ChatGPT

The State of Digital Transformation in MENA 2025

Executive Summary: The Middle East and North Africa (MENA) region in 2025 stands at a pivotal moment in its digital transformation journey. Propelled by ambitious government visions, a young tech-savvy population, and accelerated post-pandemic innovation, MENA's digital economy is set to reach unprecedented scale – about **$200 billion by 2025**, a 19% jump from 2024, now exceeding **10% of all private consumption** [1]. This surge is not confined to e-commerce; it spans fintech, e-government services, energy tech, digital health, and more, fundamentally reshaping how people live and work. At the same time, leaders recognize that technology alone isn't a panacea – effective **change management, cultural transformation, and strategy execution** are increasingly seen as the linchpins of success. This whitepaper provides a comprehensive overview of digital transformation in MENA circa 2025, covering key trends and drivers, sector-by-sector progress, emerging challenges (talent, culture, regulation), and the evolving policy landscape. The analysis draws on the latest data from 2024–2025 studies and surveys, offering an authoritative yet conversational look at the region's digital future. Throughout, we highlight how aligning technology initiatives with human factors – an area of expertise for firms like **BRSK** – can turn bold digital visions into sustained outcomes.

Trends and Drivers Shaping MENA's Digital Transformation

Digital Economy Expansion: MENA's digital economy has demonstrated remarkable resilience and growth, *nearly doubling in size over the past few years*. It is projected to reach **$200 billion in 2025**, up from $91 billion in 2021 [1]. This growth reflects deeper changes in consumer behavior – digital channels are expected to account for over **11% of private consumption** across the region by 2025 [1]. The impact extends well beyond online retail into **ride-hailing, digital payments, food delivery, healthtech, edtech, online media**, and more [2]. Notably, **200 million** MENA residents (aged 13+) are now internet-connected, with about **150 million actively using digital services**, indicating a massive user base entering a new era of engagement [3].

MENA's digital economy is poised to hit $200 billion in 2025 (up 19% from 2024), now making up more than 10% of private consumption [1]. This growth spans multiple sectors of the digital economy, reflecting broad-based consumer adoption of online services.

Mobile and Internet Penetration: Underpinning the digital boom is the **rapid spread of connectivity**. Internet usage in Arab states climbed from just **8.6% of individuals in 2005 to 69% in 2023**, according to the ITU [4]. High smartphone penetration and affordable mobile data have brought millions online, though gaps remain. The **gender divide** in internet use, while narrowing (74% of men vs 64% of women online in 2023), and the **urban–rural gap** (82% vs 51% internet usage) highlight continuing digital inclusion challenges [5]. Still, a **tech-savvy youth population** is driving demand for digital services, and regional telecom operators are rolling out **5G networks** in Gulf countries, promising ultra-fast connectivity to support IoT and advanced applications.

Government Ambitions and Investments: Virtually every MENA government has a *national digital agenda or "Vision"*. From Saudi Arabia's Vision 2030 to UAE's National Digital Strategy, **digital transformation is a**

top state priority aimed at diversifying economies and improving public services. Governments have poured substantial investments into ICT infrastructure, e-services, and innovation hubs. For example, **Saudi Arabia invested over $50 billion in 2023** on initiatives including digital health services to boost efficiency and access in healthcare [6]. The UAE similarly has funded nationwide projects like the **Mohammed bin Rashid Solar Park** (the world's largest single-site solar park) and smart city initiatives, underscoring the link between digital tech and sustainable development [7]. Such public-sector spending and support programs have provided a crucial **catalyst for digital growth**, from subsidizing startups and fintech sandboxes to partnering with global tech firms to build local capacity.

Emerging Technologies Adoption: MENA organizations are enthusiastically embracing **emerging technologies** as drivers of transformation. **Artificial Intelligence (AI)** uptake is accelerating across sectors – 65% of regional CEOs report they are speeding up **generative AI adoption** and over half see advanced AI as crucial for competitiveness [8]. In banking, **generative AI** is being piloted for risk assessment, fraud detection and personalized customer service [9]. Governments have even created roles like the **world's first Minister of AI (UAE)** and national AI strategies (e.g. Saudi's National AI Strategy 2031) to integrate AI in fields from healthcare to education [10]. **Cloud computing** is another major enabler – cloud spending has risen sharply as enterprises seek agility and scalability; even traditionally cautious industries like energy are migrating to cloud-based management systems [11]. Meanwhile, **IoT (Internet of Things)** and data analytics are being deployed at scale: smart city sensors, industrial IoT in oil fields, and utility smart meters (Saudi Arabia deployed millions of smart electricity meters, creating a two-way digital grid) are improving real-time decision-making [12] [13]. These technologies, combined with a flourishing tech startup ecosystem and increased venture funding, are helping MENA leapfrog in certain areas (for example, **telemedicine** platforms in healthcare or **mobile wallets** in fintech).

