

**ECONOMIST
IMPACT**

Accelerating access

**Deepening engagement in the digital economy
in Central Asia, the Middle East and Africa**

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About this research

Accelerating Access: Deepening engagement in the digital economy in Central Asia, the Middle East and Africa is an Economist Impact report. It assesses key enablers of access to the digital economy across nine countries in Central Asia, the Middle East and Africa: the Democratic Republic of Congo (DRC), Egypt, Kazakhstan, Kenya, Nigeria, Pakistan, Saudi Arabia, South Africa and the United Arab Emirates (UAE).

The report presents the findings of a research programme comprising a literature review, in-depth interviews, data collection and scorecards conducted between July and September 2022. The programme commenced with a literature review focused on understanding the importance of the digital economy, gaps in access, key enablers of access and the extent to which each enabler determines access. In addition, it explored the opportunities and risks arising from access to the digital economy.

Using insights from the literature review, Economist Impact developed a scorecard framework comprising four pillars: Policy and Regulation, Infrastructure, Affordability and Readiness (which includes consumer willingness and business readiness). The scorecard includes 31 quantitative and qualitative indicators that measure different

aspects of access to the digital economy. The quantitative indicators include data from two surveys, developed and fielded by Economist Impact, of consumers and small- and medium-sized businesses (SMBs), capturing their perceptions of access to the digital economy. As the consumer survey was conducted online, the secured responses are from consumers who already have access to the internet.

The research was further supplemented by an interview programme with experts in the field to gather insights from academics, business leaders and policymakers in the nine markets. Our thanks are due to the following people, in alphabetical order (by first name), for their time and insights:

- **Alan Muldagulov**, CEO, Arbuz.kz
- **Berry Numbi**, founder and managing director, Centre d'innovation de Lubumbashi
- **Buhle Goslar**, CEO of Africa Region, JUMO
- **Djamel Mohand**, COO, Foodics
- **Eric Dunand**, senior digital development specialist, The World Bank - Egypt
- **Halima Iqbal**, founder and CEO, Oraan
- **Imran Khan**, founder, Raptr Games
- **Jayesh Patel**, CEO, Wio Bank

- **Khalid Al Shamsi**, executive director, Dubai Chamber for Digital Economy
- **Lanre Osibona**, founder and CEO, The Foresight Group
- **Lyaila Uzakova**, co-founder and partner, RedQoo
- **Mark Schoeman**, partner, Centre of Digital Excellence (CODE) practice at Genesis Analytics Genesis Analytics
- **Nikhil Goel**, former CEO, Gokada
- **Noha Shaker**, secretary general, Egyptian Fintech Association
- **Shikoh Gitau**, CEO, Qhala
- **Wambura Kimunyu**, CEO, Eneza Education

More details of the research methodology, including survey specifications and indicator definitions, are in the Appendix.

The findings of the programme are presented in this report, exploring regional and country-level opportunities for and barriers to enabling greater access to the digital economy for consumers and businesses.

The report was produced by a team of Economist Impact researchers, writers, editors and graphic designers, including:

- **Melanie Noronha**—Project director
- **Syedah Ailia Haider**—Project manager
- **Maryam Rasheed**—Senior analyst
- **Serena Cesareo**—Contributor analyst

Executive summary

40%

Enabling universal access to the digital economy could boost GDP per capita by around 40% between 2017 and 2045.

The digital economy promises to transform economies by raising the productivity of capital and labour, lowering transaction costs and facilitating access to global markets. It is defined as the portion of the economy derived solely or primarily from digital technologies, which includes a host of services from e-commerce to online money transfers and telehealth to ride-hailing solutions.¹ Over the next few decades, it is poised to be the engine of growth, projected to contribute up to **25% of global GDP by 2025**.² But millions of people still live without access to affordable digital services and almost half of the world is still offline. Many of them reside in the world's least developed countries (LDCs) in Africa and Asia.³ In the poorest countries of the Middle East and North Africa (MENA) region, **enabling universal access to the digital economy could boost GDP per capita by around 40% between 2017 and 2045**.⁴

This begs the question: How can access to the digital economy be improved? This report takes a closer look at the factors determining access

to the digital economy in a subset of the regions, to identify areas in most need of policymaker and business attention. Nine developing and developed countries spread across Central Asia, the Middle East and Africa were chosen for this study: **the Democratic Republic of Congo (DRC), Egypt, Kazakhstan, Kenya, Nigeria, Pakistan, Saudi Arabia, South Africa and the United Arab Emirates (UAE)**. They represent a mix of countries within the region that are experiencing lower levels of access to the digital economy as well as those demonstrating the fastest progress in areas such as internet and smartphone penetration.⁵ These countries are at different stages of their development, spanning across low-income countries, including the DRC, to high-income countries, including Saudi Arabia and UAE. Despite their developmental differences, they share common traits including young populations—only Kazakhstan, Saudi Arabia and the UAE's under-14 population is below 30%—as well as relatively new regulatory and technical infrastructure. To drive this

¹ https://unctad.org/system/files/official-document/der2019_en.pdf; https://www.researchgate.net/publication/327356904_Defining_Conceptualising_and_Measuring_the_Digital_Economy

² <https://www.strategyand.pwc.com/m1/en/strategic-foresight/sector-strategies/technology/becoming-a-digital-disruptor/national-tech-champions.pdf>

³ <https://www.weforum.org/agenda/2021/10/unlocking-finance-for-digital-inclusion-and-sustainable-growth/>; <https://www.itu.int/hub/2021/11/facts-and-figures-2021-2-9-billion-people-still-offline/>; <https://www.weforum.org/agenda/2022/05/nearly-3-billion-people-are-offline-how-to-bridge-the-digital-divide/>; <https://www.statista.com/statistics/1155552/countries-highest-number-lacking-internet/#:~:text=As%20of%20July%202022%2C%20the,not%20connected%20to%20the%20internet.>

⁴ <https://openknowledge.worldbank.org/bitstream/handle/10986/37058/9781464816635.pdf?sequence=10&isAllowed=y>

⁵ <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2021.pdf>

analysis, Economist Impact developed a scorecard of 31 indicators to assess policy and regulation, infrastructure, affordability and readiness (see Appendix II).

Pushing policy one step further

Across the nine countries in this study, **governments show strong intention and ambition to accelerate their digital economies.** Seven out of nine countries have in place the most vital components of a policy and regulatory framework necessary to support a digital economy. This is often the starting point in identifying national digital challenges and mapping out opportunities for policy coordination.⁶ But there is room for strengthening their digital strategy development. Countries such as Pakistan and South Africa can update existing strategies and earmark a budget for implementation. Kazakhstan and Kenya offer good examples: they have digital strategies with budgets and timelines for specific projects.

Beyond national strategies, the countries in this study have in place key enabling initiatives such as a digital ID system and open data policies, which are crucial for accessing and building new services, respectively. Five out of nine countries receive the highest scores (between 80 and 100) for these enabling initiatives.



It is vital however that governments take these policies from intention to action. This will require enhanced collaboration—with other policymakers, the private sector, civil society, academic institutions and non-government organisations—matched with clear lines

of accountability to ensure targets are met. Through our assessment framework, we have identified that these collaborations will need to pay greater attention to **improving infrastructure, enhancing consumer willingness and mobilising SMBs in these countries.** Focusing on these core elements will spur deeper engagement in the digital economy.

Building on infrastructure progress

Infrastructure—the physical backbone of the digital economy—is relatively strong in the countries in this study. High-speed internet coverage is particularly notable: **seven out of nine countries in this study have 4G coverage of more than 65% of the population.** Despite this, the lack of high-speed and reliable internet connectivity was cited among the top two factors reducing consumer convenience. Limited access to appropriate devices, particularly smartphones, for using high-speed internet may be a contributing factor to the mis-match between the relatively low perception of internet quality and high coverage.



Indeed, **smartphone adoption is ripe for improvement: five out of nine countries have smartphone penetration rates lower than 50% of the population,** with rates significantly low in Pakistan (22%) and the DRC (10%). This is likely due to the high cost of smartphones relative to income—Pakistan and the DRC also have the lowest scores for this indicator. Boosting access to smartphones will be essential to bridging the gap between consumers and the digital economy, given that people are more likely to access the internet and internet-based applications through smartphones than other

⁶ <https://www.oecd-ilibrary.org/docserver/baffceca-en.pdf?expires=1663855110&id=id&accname=guest&checksum=5A6525D814CAE423F690BF427CA032F6>

devices. Making cheaper smartphones available in the market, perhaps by lowering import tariffs could unlock opportunities for participation particularly in low-income countries.



Government support is also necessary for critical infrastructure improvements— including data centres and

telecommunication towers and cables. Without access to affordable data storage solutions, companies stand to miss out on significant benefits. For example, large firms such as retailers or telecoms, or small businesses can store and analyse customer data and then tailor products and services based on their consumer preferences. With regional or local third-party data centres, these include the ability to store data in-country where laws require it and access to ancillary services such as better connectivity. Government incentives could play a role in encouraging operators to set up data centres, as they are capital intensive and have a long payback period. It is worth noting that while localised in-country data centres offer web users benefits such as higher latency, regional data centres may pose other benefits. Regional data centres that are built to withstand natural disasters and have a robust security system in place may offer equal or greater advantages to users compared to localised data centres that do not have these features. The most valuable data centres are required to be reliable above all else.⁸ Beyond location, factors such as sufficient kilowatt capacity per capita, storage and support systems are also key considerations.⁹ Similar incentives could be offered to telecommunications companies to expand infrastructure in poorer regions of the country, which are typically not sufficiently lucrative for the

private sector. Such infrastructure will enable wider network coverage and bridge digital divides.

