of their induction when joining government entities and then on a quarterly basis. This can be implemented by employing a digitised learning management system.
- Explore relevant financial and human resources available in order to dedicate, in-house, qualified IT specialists to be hired by each ministry to facilitate the process of developing, deploying and troubleshooting online systems utilised by the government bodies.
- Promote digital employment opportunities for youths via local and international platforms such as the “Forasna” online portal for job opportunities or the “Tawar w Ghayar” employment online bank launched by the MoYS. Part of this should be carried out through job hunting skills trainings integrated in the formal education as a mandatory course to ensure youths are aware of employment pathways in ICT-based sectors prior to graduation.
- Develop a strategic inclusion roadmap with a detailed action plan which considers the conditions, limitations and needs from a gender and diversity lens to ensure different vulnerable and disadvantaged groups can fully access and utilise the potential of the digital transformation. This strategy is recommended to be developed through a participatory approach with international and local development organisations in Egypt. This would ensure it is evidence-based and integrates the opinions of minorities and vulnerable groups who are served through these

organisations. The strategy should also entail extensive investments in establishing and equipping digital national lab hubs at youth centres, where different nationalities, genders and also persons with disability can access training and employment opportunities in the ICT sector. Finally, this inclusion strategy should be supported by inclusive policies that ensure the safety of different groups using online platforms for different purposes so that one is denied access to the internet because of a fear of abuse or harassment.

Potential Euro-Mediterranean synergies on digital transformation

As presented in this chapter, different state- and non-state actors are playing an integral role to support Egypt's digital transformation. However, a high level of coordination on the national and strategic level is essential to deliver a coherent and effective package of interventions aiming to benefit from potential synergies across different entities. As the Egyptian Ministry of International Cooperation already leads multi-stakeholder platforms to coordinate between different actors working on this, it is also recommended that the EU establishes an EU-led working group that coordinates the work between different projects and interventions implemented through EU funds in Egypt with the presence of the Egyptian government to ensure efficient and effective results. The benefit from this working group is to allow local and international implementing organisations collaborating on digital transformation advancement to share experience and reflect on their challenges as this would lead to a better field coordination.

Furthermore, the provision of technical and financial support to the Egyptian gov-

ernment, private sector and international organisations in Egypt to enhance the link between the digital transformation and job creation is an essential pillar of further cooperation. This could be implemented by encouraging EU investment in solutions geared towards job creation while embracing digital transformation.

Moreover, it is recommended that the EU sponsors annual exchange visits for

Egyptian private sector experts working on different pillars of digital transformation in Egypt, including e-governance, the digital economy, and ICT-based innovations. Finally, EU policy-makers should lead on and implement different initiatives improving digital inclusion in Egypt, with a special focus on refugees and migrants while supporting the Egyptian government to provide safe and sustainable access for marginalised groups.

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The Dark Side of the Digital Transition? Assessing Digitalisation Policies and Practices in Morocco from a Data Protection Perspective

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Introduction

The digital transition has become one of the main drivers of change in modern times. Parallel to the private sector, public institutions throughout the world are implementing increasingly ambitious digitalisation policies to shift their activities to digital environments.

The digital transition is also one of the six priorities of the European Union (EU) for its engagement with the Southern Neighbourhood (SN) (European Commission, 2021b). Coupled with the attention to sustainability of the so-called 'green transition', the need to achieve resilience and prosperity in the midst of the post-pandemic recovery is a central driver of this policy focus on digitalisation. The positive impact of digital technologies is mostly expected in the economic sector, as the EU promotes digitalisation to reinforce the interconnectedness and sustainability of its southern neighbours' economies. In this respect, research has shown digitalisation's potential to enhance the positive influence of trade on growth (Adeleye et al., 2021), as well as its contribution to business performances (Bouwman et al., 2018) and the internationalisation of enterprises (Cassetta et al., 2020). However, research indicates that individual-level adoption of digital technologies drives economic growth more than business or government adoption in African states (Solomon & Klyton, 2020).

At the same time, the EU's New Agenda for the Mediterranean also stresses the importance of ensuring the respect for the fundamental right to privacy and citizens' data protection. As the EU seeks to support its southern neighbours in their digital transition, the question of how digital information flows, and which institutional safeguards and best

practices ensure the respect of citizens' right to privacy, needs to be at the forefront. This is especially true for the digitalisation of governance, where the data involved is personal and – therefore – sensitive. Indeed, digitalisation policies often lead to an exponential increase in the quantity and quality of the data that is produced, analysed and exchanged.

Moreover, the push for the digital transition also relies on the assumption that it will lead to improved performances, transparency and accountability in public service provision. Yet, this cannot be taken for granted. On the contrary, research has highlighted digital technologies' potential to further authoritarian practices (Saglam, 2022). In this setting, violations of privacy may open the gate for violations of other fundamental rights (Privacy International, 2021).