Changing Consumer Behaviors: The region's consumers are increasingly *digital-first*. E-commerce is now mainstream, with even "quick commerce" (ultra-fast delivery services) growing into a **$6 billion market by 2025** – over 10% of online retail, up from 8% in 2023 [14]. Mobile banking and fintech apps are widely used, and digital media consumption is shifting from pure entertainment to more productive uses. In Saudi Arabia, for instance, users are projected to spend **33% of their digital media time on e-learning by 2025**, double the share in 2022 [15]. This reflects a broader cultural shift toward leveraging digital tools for personal development and education. Multi-service "super apps" (like Careem in ride-hailing expanding into payments, delivery, etc.) illustrate how platforms are deepening engagement – subscriptions to digital services are even expected to **outnumber the region's active digital users by 2025**, as companies focus on monetizing loyalty over pure user growth [3]. In short, MENA's populace has moved decisively online, creating fertile ground for digital business models.

Regional Priorities and Initiatives in Digital Transformation

National Digital Agendas: MENA governments have made digital transformation a strategic imperative. Many have established dedicated authorities or updated institutional frameworks to steer these efforts. The UAE, for example, reorganized its telecom regulator into the **Telecommunications and Digital Government Regulatory Authority (TDRA)**, reflecting a mandate to oversee digital government integration [16]. Saudi Arabia founded a **Digital Government Authority (DGA)** in 2021 to regulate and accelerate e-government projects under a national digital government strategy [17]. Kuwait launched **Sahel**, a one-stop mobile app consolidating hundreds of e-government services, as part of its New Kuwait 2035 vision [18]. Across the region, these moves signal top-down commitment to coordinate and prioritize digital initiatives (from digital IDs and cloud infrastructure to citizen service portals). High-level "Vision 2030/2035"

blueprints in Gulf countries typically highlight digital economy growth, government service digitization, and tech innovation as pillars for economic diversification and improved governance.

E-Government and Smart Cities: Public sectors in MENA are embracing digital tools to improve service delivery and urban life. The results are tangible – **Saudi Arabia now ranks 6th globally** (and first in MENA) in the UN's e-government development index, scoring 0.96 in 2024 [19]. Through programs under Vision 2030, Saudi Arabia has rolled out a national digital ID (Absher), online business licensing, and open data portals, while establishing entities like the **Saudi Data and AI Authority** to drive data governance [20]. The UAE's Smart Dubai initiative and similar smart city projects are deploying thousands of IoT sensors, AI traffic systems, and paperless government transactions to boost efficiency and citizen satisfaction. Several MENA cities (Dubai, Riyadh, Cairo, Doha) are rapidly adopting **smart city** concepts – from AI-enabled traffic management to digital utility billing – aiming to enhance livability and sustainability through tech. Additionally, countries are pursuing *digital inclusion* via e-government: e-participation platforms and mobile government apps are bringing more citizens into contact with government services, even in remote areas. However, it's worth noting that only **20% of public sector digital transformation projects fully succeed in meeting their goals**, according to BCG, compared to ~30% success in the private sector [21]. This highlights that while strategies and digital services are in place, ensuring execution and user uptake (the last mile of service delivery) remains a priority focus for the public sector.

Investments in Infrastructure: Recognizing that digital ambitions rest on robust infrastructure, MENA states have ramped up investments in connectivity and data infrastructure. The region has seen major upgrades in backbone networks (e.g. **Gulf countries leading in 5G rollout** and fiber optic connectivity) and cross-border projects. A notable example is the EU-supported **"MEDUSA" undersea cable** project linking North African countries (Morocco, Algeria, Tunisia, Egypt) with Europe to deliver high-speed internet to millions of users and research institutions [22]. In parallel, Gulf countries have built large-scale **data centers and cloud regions** (often in partnership with hyperscalers like Microsoft, AWS, Oracle) to localize data storage and support cloud services under new data residency regulations. **Cybersecurity infrastructure** is also a regional priority – many countries formed national cybersecurity agencies (such as Saudi's National Cybersecurity Authority [23]) and are investing in cyber defense capabilities to protect critical digital assets. These efforts reflect an understanding that without reliable networks, data centers, and security, digital transformation cannot truly scale.

Digital Inclusion and Skills: Another regional priority is ensuring that digital transformation benefits all segments of society. With **250+ million people in MENA still offline despite being within network coverage** [24], governments and international partners have launched inclusion initiatives. Examples include widespread digital literacy campaigns, low-cost smartphone programs, and community technology centers in underserved areas. The gender gap in tech is being addressed through STEM education drives targeting girls and women (e.g. Saudi Arabia's initiatives to increase female participation in ICT as part of Vision 2030). Furthermore, countries are keen on developing **local digital talent**: coding bootcamps, innovation labs, and university programs in AI/data science have proliferated, often backed by government funding. These not only provide jobs for youth but also nurture the skilled workforce needed to sustain digital projects. The emphasis on building a **"digital culture"** is evident – for instance, Bahrain's government and private sector collaborate on upskilling programs to create a digitally fluent public sector workforce. Such cultural and human capital investments are crucial regional priorities that complement the technological aspects of transformation.