Ready or not? Boosting trust, management buy-in and talent

Policymakers must also play a **role in boosting consumer and SMB readiness, which is the lowest scoring pillar in our assessment framework.** On the consumer side, most have the necessary skills to engage online, but enhancing trust and convenience are areas for policymakers to focus on. Consumers surveyed felt least secure with sharing personal data (just 22% compared with 69% who felt secure using social media). At the same time, **65% felt secure making online payments and money transfers**, implying that the lack of trust stems from data-sharing policies rather than the security of internet infrastructure. Prioritising data protection through more effective enforcement of existing data privacy laws and raising awareness of best practices among businesses would go a long way to resolving this issue.

On the SMB side, increased participation in the digital economy will depend on improving business-model readiness, boosting technological adoption and equipping the workforce with digital skills. While **25% of surveyed executives believe their existing business models are completely ready for digital expansion**, over **50% need to either make extensive changes to adapt or completely transform their business model.** Addressing business-model readiness will rely on a combination of management buy-in, training and employee skills development.

There is a **need for a shift in management mindset to ensure business models are ready for the digital economy.** Across all challenges

⁷ For example, the Indian government has introduced new policies to make borrowing cheaper for operators, which includes details on 5G auctions and spreading the internet to all villages in the country as part of an effort to make the country a hub for the world's growing data traffic. <https://www.jll.co.uk/en/trends-and-insights/investor/new-policies-set-to-spur-data-center-investment>

⁸ <https://www.reliablesite.net/hosting-news/does-data-center-location-really-matter/#.Y6MH13ZBw2w>

⁹ <https://www.techtarget.com/searchdatacenter/definition/data-center>

facing SMBs, management teams' limited understanding of digital opportunities was cited among the top two by 30% of executives surveyed. Management mindset has an impact on overall workforce readiness too:

a plurality (43%) describe their workforce as moderately ready, saying they have a good mix of basic and advanced digital skills but management understanding and buy-in is limited. Addressing this will require both business and policymaker action.



First, businesses will need to consider investing in executive training programmes for senior leadership to help them better

understand the opportunities in the digital economy and encourage investment in technology and upskilling. To complement this, policymakers could provide subsidies targeted at SMBs to boost the accessibility and affordability of these programmes.¹⁰

SMBs will need to attract and retain talent with digital skills that are currently lacking in the local workforce, looking both within and beyond domestic borders. In the countries in the study, the workforce is mainly lacking programming and coding skills (cited by 41% of executives) and advanced data analytics skills (37%). With the right skills in place, businesses

will be better equipped to participate in the digital economy. Talent attraction and retention strategies will be multifaceted, from SMBs offering more flexible work arrangements to governments establishing more favourable policies to incentivise highly trained citizens who have left the country to return as well as attract foreign talent with the desired skill set. These policies must be implemented in a way that does not displace local workers but rather plugs gaps in the workforce. Upskilling initiatives can supplement these efforts but should be a private-sector-led effort designed to be simple, engaging and relevant.

Together, these strategies can address the scarcity of advanced digital skills, cited as the top impediment to greater SMB participation in the digital economy (by 30% of executives vs 8% who cited financing and 13% who cited infrastructure).

Driving action on the pillars discussed above will allow governments, businesses and consumers to reap the rewards of the digital economy. There is much to be gained, from higher economic growth to more inclusive, empowered societies. Delivering change within the unique context of each country will be imperative, ultimately unleashing opportunities previously unimaginable.

¹⁰ <https://smallbusinesscharter.org/help-to-grow-management/>

Introduction

The plethora of applications within a digital economy are enabling consumers and businesses to reimagine how they live and operate. Digital financial services, e-commerce, social media platforms and multimedia content, among others, can bring together communities and companies to deliver meaningful socio-economic benefits including convenience, access to information and opportunities for wealth creation. Through data available in a digital economy, companies can increase productivity and access customers they never could before.

the global digital transformation market is expected to grow at a compounded annual growth rate (CAGR) of 23% between 2022 and 2030.¹² Estimates from the World Economic Forum valued the 2021 global digital economy at **US\$14.5trn**, projected to increase to **US\$20.8trn** by 2025.¹³ In developing countries, the digital economy is experiencing double-digital growth rates, estimated at **15-25% per year**.¹⁴

Despite this potential, governments and companies were slow to transition, that is, until the covid-19 pandemic. **Internet usage during the pandemic increased by 30%** as people shifted to online shopping channels, relied on apps to transfer money and make contactless payments, and used video-conferencing to connect with family and co-workers.¹⁵ Companies accelerated their digital transformation to facilitate remote working: one global survey conducted in 2021, found that 40% of surveyed organisations were investing in cloud-enabled technologies, digital collaboration tools, productivity management

US\$20.8trn

Estimates from the World Economic Forum valued the 2021 global digital economy at US\$14.5trn, projected to increase to US\$20.8trn by 2025.

These activities have the potential to drive immense economic growth. **The digital economy is projected to contribute up to 25% of global GDP by 2025.**¹¹ Meanwhile,

¹¹ <https://www.strategyand.pwc.com/m1/en/strategic-foresight/sector-strategies/technology/becoming-a-digital-disruptor/national-tech-champions.pdf>

¹² Digital Transformation Market Size Report, 2022-2030. Available at: <https://www.grandviewresearch.com/industry-analysis/digital-transformation-market>

¹³ <https://www.weforum.org/agenda/2022/08/digital-trust-how-to-unleash-the-trillion-dollar-opportunity-for-our-global-economy/#:~:text=We%20calculated%20the%20digital%20economy,will%20be%20worth%20%2410.5%20trillion.>

¹⁴ https://www3.weforum.org/docs/WEFUSA_DigitalInfrastructure_Report2015.pdf

¹⁵ ITU Global Connectivity Report 2022. Available at: <https://www.itu.int/itu-d/reports/statistics/global-connectivity-report-2022/>



tools and remote monitoring technologies to support a remote workforce.¹⁶ School shutdowns forced students and teachers to quickly adjust to remote learning, which set the edtech boom in motion. In 2021, venture capital (VC) funding for edtech firms increased globally by nearly 200% from 2019, bringing US\$21bn into the industry.¹⁷

But the vastly different experiences among communities brought to the fore long-established challenges with access to the digital economy. Many people were unable to benefit as a result of insufficient digital skills, low technology penetration, limited resources and privacy concerns, among others. In particular, women, rural residents and those with disabilities have faced the highest risk of exclusion from the digital ecosystem, particularly in developing countries, as a result of restrictive social norms, issues

with affordability and limited access to infrastructure.^{18,19,20} Developing countries seem to bear the brunt of this digital divide, and are in danger of losing top digital talent to advanced markets, while continuing to be underrepresented in global policy discussions on the digital economy.

Solving this problem requires a practical understanding of the current state of accessibility to the digital economy and the enablers that support participation within it. In this report, we turn our attention to the enablers of access in nine developing and emerging markets in Central Asia, the Middle East and Africa.²¹ These enablers can be categorised under four main pillars: policy and regulation, infrastructure, affordability and readiness, which we analyse using an assessment framework (see Figure 1).

¹⁶ Technology Vision 2021. Available at: https://www.accenture.com/us-en/insights/technology/_acnmedia/Thought-Leadership-Assets/PDF-3/Accenture-Tech-Vision-2021-Full-Report.pdf

¹⁷ Can the ed-tech boom last? Available at: <https://www.economist.com/business/2022/02/19/can-the-ed-tech-boom-last>