This study focuses on the digital transition in Morocco from a data protection perspective. It will focus on the increasing digitalisation of governance and the safeguards to citizens' right to privacy provided by data protection regulations. Ultimately, this research seeks to unravel the way in which existing digital governance initiatives influence how personal data is collected, treated and used in Morocco – as well as its impact on citizens. This study relies on extensive desk research, which includes published and unpublished literature on the topic, and a detailed examination of relevant legislation. Furthermore, the author conducted a series of semi-structured interviews with civil society actors, elected officials, representatives of international organisations and academics to shed light on the actual situation on the ground.

This chapter is structured around three sections. The first section will examine

the legal framework that regulates data protection in the region. This comparative assessment will review the main features of data protection in the region and highlight virtuous examples as well as the shortcomings that remain to be addressed. The second section focuses on the Moroccan case. Recognising the crucial influence of contextual factors (such as institutional setting and administrative traditions) in the evaluation of e-governance initiatives (Umbach & Tkalec, 2022), this study will review Morocco's main e-governance initiatives, examining their key focus, as well as the broader strategy grounding these policies. Further, it will look at the role of the National Commission for the Protection of Personal Data (CNDP), Morocco's Data Protection Authority (DPA), in this evolving framework, reviewing its work and highlighting the key challenges for the future.

Finally, the conclusion of this chapter will concentrate on the policy options that are available to decision-makers at all levels to improve the respect for citizens' fundamental right to privacy. The commonalities and differences highlighted in the comparative review should nurture the calls to uphold international agreements and implement their minimum standards. Crucially, these should focus on the effective autonomy and independence of DPAs across the region. Furthermore, the case study will provide concrete insights on the challenges of digital governance policies on personal data protection. In this case, reforms of privacy laws should go beyond the compliance with international standards and focus on the real challenge of digital governance: the exponential increase in the quantity and quality of data collected by governments.

State of the art: the right to privacy and personal data protection in the Southern Mediterranean

The right to privacy is universally recognised as a universal human right. Beyond its inclusion in key multilateral agreements (such as the Universal Declaration of Human Rights and the Arab Charter on Human Rights), countries in the Southern Mediterranean are adopting increasingly advanced legal frameworks for data protection. For instance, all states on the southern shore of the Mediterranean have ratified the International Covenant on Civil and Political Rights (ICCPR). Article 17 of this legally binding instrument establishes not only people's right to privacy, but also their right to be protected when their privacy is threatened. Morocco and Tunisia took another step forward by ratifying the Council of Europe's Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (Treaty 108). This is the first international legally binding instrument dedicated to personal data protection, and sets out an ambitious threshold to ensure citizens' right to privacy.

Moreover, different nuances of this right are often enshrined in states' constitutions, and then implemented through specific legal mechanisms. Undoubtedly, this is a step forward. However, the multiplication of local frameworks for data protection complicates the assessment of whether countries are effectively protecting citizens' right to privacy. In this spirit, the following table outlines the main elements of the data protection framework in these countries.

This brief overview provides a series of key insights. The selection of countries included in this review is based on the case

Table 1. Data protection framework in the Southern Mediterranean

Legal instruments available	Countries						
	Algeria	Egypt	Jordan	Lebanon	Libya	Morocco	Tunisia
Constitutional safeguards	Constitution 2020: art. 47	Constitution 2014 (rev. 2019): art. 57	Constitution 1952 (rev. 2022): art. 18; art. 7 (rev. 2016)	Constitution 1926 (rev. 1990): art. 14	Constitution 2011 (rev. 2012): art. 12, 13	Constitution 2011: art. 24	Constitution 2022: art. 30
Dedicated personal data protection legislation	Law no. 18-07 (2018)	Law no. 151 (2020) [unofficial translation]	Draft Law on Personal Data Protection (2021) [AR]	Law no. 81 (2018) [unofficial translation]	N/A	Law no. 09-08 (2009)	Law no. 2004-63 (2004) Draft Organic Law no. 25-2018 (2018)
Data protection authority	National Authority for the Protection of Personal Data (AN)	Data Protection Centre (DPC)	N/A	N/A	N/A	National Commission for the Protection of Personal Data (CNDP)	National Body for the Protection of Personal Data (INPDP)

studies included in this policy study. Libya and Algeria have also been included for the regional proximity and the extra insights they provide. First and foremost, all the reviewed countries integrate the right to privacy as a constitutional right. However, such integration varies substantially between countries, ranging from broad and comprehensive definitions to very concise interpretations. Broad definitions establish privacy as a fundamental right and include ancillary elements like the right to the protection of personal correspondence and communications (Algeria, Egypt, Libya, Morocco and Tunisia). In other

cases, the definition of the right to privacy is limited to one of its constitutive elements and does not recognise its value as a fundamental right. This is the case in Lebanon, where the only mention related to the right to privacy is the inviolability of people's domicile. Jordan is another peculiar case, as it seems that the 2022 constitutional revision restricted the scope of personal data protection in comparison to the 2016 version: art. 7 of the 2022 version establishes that "personal freedom shall be guaranteed" but the same article in the 2016 version also had a second clause that stated that "[...] the inviol-

ability of the private life of Jordanians is a crime punishable by law.” Even if it is too early to see the impact of this change, erasing the explicit mention concerning the inviolability of private life represents a clear step back. This should be a stark reminder that reforms can also deteriorate the situation, and constant oversight is necessary to ensure citizens’ personal data protection.