Digital Transformation Across Key Sectors

Banking and Financial Services

The banking and financial services sector in MENA has been a frontrunner in digital adoption. By 2024, virtually all leading banks had **digital innovation programs or fintech partnerships** in place, and new digital-native banks have launched in markets like the UAE and Saudi Arabia. Key trends include:

- **Digital Banking & Fintech:** A substantial share of customers now use mobile banking apps for daily transactions, prompting banks to invest heavily in user-friendly digital platforms. In the Middle East, **48% of banks prioritize digital banking investments** according to recent surveys [25]. Fintech startups (payments, online lending, InsurTech) are booming, often under central bank sandboxes. Regional fintech hubs – e.g. Abu Dhabi's ADGM and Bahrain Fintech Bay – support this ecosystem. Banks see collaboration with fintechs and Big Tech as a way to accelerate innovation, from open APIs to buy-now-pay-later services.

- **AI and Automation:** Banks are implementing **AI-driven solutions** to enhance efficiency and customer experience. Middle Eastern banks increasingly leverage AI for credit scoring, fraud detection, and personalized product offers. In fact, bank executives in the region believe **AI's biggest potential is streamlining processes and decision-making** [26]. By 2025, generative AI chatbots are expected to handle a significant portion of customer inquiries. Robotic process automation (RPA) is also used for back-office tasks, reducing costs.

- **Open Banking and RegTech:** Regulatory shifts are enabling innovation. Bahrain was an early adopter of **open banking regulations**, and others (Saudi, UAE, Egypt) are following with frameworks that require banks to share data securely with third-party fintech apps (with customer consent) to spur competition. This, coupled with new **digital payment regulations** and licensing for digital-only banks, is creating a more dynamic financial services landscape. Regulators are also deploying **RegTech** for compliance – e.g. using analytics to monitor transactions for AML (anti-money laundering) in real time.

- **ESG and Sustainability:** Many MENA banks are aligning digital strategy with sustainability goals. For example, banks are offering green financing via digital platforms and using analytics to measure ESG impact. According to an EY banking outlook, despite inflation and global headwinds, MENA banks remained resilient in 2023 by focusing on **responsible banking and sustainability**, while leveraging tech innovation to meet customer needs [27]. Banks' support for **SMEs** via digital lending and online credit platforms is also notable, aiding economic inclusion.

- **Talent and Culture:** The financial sector's digital push has intensified the **competition for skilled tech talent**. Banks are training staff in digital skills and even hiring from tech firms. There's also a strong push for **nationalization of tech roles** in some Gulf states (hiring local talent) and cultivating leadership that can drive transformation [28]. Banks that effectively manage the change – upskilling employees and fostering an agile culture – are seeing better outcomes in their digital projects than those who struggle to adapt legacy mindsets.

Government and Public Sector

MENA governments are both **drivers and beneficiaries** of digital transformation. Public sector efforts focus on improving citizen services, efficiency, and transparency:

- **E-Government Services:** Governments across MENA have digitized hundreds of services – from e-visa and digital business registration to online portals for paying taxes or utility bills. The outcome is a marked improvement in global e-government rankings for several countries (e.g., the UAE and Bahrain join Saudi in the top tier of the UN e-government index). Saudi Arabia's unified **Absher platform** offers over 280 government services via web and mobile, boasting millions of active users. In 2025, Saudi Arabia even achieved a **96% e-government service maturity level** in the region [29]. Additionally, one-stop apps like Kuwait's Sahel or Dubai's DubaiNow are making the **government-to-citizen (G2C) experience** more seamless by aggregating services in one interface [18].

- **Digital Identity and Inclusion:** Foundational projects like **digital national ID systems** and digital signatures (UAE's *UAE Pass*, Saudi's *Tawakkalna* app, etc.) are enabling citizens to access services securely online. These systems not only improve convenience but also inclusion – reaching citizens in remote areas who previously faced hurdles in accessing government offices. For example, Morocco and Tunisia have rolled out digital civil registries and e-ID efforts to extend services to rural populations. However, challenges like varying digital literacy and trust in e-services persist; governments are addressing these through awareness campaigns and improved UX design (for instance, simplifying interfaces and ensuring Arabic language support).