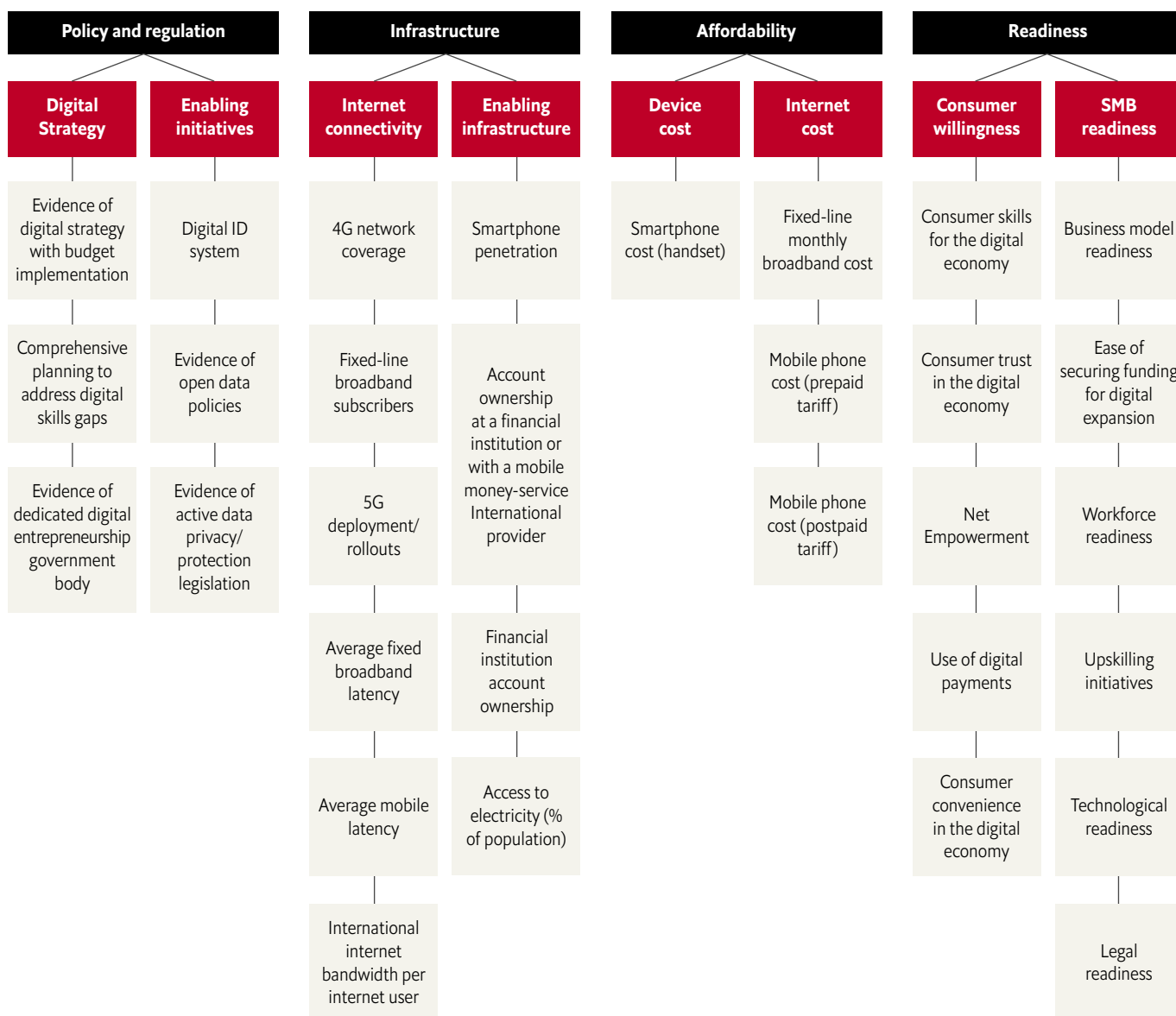
¹⁸ An inclusive digital economy for people with disabilities. Available at: <http://www.businessanddisability.org/wp-content/uploads/2021/02/inclusiveDigitalEconomy.pdf>

¹⁹ South Asia's Digital Economy. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/37292/P1723000e5e0d20908c790a5ffdda147f1.pdf?sequence=1&isAllowed=y>

²⁰ Nigeria Digital Economy Diagnostic Report. Available at: <https://openknowledge.worldbank.org/handle/10986/32743#:~:text=The%20Nigeria%20Digital%20Economy%20Diagnostic,around%20the%20five%20foundational%20pillars>

²¹ The nine countries include the DRC, Egypt, Kazakhstan, Kenya, Nigeria, Pakistan, Saudi Arabia, South Africa and the UAE.

Figure 1: Assessment framework for access to the digital economy



Source: Economist Impact

Figure 2: Guiding definitions

Pillar	Pillar definition	Category	Category definition
Policy and regulation	Existence of regulation and policy tools that enable and incentivise digital transformation	Digital strategy	The existence of government strategies and policies aimed at encouraging the development of a digital ecosystem
		Enabling initiatives	The existence of government legislations and initiatives that encourage SMB and consumer participation in the digital economy
Infrastructure	Availability and reliance of hardware and software necessary to access the digital economy	Internet connectivity	The extent to which internet connectivity is available and sufficient for accessing the digital economy
		Enabling infrastructure	The presence of fundamental infrastructure and hardware that facilitate access to the digital economy
Affordability	The cost of hardware and software required to access the digital economy relative to income levels	Device cost	The cost of devices needed to access the digital economy, relative to income
		Internet cost	The cost of connecting to the internet relative to income
Readiness	The extent to which consumers are willing and SMBs are prepared to engage in the digital economy	Consumer willingness	The degree to which consumers are willing to use digital goods and services based on convenience, skills and trust
		SMB readiness	The degree to which SMBs are able to access the funding, talent and technologies needed to participate in the digital economy

Policy and regulation is a critical enabler of the digital economy as it represents governments' commitment to allow innovative business models to flourish and plays an important role in fostering inclusive expansion of the digital economy. **Infrastructure**, which encompasses the physical elements from telecommunications to devices, and **affordability** of these products and services, form the building blocks to participation in the digital economy. Even with an effective policy framework, a lack of reliable and affordable connectivity can completely obstruct access. Finally, consumers and businesses must be willing and able to engage in the digital economy, which can be hampered by a range of challenges from digital skills in the workforce

and consumer trust to businesses' technological **readiness**.

An effective mix of the components above can unlock tremendous economic potential and the upside is greater in developing countries. In low- and middle-income countries in the Middle East and North Africa region, enabling universal access to the digital economy could see GDP per capita rise by around 40% between 2017 and 2045.²² We explore the levers that could bring about such change at the regional level in the next chapter, followed by deep dives into the context for each country. The concluding chapter brings together lessons learnt across all countries with insights on priority actions for governments and businesses to increase participation in the digital economy.

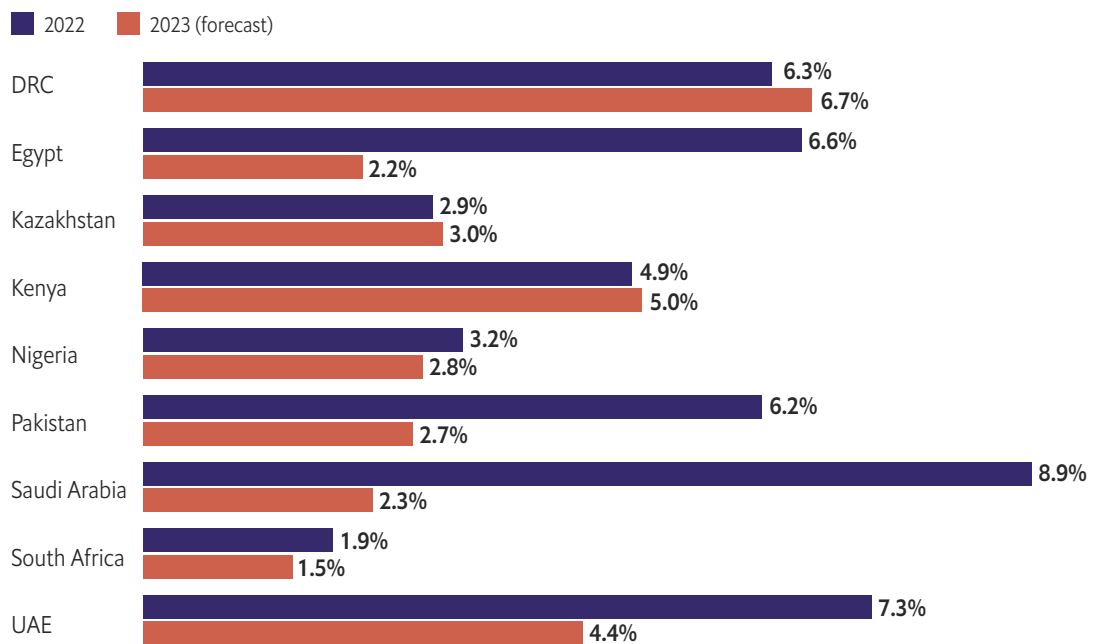
²² <https://openknowledge.worldbank.org/bitstream/handle/10986/37058/9781464816635.pdf?sequence=10&isAllowed=y>

A view from the top: a regional overview

As with the rest of the world, countries in Central Asia, the Middle East and Africa are grappling with a host of macroeconomic headwinds—from rising inflation to high commodity prices. The war in Ukraine has exposed many countries to downside risks stemming from supply-chain

disruptions and high energy prices. The most vulnerable are energy-importing countries but also countries in sub-Saharan Africa that are reliant on food imports. The lingering impacts of a protracted pandemic are further weighing down growth prospects.

Figure 3: Economic growth forecasts for nine countries in Central Asia, the Middle East and Africa
Real GDP growth (%)



Source: Economist Intelligence Unit (2022)
Note: As of December 2022

Amid the economic upheaval, the digital economy appears to be the bright spot. Indeed, digital services came to the rescue during the initial shock of the covid-19 pandemic enabling remote working and contactless payments. While overall economic growth rates are expected to be muted this year and next, the digital economy is expected to record healthy growth rates. As the number of connected devices increases (estimated to reach 125bn by 2030),²³ the artificial intelligence (AI) market is forecast to expand rapidly, expected to grow from a value of US\$2.3trn in 2020 to US\$4.5trn in 2025.²⁴ Studies have found that

the application of just 12 disruptive digital technologies could contribute US\$14trn- US\$33trn to the global economy in 2025.²⁵

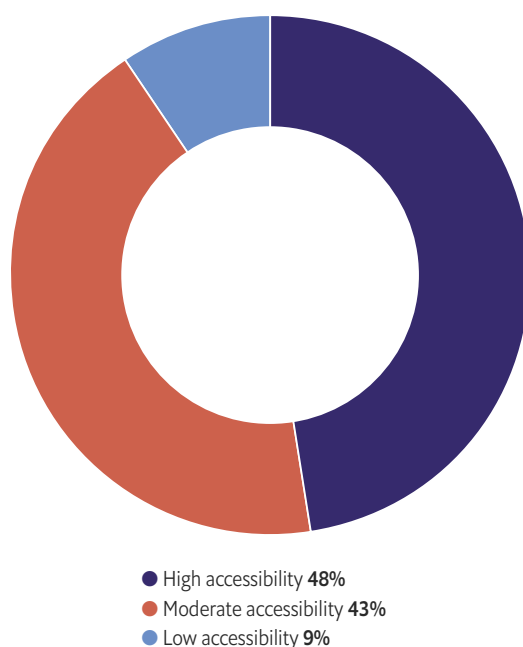
Consumers and businesses alike recognise the benefits of accessing the digital economy. More than two thirds of the 4,300 consumers surveyed across nine countries value the convenience of the digital economy the most, in that it saves time and allows individuals to shop, learn or transfer money anywhere and at any time. Among executives in the region, nearly half (49%) recognise convenience as a top benefit, but about one third (33%) also value increased access to information, including opportunities to secure new talent, suppliers and investment.