The integration of the right to privacy as a constitutional right is central, but it alone does not ensure the respect for citizens’ personal data protection. Indeed, constitutionalising the right to privacy implies the legislative and judiciary branches’ duty of ensuring respect for this right (Espinosa, 2012, p. 967). In this respect, national data protection laws form the basis of how states implement the right to privacy. As shown by Table 1, most of the reviewed countries implemented such a legal framework. Libya and Jordan are exceptions. For the former, the context’s political instability is seen as the main reason why such a law is lacking (MAJALAT, 2021); the latter has been working on a draft data protection law since 2013, but it has yet to come into force. Generally speaking, national data protection laws clarify the scope of personal data protection and outline the conditions in which personal data is collected, treated and disclosed, as well as the sanctions foreseen if such conditions are not respected. The main difference in terms of scope is whether the law engages with personal data protection as a whole, or if it is limited to a specific type of data or sector. For instance, Tunisia’s data protection law does not include electronic data. This has been attributed to the fact that it is the first country in North Africa to implement such a law. Plus, this shortcoming is addressed by the 2018 revision of the law (currently under approval). Con-

versely, Egypt’s law is limited to electronic data. In the case of Lebanon, data protection is mainly framed under the umbrella of business, and financial transactions and provisions dedicated to personal data specifically are limited.

Moreover, all these data protection laws share two common points: the need to obtain the explicit consent of the data subject prior to the collection of personal data, and important exceptions to this requirement. Explicit consent is considered the cornerstone of data protection and, therefore, its inclusion in the legal framework is fundamental. However, some legal scholars also argued that if “[consent] legitimises nearly any form of collection, use, or disclosure of personal data [...] it does not provide people with meaningful control over their data” (Solove, 2013, p. 1880). Furthermore, personal data collection can be exempt from this requirement if it falls into a specific category: data needed to safeguard the internal and external security of the state, data needed to prevent, pursue and repress crimes, and sometimes even data needed to safeguard the “vital interest” of the state. These exceptions can be found in all the privacy laws reviewed. Their main issue is the vagueness of the exceptions, which tends to leave states with ample opportunities to collect personal data without individuals’ consent.

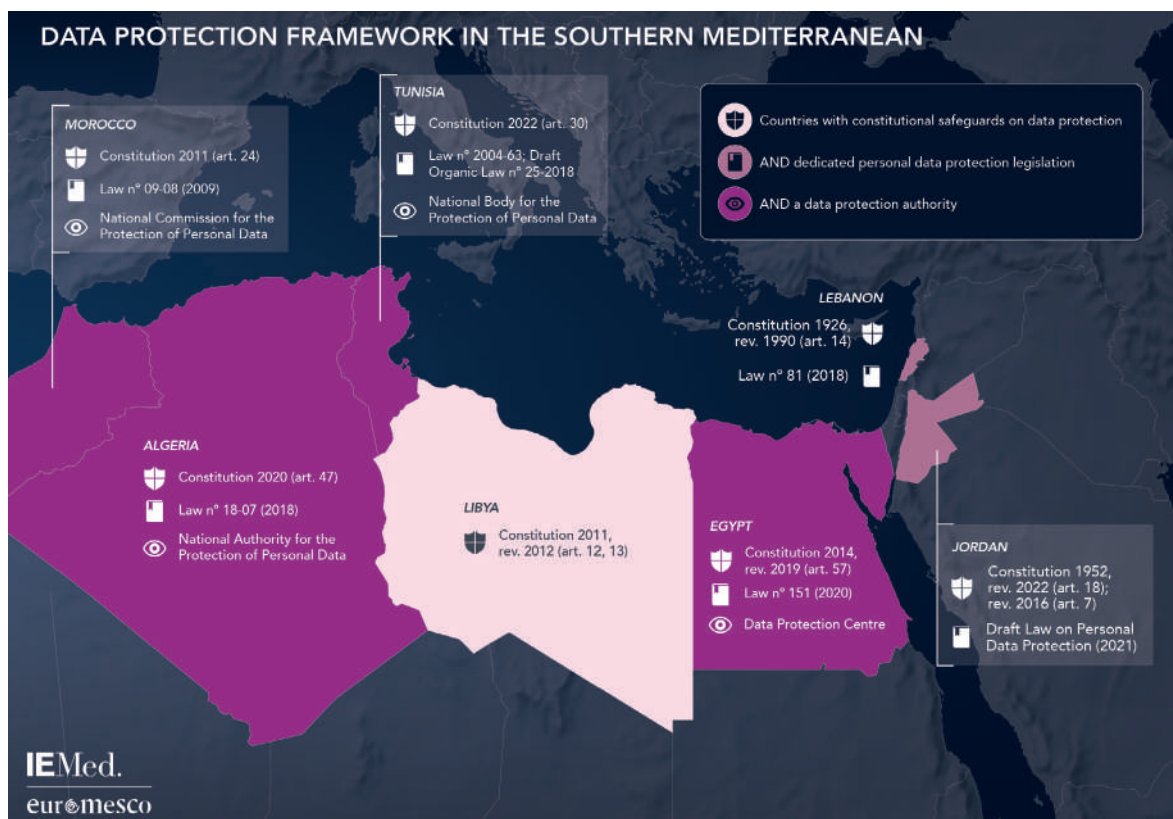
But who is responsible for monitoring the adherence to these conditions, and eventually to enforce sanctions? In the ‘worst’ case scenario, this is the direct responsibility of the executive. For instance, in Lebanon these responsibilities are attributed to the Ministry of Economy and Trade. Evidently, this policy choice is problematic since it does not ensure independent oversight of the executive’s actions. In turn, this con-