But not everyone has equal access to the digital economy. About half of consumers surveyed (48%) feel they have easy access, however more than half admit to experiencing difficulties in access (43% characterise their access as “moderate” and 9% as “low”). Altogether, these gaps in access represent a significant lost opportunity, not just in terms of economic value but also personal benefits of access to education, finance and mobility, among others.

As such, understanding the current state of enablers of access is imperative. In the region under study, government ambition is high. Many vital components of the policy and regulatory framework are in place; however this does not imply effective implementation and enforcement. There are ongoing challenges with collaboration among a range of stakeholders— from startups to other government entities— when crafting and enforcing policies, which ultimately derail the policy agenda.

Figure 4: State of access to the digital economy in the CAMEA region

How respondents characterise their level of digital economy accessibility (%)



Source: Economist Impact consumer survey, July-August 2022

²³ <https://www.weforum.org/agenda/2022/01/data-4-0-rethinking-rules-for-a-data-driven-economy/>

²⁴ <https://www.weforum.org/agenda/2022/05/a-digital-silver-bullet-for-the-world/>

²⁵ <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/disruptive-technologies>



However, there are many examples of how to effectively drive digitization. “It starts from the mentality of the government, mentality of the leadership and it cascades to the whole society,” says Djamel Mohand, COO at Foodics, a Saudi tech provider specialising in restaurant management and payment systems. In general, consumers in the region possess the fundamental skills required to engage in the digital economy but are experiencing issues with trust and convenience. Limited SMB readiness stems from issues with business-model, technological and workforce readiness.

In this chapter, we will explore each of the four pillars in the assessment framework in more depth, which will set the scene for country deep dives and the recommendations for action by policymakers and business leaders in subsequent sections of this report.

Top down: The policy framework

Overall, the region checks the boxes for the critical policy and regulatory elements required to enable the digital economy. Most of the nine countries covered in this study fall in the higher score categories (three between 60 and 80, four between 80 and 100). The high scores stem mostly from the presence of specific enabling initiatives rather than robust national digital strategies.

Key enabling initiatives considered in this study include digital ID systems, open data policies and data privacy legislation. Each could be a powerful enabler of access to the digital economy, for consumers and businesses alike. A digital national ID, such as the Aadhaar card in India or the UAE Pass linked to the Emirates ID, validates identity in the digital sphere, allowing residents to access government transfer payments or even day-to-day services (such as registering a car or applying for permits). Open data policies allow companies to use government and other data to create new digital services (such as third-party insurance services created from open banking data). The presence and enforcement of data privacy laws are valuable in enhancing consumer trust, facilitating greater engagement in online payments and sharing of personal data.

Five out of nine countries in this study have a national e-ID. Egypt, Kenya and Pakistan have a national ID but these cannot be used for identification online (e.g. for online government services), while the DRC does not have a national ID (see Figure 4). The DRC and Pakistan also do not have an open data policy that is in effect (Pakistan issued a draft policy in 2019). On data privacy regulation, all nine countries have some sector-specific regulation, focused on banking and telecommunications, but Kazakhstan, Nigeria, Saudi Arabia and the UAE, importantly, have a universal data privacy law applicable across all sectors.



The picture is slightly different with the national-level digital strategies. Although all countries have published a digital strategy, in most cases these are either outdated or do not have a budget earmarked for implementation, or both. Only Kenya and Kazakhstan have a digital strategy with both elements. Kenya's National Digital Masterplan 2022-2032 and the Digital Kazakhstan 2018-2022 strategies have specific activities listed, with a timeline, authority responsible for implementation and funding sources for each.

As with all public policy, how the digital strategy and enabling initiatives are implemented matters. "There is a clear role for policy to play in driving digital inclusion", explains Mark Schoeman, partner of the Centre

of Digital Excellence (CODE) practice at Genesis Analytics, an African economic and development consultancy headquartered in South Africa. "In particular, policy can help solve the fact that there isn't always a commercial business case for telcos in the private sector to extend fibre networks into low-income communities, even in urban centres", he emphasises. To prevent fragmented implementation of digital-economy policies, further co-ordination is needed between various government entities and industry players. Stability in the policy framework, which originates from well-thought-out strategies, will lead to business confidence and increased investment in the digital economy. We explore approaches to holistic strategy development in the concluding chapter of this report.

BOX 1

Cross-border data flows: A nuanced discussion

Enabling data flows across borders should, theoretically, benefit the digital economy worldwide. John Deere, a manufacturer of agricultural, construction and forestry equipment, can analyse data from sensors on a machine sold in another country at its data centres in the UK and offer advanced data analytics and predictive maintenance services to clients overseas. But many countries are regulating cross-border data flows, for national and personal security.

Based on a framework developed by the World Bank,²⁶ there are three broad approaches: (1) open transfers of data; (2) conditional transfers; and (3) limited transfers. The challenge with assessing these approaches is that one is not necessarily better than the other. While open data flows may benefit companies by enabling them to serve a host of international markets, the flexibility to self-regulate enshrined in this approach may expose people to data leaks. On the other hand, a limited-transfers regime may stifle digital economy growth. A conditional transfers approach, which aims to strike a balance between data protection and openness of data transfers, may be considered ideal but brings with it a great administrative burden for corporations.

National approaches to cross-border data flows are also being influenced by international trade agreements. Many of these agreements now dedicate a chapter to digital trade with specific guidelines for harmonising data privacy regulation and identity management systems, which can enable cross-border data flows.

Given the evolving nature of cross-border-data-flow regimes, Economist Impact chose to exclude this indicator in the assessment framework. In the coming years, the outcomes of using each approach will become more apparent and can lead to a more evidenced-based assessment.

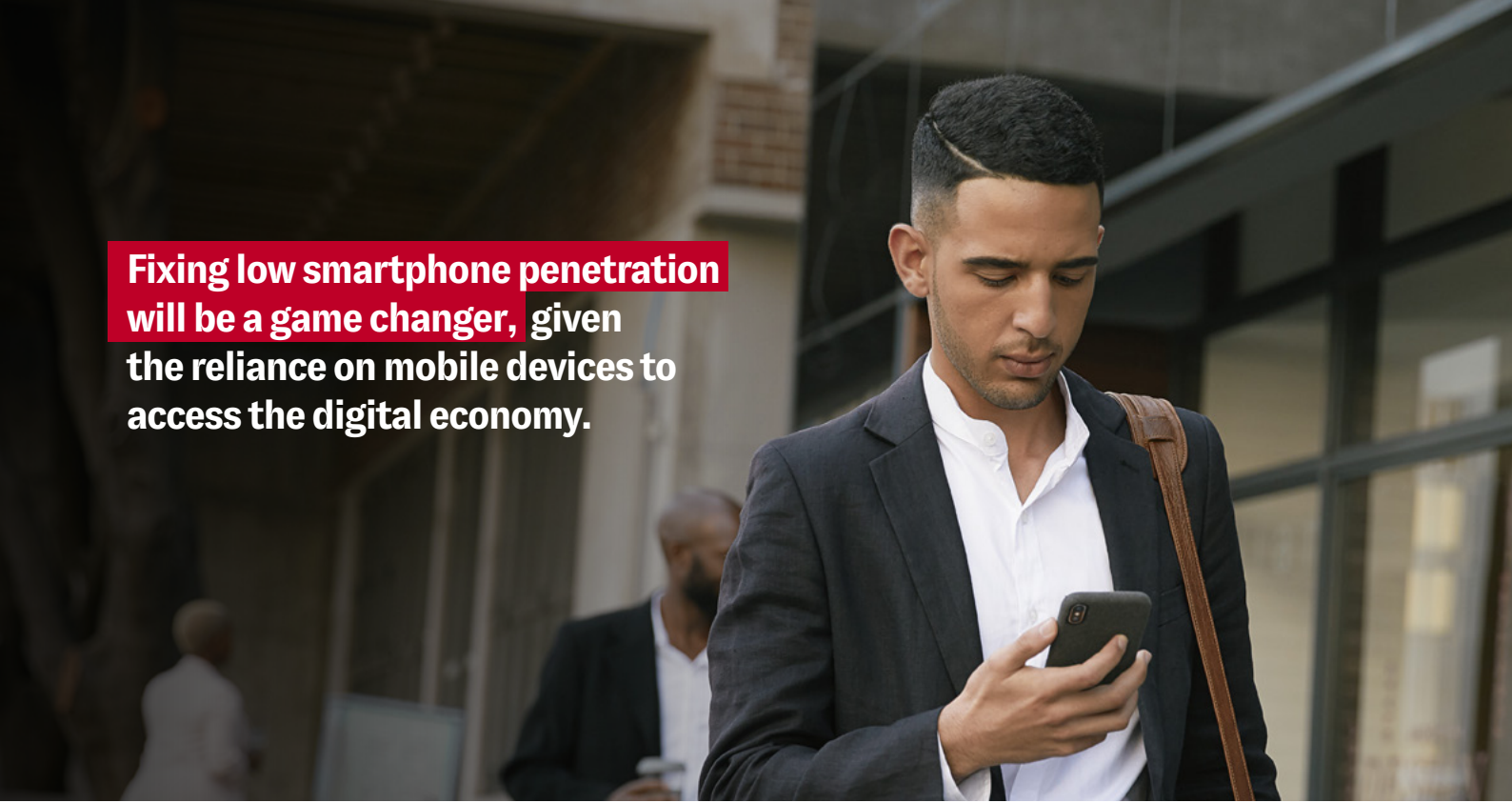
The building blocks: infrastructure and affordability

It is impossible to have a thriving digital economy without robust telecommunication infrastructure in place. A key measure of this is 4G network coverage, a fourth-generation innovation in internet connectivity that offers speedy and wireless internet access to mobile broadband users. Six out of nine countries in this study have 4G coverage of over 75%, with the UAE, Saudi Arabia, South Africa and Egypt receiving the highest scores with coverage above 95%. At the bottom of the list are the DRC and Nigeria, with a coverage of around 40%.

However, despite high average 4G coverage across the region, consumers may not be able to benefit from high-speed internet because of limited access to smartphones. Smartphone penetration is above 70% in only three countries in our study: the UAE (88%), Saudi Arabia (75%) and Kazakhstan (70%), and under 50% in a majority of the countries. Indeed, in many of these countries, feature phone penetration²⁷ is relatively high and is often an important medium for making digital payments. M-Pesa in Kenya is one of the biggest success stories in digital payments in the African subcontinent, operating primarily on feature phones. However, fully engaging in the

²⁶ <https://wdr2021.worldbank.org/stories/crossing-borders/>

²⁷ A feature phone is a mobile device with a button-based interface and small display that has functions such as internet access, voice calling and text messaging but lacks the advanced functionality of smartphones.



Fixing low smartphone penetration will be a game changer, given the reliance on mobile devices to access the digital economy.

digital economy, using more complex interfaces on apps and browsers (such as social media, ride hailing, food delivery), is impossible on a feature phone.

In addition to smartphones availability in some markets, another important factor keeping smartphone penetration rates low is the high device cost. In GSMA's Mobile Connectivity Index, the UAE receives a high score of 84 (meaning that a smartphone is more affordable relative to average income) compared with 35 in Pakistan and 25 in the DRC. "You have the bulk of consumers in the very low-income segment [who] typically struggle to access the digital economy [who] have feature phones rather than smartphones", says Mr Schoeman.

Fixing low smartphone penetration will be a game changer, given the reliance on mobile devices to access the digital economy. On average, across the 58 countries covered by the International Telecommunication Union (ITU)'s ICT Indicators Database 2022,²⁸ 88% of individuals access the internet using a phone compared with 23% on tablets, 39% on portable

computers (e.g. laptop, notebook, netbook) and 8% on other portable devices (e.g. portable games consoles, watches, e-book readers etc).²⁹ The reliance on mobile phones is also apparent in the low percentage of fixed-line broadband subscribers.³⁰ Even in markets like the UAE and Saudi Arabia, that come out on top for other infrastructure indicators, fixed-line broadband coverage is just 33% and 23%, respectively, and under 3% in South Africa, Kenya, Pakistan, the DRC and Nigeria.

Increasing smartphone penetration will benefit SMBs too, many of whom are able to engage directly with customers on apps such as WhatsApp and Instagram and by using smartphones as payment terminal devices. About 65% of executives surveyed stated their businesses have a social media channel. The power of social media on purchasing decisions is clear: according to a third-party survey, 82% of buyers confirm that social media content significantly impacts their purchasing decisions.³¹ Consumers are also likely to increase their spending by 20%-40% with companies that respond to service requests through social media platforms.³²

²⁸ The ICT Indicators Database is a dataset of information and communication technologies compiled by a United Nations specialised agency.

²⁹ <https://www.itu.int/hub/publication/d-ind-wtid-ol-2022/>

³⁰ Fixed broadband subscribers include both residential subscriptions and subscriptions for organisations.

³¹ <https://link.springer.com/article/10.1007/s10796-021-10106-y>

³² <https://www.mckinsey.com/capabilities/operations/our-insights/social-media-as-a-service-differentiator-how-to-win>

Compared to smartphone handset costs, most countries fare better on internet cost. The UAE and Kazakhstan perform the best, with costs for fixed-line monthly broadband,³³ prepaid and postpaid mobile all under 1% of monthly income, on average. Fixed-line monthly broadband costs are exorbitant in Pakistan (10% of average monthly income), Kenya (15%), Nigeria (21%) and the DRC (more than 1000%).

These national level figures also mask critical urban-rural divides.³⁴ Mr Schoeman, from his experience, has observed the disparity in infrastructure between urban and rural spaces. He states, “in South Africa, to date, fibre network operators are focused on relatively affluent urban areas. There is a big gap in the market currently for access to quality internet services at an affordable cost for low-income consumers”. According to our survey, nearly two-thirds of consumers (66%) believe that wealthier people can more easily access and benefit from the digital economy. Interviewees state that, in countries like the DRC, rural populations rely on the goodwill of telecommunications providers to access the digital economy. Berry Numbi, founder and managing director of Centre d’innovation de Lubumbashi, a DRC-based tech innovation hub, says, “we are seeing from telecom companies CSR [corporate social responsibility] activities, whereby they provide free access to some segments of the youth, especially rural youth whose access to the internet is much more difficult”. It is well-established that this gap

stems from a lack of telecommunication infrastructure (such as mobile towers and fibre cables) in low-income areas of a country that are not sufficiently lucrative for the private sector.³⁵ In the concluding chapter of this report, we explore the need for government intervention on this front.

Similarly, government intervention will be required to expand another vital infrastructure component for the digital economy: data centres. Without access to affordable data storage solutions, companies stand to miss out on significant benefits. With regional or local third-party data centres, these include the ability to store data in-country where laws require it and access to ancillary services such as better connectivity. “If I have to host my data, I will have to host it in the US, Australia or somewhere else, because we don’t have sufficient data centres available here [in the DRC]”, says Mr Numbi. “This makes it very complicated for most local entrepreneurs”, he says, limiting their ability to reduce costs for consumers.

While local in-country data centres are beneficial, regional data centres pose their own benefits. Understanding the suitability of local data centres as opposed to regional ones will depend on the local context including considerations about climate and the threat of natural disasters.³⁶ Beyond location, factors such as sufficient kilowatt capacity per capita, storage and support systems are also key considerations.³⁷

³³ Some sources state that nominal values of fixed-line monthly broadband in the UAE are high compared with global averages but when calculated as a share of monthly income, this indicates greater relative affordability.

³⁴ <https://www.sciencedirect.com/science/article/pii/S2468227622000989#:~:text=Despite%20the%20high%20adoption%20of,to%20the%20Internet%20at%20home;https://carnegieendowment.org/2022/04/26/to-close-africa-s-digital-divide-policy-must-address-usage-gap-pub-86959>

³⁵ <https://www.mdpi.com/2071-1050/14/4/2399>; https://www.itu.int/dms_pub/itu-d/opb/pref/D-PREF-EF.COV_ECO_IMPACT-2020-PDF-E.pdf

³⁶ <https://www.reliablesite.net/hosting-news/does-data-center-location-really-matter/#.Y6MH13ZBw2w>

³⁷ <https://www.techtarget.com/searchdatacenter/definition/data-center>

Ready, willing and able?

Beyond policy, infrastructure and affordability, consumers and businesses must demonstrate a degree of readiness to be able to effectively engage in the digital economy and benefit from the myriad of opportunities for saving time, securing information and creating wealth. Across the four pillars in the assessment framework, readiness receives the lowest score, driven equally by low scores for consumer willingness and business readiness.

Consumer reluctance to, for instance, use telehealth services or make travel bookings online stems less from a lack of skills but from a deficit of trust in online platforms and service providers. On average, consumers in the region are able to perform more than 60% of activities listed in our survey. The list included fundamental skills such as turning a device on and off, reading the news online and sending an email as well as slightly more complex skills such as making an online bank transfer and developing digital content such as blogs (see indicator 4.1.1 in the Appendix for more details).³⁸

Consumer willingness is weighed down by lower scores on the trust and convenience indicators. While consumers feel most secure using social media (cited by 69% of respondents in the region), they feel least secure sharing personal data (22%). Interestingly, consumers were relatively secure making online payments (second highest on the list of activities, cited by 65% of respondents). This is further supported by high scores on the digital payments indicator: in five out of nine countries, more than 70%

of individuals above the age of 15 have made or received a digital payment. From this, it can be inferred that consumers may be more concerned with the data-sharing policies of service providers than the security of internet infrastructure itself. Prioritising the enforcement of digital privacy laws can address this, which is discussed further in the concluding chapter of this report.

Ensuring individuals are able to access and use the internet freely is an opportunity to build consumer trust.³⁹ Improving internet access, increasing content availability and relevance and maintaining user rights will go a long way in ensuring access to the digital economy.⁴⁰ The implications of more internet empowerment range from improved access to digital products and services to greater protection of human rights such as freedom of expression and freedom of assembly.

In terms of convenience, most consumers in the region feel that they face multiple obstacles when trying to access the digital economy. Out of nine key challenges that typically impact consumers' ability to access the digital economy, almost 70% of them either impact or restrict their access to the digital economy entirely. The most restrictive impediment is the risk of cyberattack and fraud (34%), followed by a lack of availability of high-speed and reliable internet connection (31%). Interestingly, surveyed consumers are least restricted by the lack of availability of content in preferred languages, suggesting digital products and services are being somewhat tailored to local communities and their needs.