siderably increases the executive's potential to control personal data unfettered.

In this context, the 'best' practice is attributing enforcement responsibilities to an independent body or commission – concretely, a DPA. These entities are often created through national data protection laws, which define their composition, functioning, responsibilities, and overall independence. DPAs may be in charge of both enforcing privacy laws and of shaping their environment (Jóri, 2015). This may include providing policy advice to relevant parties in terms of personal data protection and privacy with the goal of advancing its regulation, as well as being in charge of raising citizens' awareness about the importance of data protection and sustaining an informed public debate on the matter. In the context of this study, the analysis of national data protection frameworks shows that DPAs' mission may vary, but they are always under some degrees of tutelage by the executive. Such tutelage may range from putting the DPA under the direct control of a ministry, as is the case for Egypt, to having (a part of or all) its members nominated by the executive, which is the case in Algeria

and Morocco. Having their budgets linked to a specific ministry is another challenge, as it reinforces their dependence on the executive. Therefore, the issue of oversight of governments' actions remains central. This is especially true in contexts where the enforcement of privacy laws bears the potential to reinforce dynamics of social and political control (MAJALAT, 2021). Furthermore, in addition to the call to exercise maximum due diligence in future cooperation related to digitalisation (MAJALAT, 2021), it is important to highlight that specific segments of the populations – such as migrants and asylum seekers – are often exposed to heightened levels of discrimination online (Migration Data Portal, 2022).

This assessment above all should not downplay the advances in terms of data protection in the region. Establishing constitutional safeguards, implementing national privacy laws and developing effective DPAs are central to ensuring respect for citizens' right to privacy. Nonetheless, the extent to which this fundamental right is respected will depend on how the legal framework will be implemented in each country.



The digitalisation of governance in Morocco: policies and actual implementation

Morocco has been working intensively to shift governance practice to the digital realm. A wide array of initiatives, bodies and commissions, as well as pieces of legislation, have contributed to this ongoing process. Reviewing these efforts is instrumental to understanding the digital transition's impact on the right to privacy, as well as the new challenges for personal data protection.

Twenty years of digitalisation

Since 2005, Morocco has launched several national initiatives focused on the

digital transition. These include the “Stratégie e-Maroc 2010” (2005-2010), “Maroc Numérique 2013” (2009-2013), “Maroc Numérique 2020” (2015-2020), and finally the “Notes d’Orientations Générales pour le développement du Digital au Maroc à horizon 2025” (2020-2025). These initiatives are primarily motivated by digitalisation’s potential to bolster the economy, but they also included a focus on digital governance since the very first attempts. For instance, the first two strategic priorities of the “Maroc Numérique 2013” initiative relate to the development of high-speed internet infrastructure as a vector of social transformation and the use of e-governance as a tool to reduce the gap between citizens’ needs and the administration (Ministère de l’Industrie du Commerce et des Nouvelles Technologies, 2013). This focus on e-govern-

ance gained importance in the subsequent strategies, and became the first priority of both the 2020 and 2025 strategies. Currently, a plethora of public services are available online. Moreover, the legislative framework also evolved to adapt to this digital transition. In particular, law no. 54-19 (Charter of Public Services) and law no. 55-19 (on the simplification of administrative processes) establish the need to engage with digitalisation as a tool to improve the quality of public services. Finally, Morocco's accession to the Open Government Partnership (OGP) in 2018 also included a number of provisions related to the digitalisation of governance practices. Indeed, the two national action plans include both the development of specific measures (such as online portals to carry out administrative procedures or send complaints to public institutions) as well as a broader support in the dematerialisation of administrative procedures (especially in terms of public service delivery and the justice sector).