³⁸ <http://uis.unesco.org/sites/default/files/documents/ip51-global-framework-reference-digital-literacy-skills-2018-en.pdf>

³⁹ <https://freedomhouse.org/countries/freedom-net/scores>

⁴⁰ Ibid.

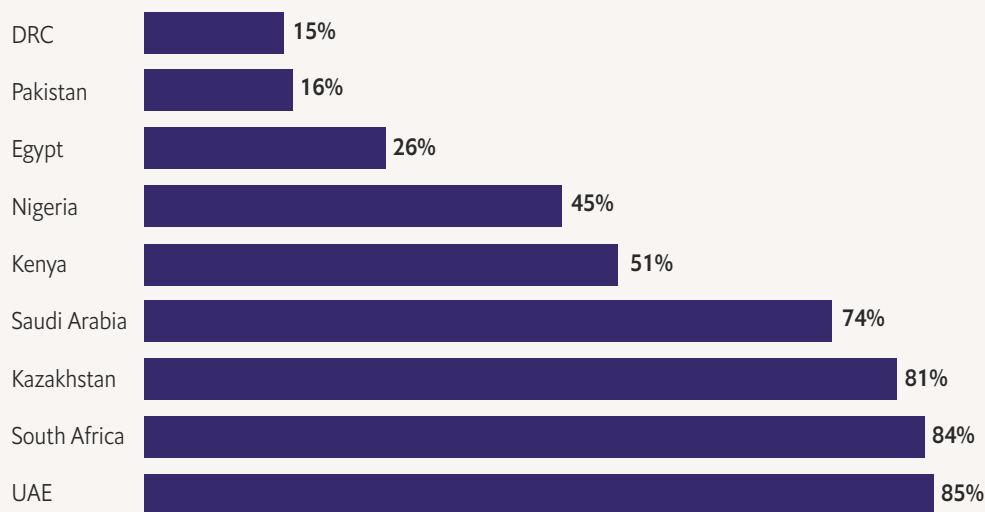
BOX 2

Moving money

The ability to make payments online can enable greater access to some parts of the digital economy, such as making purchases on e-commerce platforms or accessing content behind a paywall. Economist Impact’s assessment framework takes this into consideration through the extent to which consumers are comfortable making digital payments in the ‘consumer willingness’ category under the ‘readiness’ pillar. Consumers must not only have access to digital platforms to make payments but also feel secure doing so.

In terms of access to digital platforms for financial transactions, the percentage of the population that has a bank account offers another good barometer. Online banking can be used directly for money transfers and payments but can also be linked with digital wallets and credit cards, all of which are essential platforms for making online payments. In the region under study, this percentage ranges from 21% in Pakistan to 86% in the UAE (see Figure 5).

Figure 5: Share of population with a bank account



Source: World Bank Findex
Note: Data for all countries is from 2021, apart from for the DRC which is from 2017.

As part of national financial inclusion strategies, governments in the region, particularly in sub-Saharan Africa, are trying to implement initiatives to increase the share of the “banked” population. Emerging fintech solutions, often delivered through smartphone applications, can help reach rural populations in remote locations. In this way, government strategy on financial inclusion could serve to deepen engagement in the digital economy.

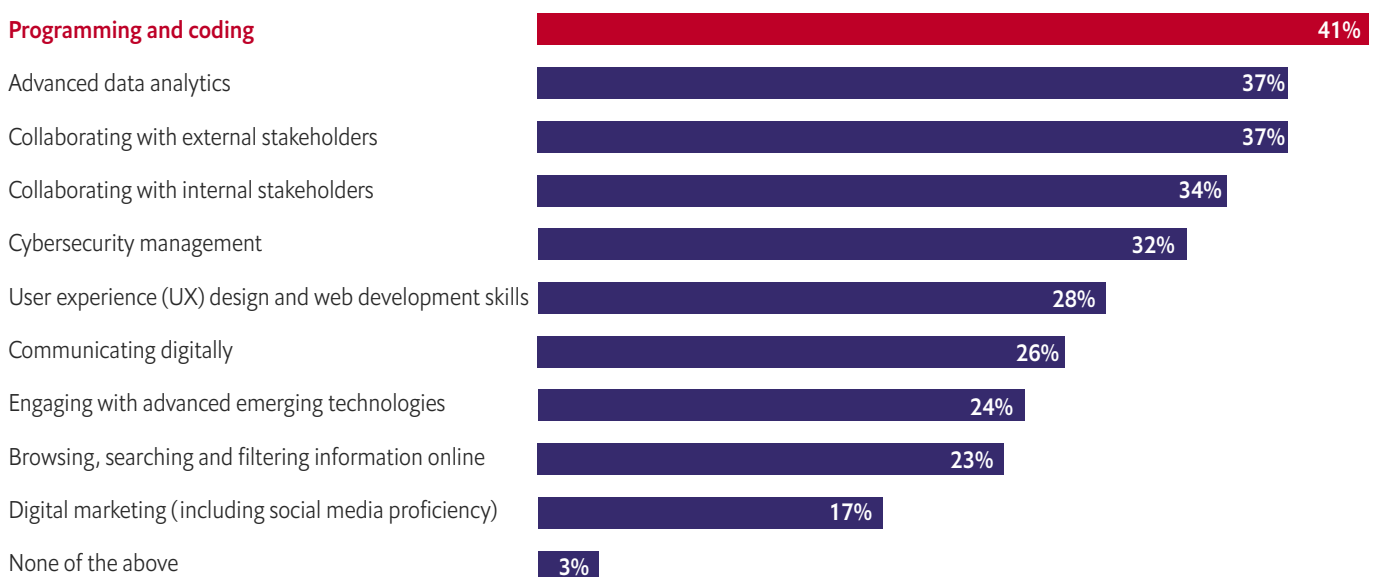
For SMBs, the extent of their participation in the digital economy is constrained by three main factors: business-model, technological and workforce readiness. Business-model readiness reflects the degree to which businesses have re-evaluated their fundamental mode of operation and are ready to meaningfully integrate digital technologies to extract greater value and efficiency gains. The degree of business model readiness ranges from SMBs being completely ready to participate in the digital economy, to needing to completely transform in order to participate. Only 25% of executives surveyed across the nine countries in this report believe their existing business models are completely ready for digital expansion while over 50% need to either make extensive changes to adapt or completely transform their business model.

The lack of business-model readiness can be attributed to management mindset. Limited management understanding of digital opportunities is a leading challenge for SMBs according to 30% of executives. Eric Dunand, Cairo-based senior digital development specialist at The World Bank, suggests that Egypt’s large

informal economy could be a factor hindering further development. He says that SMBs in the informal sector tend to not perceive the benefits of the digital environment and engagement is low even if there are government incentives to encourage them to purchase digital equipment. Management mindset has an impact on overall workforce readiness too: nearly half of executives describe their workforce as moderately ready, saying they have a good mix of basic and advanced digital skills but management understanding and buy-in is limited.

Across all challenges however, scarcity of advanced digital skills in the local workforce is the top impediment to greater SMB participation in the digital economy. This challenge was cited by 30% of respondents in the region (compared with 8% who cited financing and 13% who cited infrastructure) but is of greater concern in Kenya (40%) and the UAE (34%). In the region, the workforce is mainly lacking programming and coding skills (cited by 41% of executives) and advanced data analytics skills (37%) (see Figure 9), illustrating a dearth of more sophisticated skills in the region.

Figure 6: Skills needed for digital transformation that the workforce currently lacks



Source: Economist Impact executive survey, July-August 2022

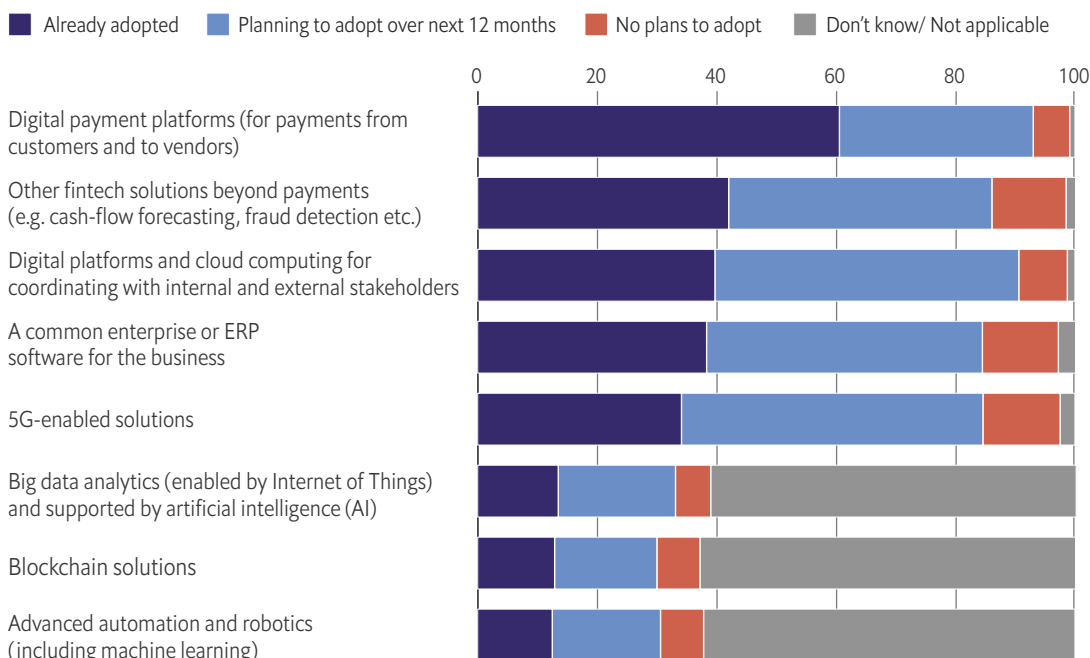


Policymakers must focus on policies to attract and retain global and local talent so that businesses can equip themselves with the desired digital skills.

Without a highly skilled workforce, businesses that have yet to move into the digital economy will struggle to do so. Shikoh Gitau, CEO at Qhala, a consulting service specialising in digital transformation, explained that in Kenya, for example, there was a mismatch between the rate of skilling among the population and the rate that digital infrastructure was developing. Upskilling the workforce is one solution, but 60% of executives say there is limited buy-in from management to provide these opportunities for digital skills. Beyond this, policymakers must focus on policies to attract and retain global and local talent so that businesses can equip themselves with the desired digital skills. This must also involve incentivising citizens who have left the country for education or employment to return. These incentives must be designed in a way that does not displace the local workforce but rather plugs gaps in the workforce. We explore some of these solutions in the concluding section of this report.

Six out of nine countries have relatively low scores (between 20 and 40) for technological readiness among SMBs. Payment technologies appear to be among the most widely adopted and fundamental technologies for businesses to establish online operations, adopted by 61% of SMBs surveyed. These transform an existing company website offering product information into an e-commerce platform. Digitalising business processes also promotes several financial and operational advantages. But adoption levels of the most sophisticated technologies—including blockchain solutions and advanced automation—was significantly low (13% on average for both), with a significant majority (approximately 60%) stating that they do not know enough about these technologies or didn't consider them applicable to their business.

Figure 7: Adoption levels of a range of technologies in SMBs in Central Asia, the Middle East and Africa



Source: Economist Impact executive survey, July-August 2022

Access to funding for digital expansion, another indicator in our assessment framework, fared better. Among the nine countries, the UAE received the highest score, with an average 77% of SMBs stating that finance across a range of sources was easy to access. This is evident in the distribution of capital to date—digital startups represented 56% of the capital deployed in the UAE over the first half of 2022, equivalent to around US\$366m.⁴¹

Traditional banks and private equity-venture capital funding are, expectedly, among the most preferred sources of funding, with about 60% of executives in our survey saying they are easy to secure relative to other international sources of funding. Local government funding was among the most difficult sources to tap into: lack of awareness of national and regional public funding programmes and complicated funding applications were among the top three challenges

SMBs face when securing funding (cited by 38% and 36% of executives, respectively).

Overall, despite the current challenges, there is a sense of optimism about the digital economy in the region. Just over 70% of consumers surveyed believe that, over the next five years, the benefits of the digital economy will outweigh the risks. And with only 1.5% of surveyed executives saying that there is no clear opportunity for their business in the digital economy, it is clear that businesses are recognising the need to digitalise regardless of challenges. But to improve access to the digital economy requires bespoke consideration, depending on the nuances in policy, infrastructure, affordability and readiness in each country. In the next section of this report, we explore the country-specific context for access in each of the nine countries covered in this study.

⁴¹ <https://magnitt.com/research/uae-h1-2022-venture-investment-report-50833>

Levelling up: action for access

Despite vastly different digital economy environments among the nine countries covered in this study, there are some common themes for action, by business leaders and policymakers, to improve access. Skills shortages, infrastructure inconsistencies and modest levels of SMB readiness are constant across the countries in the region.

Talent scarcity is a hurdle for even the most advanced digital economies in the world but requires a multifaceted solution to ensure businesses in emerging markets are equipped with the right skills for digital transformation. Infrastructure—the physical backbone of the digital economy—varies across the region, with some economies ready for digitalisation and less advanced economies only just building the fundamentals. While policy ambition is strong, there is a need to accelerate implementation in some markets. Finally, there is a need to mobilise the private sector, especially SMBs, to ensure that they are ready to reap the rewards the digital economy has to offer.

The actions laid out in this chapter focus on how policymakers and businesses should address the challenges that persist across the region and limit both consumers and SMBs from leveraging the benefits of the digital economy.

Policy action

In this section, we outline the actions that need to be led by governments/policymakers.

1. Focus on the building blocks

Incentivising investment in physical infrastructure will bring direct and indirect benefits to the local digital economy

- Beyond connectivity issues, across all countries within the region of study, physical infrastructural challenges persist in different forms. The presence of this infrastructure—including telecommunications, transport and logistics—or lack thereof, can impact the quality of internet connectivity, movement of goods purchased online and data management strategies.
- Governments should collaborate with the private sector and incentivise further sustainable investment in physical infrastructure by building a clear business case for doing so. In the case of South Africa, government subsidies for upfront capital costs associated with infrastructure expansion can be a key element of support for telecommunications companies.

- Installing 5G infrastructure in rural and hard to reach areas may be too costly a feat for some countries, therefore governments should also consider alternative infrastructure solutions. For example, satellite technology is an increasingly reliable avenue for bridging the urban-rural connectivity divide. Telecommunications companies have already started exploring these solutions in Kazakhstan⁴² and the DRC.⁴³ Governments should look to partner with these organisations in an effort to bring solutions that are more suitable to local contexts.



Increasing access to more affordable devices will be essential to remove basic barriers to entry

- With five out of the nine countries in this report having less than 50% smartphone penetration, there is a need to focus on incentivising or subsidising research and development for products and services that are specifically geared towards low-income consumers. Governments could lower import tariffs on smartphones through the use of low-interest loans, credit guarantees and tax incentives.

2. Close the skills gap

Partnering with the private sector is necessary to drive national upskilling

- To build a local workforce with the necessary digital skills, the government cannot act alone. Local governments should partner with technology companies to help close the skills gap. This approach can bring the expertise of the private sector within the reach of the public sector.⁴⁴ For example, in the UAE, the National Programme for Artificial Intelligence has an agreement with Dell EMC to train 500 Emirati students in artificial intelligence (AI) via an internship programme. The UAE AI internship programme “aims to bridge the gap in the skills required in the technology sector, support youth and improve their potential to enable them to meet future challenges in the rapidly changing technology sector”.⁴⁵ See below for further recommendations on how the private sector can boost digital skills.

⁴² <https://www.veon.com/media/media-releases/2020/beeline-kazakhstan-supports-rural-broadband-rollout/>

⁴³ <https://itweb.africa/content/nWJadMbeYem7bjO1>

⁴⁴ <https://news.microsoft.com/en-xm/2020/09/22/public-private-partnerships-hold-the-key-to-future-development/>; <https://digitally.cognizant.com/upskilling-underrepresented-talent-private-public-gain-codex3760>

⁴⁵ <https://u.ae/en/information-and-services/jobs/future-skills-for-youth/special-programmes-for-developing-future-skills>

Involving the informal sector will be crucial in manifesting the full domestic digital potential

- In emerging economies and developing countries, near 60% of workers operate in the informal economy. This figure is highest in sub-Saharan Africa.⁴⁶ This is an essential segment of the economy that has vast digitalisation potential for many of the countries explored in this report. Policymakers need to consider how they can build skills, improve technology uptake and drive digital entrepreneurship in informal sectors while ensuring that digitalisation is tailored to these specific contexts and is aimed at solving local problems.
- For example, regarding informal and rural communities' digital skills, the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) programme in India aims to train one person per household in rural areas in digital skills.⁴⁷ Extensions services and knowledge exchanges can support skills development, particularly in rural and informal contexts. Moreover, in Tanzania, between 2011 and 2016, the Food and Agricultural Organisation (FAO) worked with Kilosa Community Radio to deliver "UshauriKilimo" agricultural advisory services that allowed agricultural workers to access advice and build skills using either the internet or a mobile phone.⁴⁸

As companies in the region work to improve local workforce skills, governments can

complement these efforts by focusing on attracting talent from outside the country's borders and encouraging citizens to return from abroad to support local companies

- While governments try to cultivate local talent, looking beyond borders will be a helpful solution. Firstly, there is a need to incentivise the return of citizens that have left the country for education or employment purposes. This may be done by opening dialogue with young graduates to understand their barriers to and needs for working domestically, as is being done in the European Union.⁴⁹ Secondly, policymakers should look at foreign talent: attractive visa packages for foreigners could be a crucial incentive for tapping into the global talent pool. Schemes to attract tech talent should be designed such that they are complementary to government efforts to build the local workforce and should not encourage displacement of local workers. Rather, they should be targeted at skills that are currently missing in the local economy.
- Other countries have also implemented these favourable talent attraction schemes, including the UK⁵⁰ and Chile.⁵¹ However, achieving an optimal balance of local and foreign talent in the digital economy workforce is an imperative. The benefits of this include bringing in vast experience that can support development of the digital ecosystem that could spill over into the local workforce.