The adoption of a legal framework for the protection of personal data was included in the very early stages of Morocco's digital transition

All these initiatives are proof of an enduring political will to support the digitalisation of governance in Morocco. However, this proliferation of projects complicates both the task of evaluating the government's efforts in terms of digital governance and the assessment of the role of the right to privacy within this evolving framework. In terms of evaluation, there is limited publicly available official information concerning the implementation of the strategies mentioned above. A 2014 report from the Court of Auditors showcases the delays in the implementation of the "Maroc Numérique 2013" strategy, reporting limited rates of implementation across the board (Larabi, 2015). Commenting on the same evaluation, a report from the Organization for Economic Cooperation and Development (OECD) notes that "the weakness of monitoring

and evaluation mechanisms [...] prevented the Government of Morocco from making timely and evidence-based decisions" (2018, p. 61). In spite of these remarks, no independent evaluations of digital governance reforms in Morocco are available after 2014. The same OECD report stresses the importance of a unified strategy dedicated to digital governance reforms, which so far have been implemented by a plethora of actors and institutions (OECD, 2018). This fragmentation was also evident during the fieldwork conducted for this chapter. Specifically, interviewees highlighted the lack of a common strategy as the central reason why Morocco's public sector was "lagging behind" in the digital transition. Despite recognising the steps forward (like the proliferation of online platforms dedicated to public services), they also questioned their actual implementation and efficacy.

In terms of privacy, the adoption of a legal framework for the protection of personal data was included in the very early stages of Morocco's digital transition. Indeed, the "Stratégie e-Maroc 2010" already mentions the need to develop a national framework to protect personal data in the context of electronic exchanges (Ministère des Affaires Economiques et Générales, 2007). This led to the approval of law no. 09-08 on the protection of personal data in 2009 and the formation of the National Commission for the Protection of Personal Data (CNDP) in 2010. The ensuing digital governance action plans did not call for updates of the legal framework related to privacy. Only several years later in 2021, the Conseil Economique Social et Environnemental (CESE), an independent constitutional institution, mentioned the need for an holistic update to the legislative and regulatory framework related to digitalisation and data protection (Conseil Econ-

omique Social et Environmental, 2021). Regardless, law no. 09-08 remains the only line of defence to the right to privacy in Morocco to this day.

Despite being almost 15 years old, law no. 09-08 lays the ground for the protection of personal data. Beyond providing key definitions (art. 1) and clarifying its scope of application (art. 2), it establishes clear conditions related to the quality of the data collected (art. 3) and the need for explicit consent (art. 4). Further, it delineates the right of the person whose data is being collected and processed (from art. 5 to art. 11) and the obligation of the natural or moral person who is processing the data (art. 12 to art. 26). Notably, these include the need to present a preliminary declaration concerning data processing and, if the treatment concerns sensitive data, to obtain a preliminary authorisation from Morocco's DPA. Indeed, law no. 09-08 also establishes Morocco's DPA – the CNDP. It does so by defining its prerogatives, functioning, composition, and administration (from art. 27 to art. 42). Finally, this law also establishes heavy sanctions in case of lack of compliance – ranging from MAD 10,000 to MAD 500,000 (roughly corresponding to EUR 900 to EUR 45,000) and imprisonment from three months to two years.

Beyond the fact that the exponential growth in the flow of personal data due to the widespread use of information technologies and the globalisation of data processing would require a revision of this framework, law no. 09-08 also has some key limitations. The central one relates to the broad clearance to collect personal data for security reasons. Specifically, art. 2.4 establishes that this law is not applicable to data collected in the interest of “national defence and the internal and external security of the state.”

Furthermore, in case of “crime prevention and repression”, the collection of personal data depends on the specific regulation that is allowing such a process – on which the CNDP can only provide its advisory opinion. These limitations extend to individuals' right to access their information, which is not permitted when data collection is necessary for “national defence, the internal and external security of the state, and the prevention and repression of crime” (art. 6.a).

Privacy in practice: taking stock of the CNDP's efforts

The task of monitoring the implementation of and the respect for law no. 09-08 is the main prerogative of the CNDP. Its work can be subsumed into two main categories: its work as enforcer of privacy laws and its mission as a privacy advocate. In relation to the former, the CNDP's own reports show that its activities to ensure the respect of right to privacy have been evolving over time. These are available on the CNDP's website and cover the 2010-2016 period. Plus, an ‘information bulletin’ was published in 2020; but it contains considerably less information than the previous issues (CNDP, 2022b). These documents show a substantial increase in the number of complaints sent to the CNDP (from 7 in 2012 to 584 in 2016), as well as a growing number of inspections to verify compliance with law no. 09-08 (from 104 in 2014 to 169 in 2016). Furthermore, the 2016 report shows that almost all complaints relate to the private sector (93%), very few to individuals (5%) and even fewer to public institutions (2%). Similarly, inspections dealt predominantly with the private sector: out of 53 inspections of documents, only one related to a public entity; out of 69 inspections of websites, only three belonged to the public sector.

The limited number of sanctions delivered over the years has mainly targeted private sector compliance, whilst it remains unclear whether the public sector has been sanctioned thus far

Therefore, it seems that the CNDP's work to enact privacy regulations has mainly focused on supporting various entities – mostly in the private sector – to achieve compliance with existing regulations. The limited number of sanctions delivered over the years has mainly targeted private sector compliance, whilst it remains unclear whether the public sector has been sanctioned thus far. The work with the latter has focused on supporting the proactive adaptation to the relevant regulations. This logic has also been translated into the “Data-Tika” programme, where the CNDP strives to establish partnerships with private and public institutions to stimulate discussion on the use of personal data within these organisations. This programme, which gauged the participation of a wide range of public and private actors, also pertains to the second half of the CNDP's activities: supporting the development of the policy environment surrounding privacy. Indeed, different stakeholders have asked the CNDP to provide its expertise on specific issues. This is, for example, the case of the agreement between Morocco and the UN High Commissioner for Refugees (UNHCR) on the exchange of asylum seekers' and refugees' personal data, as well as on the use of private video surveillance in cafés, restaurants and residential units – just to cite a few.

Moreover, the CNDP can directly influence policies and practices related to data protection through its decisions and deliberations, which are publicly available (CNDP, 2022a). The deliberations concerning facial recognition provide another informative example of its potential policy impact. In August 2019, the CNDP issued a moratorium (Deliberation D-194-2019) on the use of facial recognition software to determine the scope of application and avoid misuse of this technology. After extending this moratorium until

the end of 2020, it issued two deliberations allowing the use of facial recognition for banks and insurance companies in some use-cases. These deliberations stress the risk of each entity establishing its own database and suggest the establishment of a “trusted national third-party system” to centralise the verification of personal data. At the end of 2020, the CNDP granted the possibility of requesting an authorisation to use facial recognition – under the condition of being ready to use this third-party system and obtaining any other relevant authorisations. The third-party system was launched in mid-2022 through a partnership of the General Directorate for National Security (DGSN – Morocco's police force), the Agency for Digital Development (ADD), and the CNDP (Chaabi, 2022). The DGSN also signed an agreement with the CNDP to authorise it to use the functions of the digital ID card in the framework of this system (CNDP, 2022c). Ultimately, the development of the framework for facial recognition showed the CNDP's potential to influence data protection policies. However, it also shows its dependence on the government (in this case, the security apparatus).

Based on an assessment of the CNDP's activities, its focus appears to be the private sector and there are no mentions of the protection of citizens from the action of the state. This is in stark contrast with several reports of the use of surveillance technologies by the security apparatus. For instance, Privacy International (2015) documented the use of unlawful surveillance to identify and target political opponents. Furthermore, it also reviewed some of the surveillance technologies employed in Morocco – tracing them back to as early as 2009 (Privacy International, 2019). The CNDP has not raised any concerns on these issues. More recently, Amnesty International covered the use of the NSO's Pegasus spyware to surveil

human rights defenders in Morocco (Amnesty International, 2019). In this case, the CNDP announced in 2021 that it was going to investigate the matter (CNDP, 2021). However, to this day it has not followed up publicly on the investigations.

In spite of the evolution of the CNDP's activities, a key challenge concerns its willingness to provide transparent and effective oversight of public institutions, particularly regarding the massive collection of personal data by the security apparatus. This does not only relate to allegations of unlawful surveillance practices, but also other issues such as the development of new identification technologies or centralised population registries. Even if the security forces may operate under the exceptions provided by law no. 09-08, this should not deter the CNDP from exercising its constitutional mandate and advocating for the respect of the fundamental right to privacy. As an example, the President of Tunisia's DPA expressed his grave concerns about the biometric ID card project of the Ministry of Interior, joining the calls of civil society (Derbali, 2022). This shows that DPAs can bring important issues to the attention of the public and act independently for the right to privacy. In Morocco, the CNDP's concerns over the development of a unified registry of the population were mainly technical (Elafrite, 2020). In the context of this project, the need for strengthening the legal framework of personal data protection was instead raised by the CESE, which called for the transformation of the CNDP into an "independent administrative authority" (Conseil Economique Social et Environmental, 2020, p. 21).