⁴⁶ <https://www.imf.org/en/News/Articles/2021/07/28/na-072821-five-things-to-know-about-the-informal-economy>

⁴⁷ <https://www.pmgdisha.in/about-pmgdisha/>

⁴⁸ <https://www.fao.org/publications/card/en/c/I9032EN/>

⁴⁹ https://ec.europa.eu/regional_policy/en/newsroom/panorama/2022/10/10-05-2022-europe-seeks-to-tackle-brain-drain-of-young-people-from-hard-hit-regions

⁵⁰ <https://technation.io/visa/>

⁵¹ <https://home.kpmg/xx/en/home/insights/2017/11/flash-alert-2017-170a.html>



3. Mobilise entrepreneurs

Celebrating local heroes will encourage further private sector growth and competition

- Digital SMB success needs to be encouraged by celebrating positive examples. Digital entrepreneurship can benefit from local success stories to inspire creative thinking, ambition and confidence.
- The government should play a role in amplifying local companies that have proven successful in the national digital economy, or even in neighbouring countries, through regular innovation awards or competitions. The prospect of prizes, potential contracts and recognition through these challenges can be effective in encouraging SMBs to develop innovative digital solutions and stimulating private-sector growth.⁵²
- For example, the UAE's Department of Municipalities and Transport has been hosting

“UAE Innovates” since 2015, a month-long event focused on innovation in the country. This includes the Abu Dhabi innovators awards, which recognises innovators that have contributed to the local digital economy.⁵³

Raising awareness of local government funding programmes can improve SMBs' access to capital

- Local government funding is among the most difficult sources of funding to secure, cited by 29% of executives. At the same time executives cite a lack of awareness of national and regional public funding programmes (38%) and complicated funding applications (36%) as the top challenges with securing government funding. Launching campaigns to educate local entrepreneurs on funding programmes and simplifying funding applications could go a long way to resolve this issue.

⁵² <https://www.economist.com/leaders/2021/12/04/for-vibrant-competitive-internet-businesses-look-to-emerging-markets>

⁵³ <https://innovationmonth.dmt.gov.ae/en/abu-dhabi-innovators>

4. Adopt a digital-first approach

Ensure accountability and continuity in government digital strategy to ensure long-term success

- For digital transformation to occur at a national level, there needs to be a degree of continuity between administrations on national digital goals and pathways to get there. Mechanisms for accountability and tracking progress against long-term digital targets could be an initial step.

Governments must lead the way in digital engagement through digitalisation of public services

- Governments in the region need to lead by example. Countries such as the UAE and Saudi Arabia are already making progress, but others will benefit from following suit. Once governments digitalise their entire interaction with the public, this opens up large swathes of data while introducing efficiencies in services. Moreover, through transparent digitalisation, such as open-source coding, governments can instil greater trust in digital technologies.⁵⁴

Enforce data privacy laws

- Most governments in the region have some form of a data privacy or protection law in place. However, there is a need to ensure they are effectively enforcing and raising businesses' awareness of these laws. Having a distinct body that is responsible for fulfilling the country's

data protection law is a suitable first step. For example, in the UK, the Information Commissioner's Office is responsible for implementing the Data Protection Act 2018 and has the ability to apply penalties to non-compliant organisations.⁵⁵ For governments in the region that are developing or about to publish new data legislations, they should support local businesses with compliance by raising awareness of the law, including a compliance period that gives organisations time to adapt and providing simple but comprehensive guidance tools.

Subsidise management training programmes

- A critical issue across a number of countries in this study is management readiness and buy-in. Research shows that management training increases SMBs' profits and sales by 5%–10%, on average, suggesting there is also a financial benefit from these programmes.⁵⁶ However, a crucial issue is affordability of these programmes for SMBs. To push investments in these programmes and drive further top-down digital transformation, governments could subsidise them and ensure they are tailored to small business. In the UK, for example, the government has established the "Help to Grow" scheme, 90% of which is funded by the government. The scheme is a training and advisory repository to help SMB managers increase productivity and leverage investment opportunities.⁵⁷

⁵⁴ <https://public.digital/2021/06/21/open-source-in-government-creating-the-conditions-for-success>

⁵⁵ <https://www.gov.uk/government/organisations/information-commissioner-s-office>

⁵⁶ <https://academic.oup.com/oxrep/article-abstract/37/2/276/6311332>

⁵⁷ <https://helptogrow.campaign.gov.uk/>

Business action

In this section, we outline the actions that need to be led by executives of small- and medium-sized businesses.

1. Instil workforce readiness

Enabling engagement at all ages requires creative skilling through public-private partnerships

- To build a local workforce equipped with digital skills requires life-long learning, including training at later stages of life. While a private sector-led effort for digital training and upskilling would be effective, public-private partnerships can enhance digital literacy. Almost 80% of executives across the region state that their organisation is actively investing in and providing programmes for upskilling employees' digital skills. By crafting training programmes to be engaging and entertaining, upskilling programmes can better cater to young entrepreneurs.
- Establishing formal vocational programmes in partnership with industry will be essential in giving recent graduates hands-on experience, often a prerequisite for digital companies.⁵⁸ By partnering with local academic institutions, companies stand to benefit by tailoring programmes to match their skill requirements and create a steady pipeline of local talent.

Looking beyond borders for digital talent may be necessary

- As SMBs struggle to compete with large, international tech firms for talent, they

may need to turn to more affordable labour markets overseas for the desired skills.

- Smaller companies need to consider offering perks such as remote and flexible working, which are already being offered by their larger, more-established counterparts. Such initiatives may prove to be beneficial to smaller businesses in the long run. Attracting a larger, more international workforce provides diversity to the team while saving on costs associated with having an office building, for example.

Shifting the management mindset through training could ensure a top-down digital transformation

- The limited understanding of digital opportunities among management is a leading challenge across the region. There is a need to enhance management buy-in of digitalisation in order to holistically transform a business. Executive training programmes for senior leadership are helpful tools for raising awareness of the opportunities associated with digitalisation and how to avail them through investment in technology and upskilling.
- In the UAE, the Mohamed Bin Zayed University of Artificial Intelligence offers the MBZUAI Executive Programme—a 12-week course that equips managers with commercial and policymaking knowledge of AI with the support of renowned instructors in the field.⁵⁹

2. Keep the consumer at the centre

Prioritising convenience will ensure improved processes for a growing customer base

⁵⁸ Interview with Mark Schoeman, Genesis Analytics.

⁵⁹ https://mbzuai.ac.ae/wp-content/uploads/2022/06/MBZUAI_Executive_Prospectus_Final2022.pdf

- The most highly ranked benefit of the digital economy for consumers in the region is convenience—using the digital economy saves time and allows you to conduct many tasks anytime and anywhere. In today’s age of convenience, local SMBs need to focus on convenience as a top priority when developing digital solutions.

Deploying creative pricing solutions through servicification could drive uptake and access

- Business models are moving towards servicification and bundling, which means customers have the option to pay for hardware as part of a subscription based on capacity and use. High internet costs could be bundled into the price of a service or content that users are trying to access, enabling a better assessment of value. Bundling services with goods would allow consumers and SMBs to access the internet in a more flexible and cost-effective way.
- Network operators and telecommunications providers have also adopted this bundling model. Bundling of mobile data with a smartphone handset is common but leveraging partnerships with music and video streaming providers and including digital content in mobile phone plans or internet subscriptions could attract new customers.⁶⁰ They could take this even further by partnering with academic institutions to bundle e-learning solutions, such as short courses, with smartphones, data plans or internet subscriptions.
- Servicification bundles have already progressed in the automotive, aerospace and electronics industries. For example,

Rolls-Royce’s TotalCare programme bundles aeroplane engines with lifetime maintenance services⁶¹ while consumer electronics company, Philips’ light-as-a-service model allows customers to only pay for the light they use.⁶²

Leveraging social media and apps to expand digital offerings and customer base

- Social media platforms could be the gateway to bigger customer bases in some emerging markets. Almost two-thirds (65%) of consumers say they use social networking and communications a few times a day—the most frequently conducted digital activity in our survey. Social media is no longer just a means of communication but also a platform to sell directly to target consumers, especially in emerging markets. The rapid uptake of certain social media networks highlights the potential for developing and designing products that can provide education, finance or any other service in the right manner to the right audiences.
- The rise of homegrown super apps, such as China’s WeChat and Indonesia’s GoJek (which combine various digital economy offerings in an all-in-one app) promises a future for similar innovation in the region. Some countries in our study have already ventured into these apps, for example, MNT-Halan, MyFawry and Yalla in Egypt, Ayoba in South Africa, Bykea in Pakistan and Careem in the UAE.

Leveraging the digital opportunity

Billions of people still live without access to affordable digital services. Bridging this digital divide will bring with it not only social but also

⁶⁰ <https://www.nth-mobile.com/blog/the-future-of-telco-bundling-new-trends-and-challenges/>; <https://www.thefastmode.com/wiki-digital-content/6299-content-bundling>

⁶¹ <https://www.rolls-royce.com/media/our-stories/discover/2017/totalcare.aspx>

⁶² <https://www.lighting.philips.co.uk/services>

considerable economic benefits, as highlighted throughout this report. Governments, businesses and consumers all stand to benefit from greater participation in the digital economy.

The region is ripe with opportunities to accelerate digital transformation. Participating in the digital economy is becoming more affordable due to the recent global price decline of telecommunications, an increase in basket content and rising incomes. Scientific breakthroughs, such as smart systems and big data, continue to attract users to realise the potential of the digital economy. But to leverage

these developments, and move towards universal access in the region, significant investment is needed, estimated at US\$2.1trn.⁶³ To fill this gap, governments and businesses must take the meaningful actions, outlined in this chapter.

Engagement between policymakers, businesses, investors and consumers will go a long way in attracting, empowering and mobilising all stakeholders to participate in the local and global digital economy. With a holistic approach to digitalisation, countries in Central Asia, the Middle East and Africa can transform from sleeping digital giants to regional disruptors.

⁶³ <https://www.weforum.org/agenda/2021/10/unlocking-finance-for-digital-inclusion-and-sustainable-growth/>

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