Privacy and digitalisation: what role for the EU?

Morocco is a major EU partner, as demonstrated by the long-standing political and economic cooperation. Since the

first Association Agreement in 2000 to the last Joint Declaration in 2019, the protection of personal data and the fundamental right to privacy always had a place in bilateral relations, but has not been an overall priority. The 2000 Association Agreement contains an annex exclusively dedicated to the protection of the fundamental right to privacy (European Community, 2000). The 2019 Joint Agreement recognises a "convergence of values" that includes the right to privacy (European Council, 2019). This includes recommending measures explicitly tackling personal data protection and suggesting the ratification of relevant legal instruments to ensure these rights are included in the Morocco-EU Action Plan 2013-2017 (European Council, 2017). Furthermore, this document aimed at engaging directly with Morocco's national policy priorities, as the Action Plan endorses the active engagement with the "Maroc Numérique" strategy as an avenue to find "opportunities for development cooperation" and "development synergies." The same document also stresses the opportunities provided by Information and Communication Technologies (ICTs), as well as the ones provided by the inclusion of civil society actors in the digital transition.

This continued political engagement was also translated into a set of international development actions. Amongst them, since 2012 the EU has provided institutional support through five editions of the South Programme. In cooperation with the Council of Europe, the first four editions of this programme ran from 2012 to February 2022, while the fifth one started in September 2022 and is programmed until 2025. As an exemplary case, this programme has engaged directly with the issues of personal data protection and the right to privacy. Indeed, Morocco's ratification of the Council of Europe's

'Convention 108+' is seen as its direct result. Furthermore, the operational conclusions of the closing event of the South Programme IV explicitly mention the need to further promote the adherence to international legal instruments and to "reinforce programme focus on personal data protection as a key issue for the protection of human rights and the rule of law in the region and beyond" (Council of Europe & European Union, 2022).

In this matter, the wave of reforms caused by the EU's General Data Protection Regulation (GDPR) provides a key opportunity as it requires that data transfers to third countries will only be possible if these countries ensure an "adequate level of protection" (art. 44). Since these data transfers are often necessary for international trade and cooperation, governments in the Southern Mediterranean – Morocco included – are considering updating their privacy regulations to comply with the GDPR and ensure such adequate level of protection of the right to privacy. One of the key elements for obtaining this status is "the existence and effective functioning of one or more independent supervisory authorities" (art. 45.2.b).

Amongst the programmatic actions that exemplify the implementation of these policy priorities, one can quote a partnership programme and funding for the CNDP, which was part of a roadmap for Morocco and the EU to achieve the 'advanced' partnership status and establish a common economic area. This programme aimed at assisting the reform of Morocco's legal framework of personal data protection to comply with EU standards and to take into consideration modern challenges (such as offshoring and data transfers). Overall, most of the EU's cooperation related to data protection focused on institutional capacity-building

and training. Furthermore, the Venice Commission has also been actively engaging on the topic. The Council of Europe's advisory body on constitutional matters has carried out a series of actions to uphold the political commitments related to the right to privacy. Amongst the most recent examples, the regional seminar "Vers une administration orientée vers les usagers" devoted the first working day to "the essential question of data protection" and included presentations from high-level officials and experts from Morocco, EU institutions and a plethora of states.

The New Agenda for the Mediterranean clearly states that the "EU will continue to engage with partner countries to ensure a high level of protection of the fundamental rights to privacy and data protection and promote further convergence with EU and international data protection standards, facilitating commercial exchanges and law enforcement cooperation" (European Council, 2021). Practically speaking, however, this commitment was not reflected in the Economic and Investment Plan annex, which does not mention the protection of personal data in any of its flagship actions. This is in spite of the fact that these flagship actions do include measures to support the digital transition. Specifically, flagship 1 mentions vocational training needed to up- and reskilling of the population in the context of digitalisation; flagship 2 mentions public administration reforms; and flagship 7 mentions the EU-Morocco Digital Partnership, the EU's financing of the digital infrastructure and its support for the digital/innovation ecosystem (European Commission, 2021a). At the same time, the interviews for this chapter indicate that the EU Delegation in Rabat is working to integrate a data protection perspective transversally across its future projects in collaboration

with the European Commission's Directorate-General for Justice and Consumers (DG JUST).

In respect to the EU's engagement with Moroccan civil society, the 2021-2027 roadmap to engage does not mention explicitly the issue of personal data protection, but focuses mainly on improving civil society's 'working environment' and its relationship with the government (including the creation of 'bridges' between them). Further, it includes general support to civil society actors' initiatives in the field of digitalisation (action 2.3) and aims to foster their 'watchdog' role (action 2.5). However, it does not mention personal data protection explicitly. Surprisingly, the issue of the right to privacy is also absent from the last Venice Commission activity in Rabat – namely, the seminar "The digital transformation of the public administration". Indeed, neither the seminar's programme addresses the right to privacy explicitly, nor does it seem that CNDP representatives attended the event.

Conclusion and policy recommendations

The comparative review of personal data protection in the Southern Mediterranean and the in-depth analysis of the Moroccan case study both highlight that the combination of solid privacy laws and an independent authority in charge of compliance and update are a necessary condition for the respect of the right to privacy. This combination is recognised internationally as a best practice in terms of data protection, as highlighted by key legal instruments such as Council of Europe's Convention 108+.

Yet, international conventions seem to have a limited impact on the actual respect of the right to privacy. This chapter showed that both the translation of inter-

national conventions into national legislation, as well as the actual protection of personal data on the ground, varies substantially. This is despite the fact that these countries have ratified the same legal instruments. In this context, closing the well-known gap between policy and practice should be the main concern of all relevant actors.

Furthermore, the independence of DPAs should be at the core of any reform of the policy environment of data protection. The relevance of this issue is directly correlated with the broad and rapid digitalisation of governance sectors: the more governments collect, treat, analyse, store and share citizens' personal data, the more DPAs need to monitor public institutions and hold them accountable for their actions. On this point, this chapter has shown that even Morocco, where the privacy law is relatively advanced compared to its neighbours, still has substantial work to do.

In this matter, the EU should explicitly acknowledge the challenges posed to the effective independence and autonomy of DPAs in the Southern Mediterranean, as well as the broader conditions that allow countries to qualify for the 'adequate territory' determination. In the case of Morocco, the current revision of law no. 08-09 provides the EU with an opportunity to monitor closely and – where possible – support the achievement of an adequate level of protection through its multiple instruments.

The support towards the alignment to GDPR's 'gold standard' should also stress the economic benefits that the recognition as an 'adequate territory' entails. Once again taking Morocco as an example, facilitating the transnational flow of information may have a substantial added value to its geopolitical position

The EU's continued political commitment for the right to privacy should reinforce technical cooperation

given its efforts to become a strategic trade hub at the intersection of Africa and Europe. In this context, economic incentives may leverage the adoption of advanced and robust regulatory frameworks to uphold both national and international human rights commitments.

The EU's continued political commitment for the right to privacy should reinforce technical cooperation, as foreseen by the fifth iteration of the South Programme, and continue to engage in dialogue with Moroccan public powers to put the fundamental right to privacy at the centre of

their development policies – especially those related to digitalisation. For instance, the EU-Morocco Digital Partnership may provide a framework for future cooperation. In this context, it is central that Morocco and the EU co-construct their development strategies striving to make the right to privacy the central lever of digitalisation. Beyond substantial economic interests, the EU's collaboration with third countries should protect people's right to privacy. In the digital era, ensuring personal data protection is instrumental to the protection of individual and collective rights.

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List of acronyms and abbreviations

ADD	Digital Development Agency
ANRT	Moroccan National Telecommunications Regulatory Agency
CGAP	Consultative Group to Assist the Poor
CESE	Conseil Economique Social et Environnemental
CNDP	National Commission for the Protection of Personal Data
COVID-19	Coronavirus Disease 2019
CSR	Corporate Social Responsibility
DESI	Digital Economy and Society Index
DPA	Data Protection Authority
DSL	Digital Subscriber Line
EC	European Commission
EIB	European Investment Bank
EFSD+	European Fund for Sustainable Development Plus
ENP	European Neighbourhood Policy
EU	European Union
EUROSTAT	Statistical Office of the European Union
G7	Group of Seven
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Development Cooperation)
GSMA	Global System for Mobile Communications
GNI	Gross National Income
ICT	Information and Communications Technology
IMF	International Monetary Fund
INJO4.0	Jordan Industry 4.0 & Digitalization Innovation Centre
IMF	International Monetary Fund
ISP	Internet Service Provider
ITA	Information Technology Authority
ITU	International Telecommunication Union
KI	Key Informant
KIIs	Key Informant Interviews
LBP	Lebanese Pound
LTE	Long-Term Evolution
MCIT	Ministry of Communication and Information Technology
MENA	Middle East and North Africa
MOOC	Massive Online Open Course
NDICI	Neighbourhood, Development and International Cooperation Instrument
NGO	Non-Governmental Organization
NSRP	National Structural Reform Programme
OBG	Oxford Business Group
OECD	Organisation for Economic Co-operation and Development
PGII	Partnership for Global Infrastructure
PPP	Public-Private Partnership
PPPs	Public-private partnerships
SMEX	Social Media Exchange
SN	Southern Neighbourhood
TTC	Trade and Technology Council

TVET	Technical and Vocational Education and Training
UAE	United Arab Emirates
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHCR	United Nations High Commissioner for Refugees
USAID	United States Agency for International Development

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