- **Public Sector Efficiency & Transparency:** Internally, government agencies are using digital tools to streamline operations and increase transparency. Many have adopted **electronic procurement systems**, digitized document management, and data analytics for decision-making. AI chatbots now handle routine inquiries for some public agencies (e.g., Bahrain's "Fatemah" chatbot for government queries). **Blockchain** is even being piloted in select areas, such as UAE's use of blockchain for securing official documents and Jordan's exploration of blockchain in customs. Moreover, open data portals are making government data accessible to the public, fostering accountability and civic tech solutions.

- **Smart Governance and Policy Labs:** Several MENA governments have established **innovation units or digital transformation offices** to keep up with emerging tech. For instance, Oman's Ministry of Transport, Communications and IT includes a digital transformation unit to coordinate projects across sectors. Policy experimentation is also underway – the UAE's regulatory sandboxes for **autonomous vehicles and drones**, or Qatar's AI ethics framework, illustrate a proactive approach to governing new tech. These efforts are meant to ensure that regulatory environments keep pace with innovation (discussed more in the regulatory section).

- **Outcome Focus and Challenges:** Despite progress in setting up digital platforms, a key challenge is **execution and impact**. Studies indicate that while governments have been successful in formulating strategies, *only about one in five public digital transformations fully meet their targets*, largely due to execution hurdles [30]. Common issues include change resistance within bureaucracy, legacy IT systems, shortage of digital talent in government ranks, and difficulty measuring impact. Addressing these, many governments are now emphasizing **capacity building and change management** – training civil servants in agile project management, appointing Chief Digital Officers

in ministries, and actively seeking private-sector expertise to manage complex projects. This is where **cultural transformation** in public institutions becomes crucial: instilling an agile, citizen-centric mindset rather than a siloed, risk-averse culture. Organizations with deep change management expertise (such as **BRSK**, which specializes in business transformation and strategy execution) are increasingly collaborating with the public sector to bridge the gap between ambitious e-government plans and on-the-ground outcomes.

Energy and Utilities

The energy sector – including oil & gas, power utilities, and renewables – is undergoing a digital revolution in MENA, driven by the dual needs of efficiency and transition to sustainable energy:

- **Operational Efficiency via IoT and AI:** Oil companies and utilities are deploying **IoT sensors and smart devices** across operations. *Smart grids* are now reality in the Gulf – for example, Saudi Arabia has installed millions of smart meters enabling real-time monitoring of electricity usage [12]. IoT-based predictive maintenance is gaining traction; sensors on pipelines, refineries, and power plants feed data to AI systems that can predict faults before they cause downtime [13]. According to industry reports, **AI-powered analytics** are increasingly used to forecast energy demand, optimize production flows, and improve asset management [31]. At the 2025 Middle East Energy conference, experts highlighted that what was once cutting-edge (predictive dashboards, digital twins of assets) is now accessible to even mid-sized energy firms, not just the oil majors [32].

- **Automation and Robotics:** In oil and gas fields, companies are using drones for pipeline inspection, robots for remote drilling operations, and automation in control rooms to reduce human error. Around **70% of MENA oil & gas companies report undergoing digital transformation initiatives**, including automating workflows to cut costs and boost safety [33]. Robotics and AI together are helping reduce the need for manual, high-risk tasks (for instance, robotic cleaners for solar panels in vast solar farms, or automated drilling rigs that adjust parameters on the fly).

- **Cybersecurity Focus:** With greater digitization comes greater risk – energy infrastructure is a critical asset vulnerable to cyber-attacks. There is **strong emphasis on cybersecurity in the energy sector**, especially as utilities connect to the internet and OT (operational technology) systems interface with IT [34]. Middle East energy firms, often targets of sophisticated attacks, are investing in advanced threat monitoring, incident response drills, and regulatory compliance (some countries now require energy operators to meet specific cyber standards). This was underscored at Middle East Energy 2025: securing the digital energy future is “mission-critical” as companies embrace connectivity [34].

- **AI and Data Challenges:** While AI holds promise, implementing it system-wide in energy has challenges. A 2024 ADIPEC conference insight noted that if underlying processes are poor or data is siloed, digitizing can *magnify inefficiencies* instead of solving them [35]. For example, midstream logistics or maintenance operations often have messy, unstandardized data that make AI modeling difficult [36]. Energy companies are learning that they must first **modernize data architectures and break down silos**. This has led to a push for data platforms and better data governance across energy enterprises. Industry experts advocate a **holistic approach** – aligning data, processes, and people – even if it means higher upfront investment, to truly reap AI benefits [37] [38]. Notably, they see the Middle East’s new projects (many “greenfield” with modern infrastructure) as an opportunity

to implement these best practices from the ground up, potentially allowing Gulf countries (especially the UAE and Saudi Arabia) to **lead globally in AI-enabled energy operations** [39].

- **Renewables and Decentralization:** As the region (particularly the Gulf) pivots to renewable energy, digital technologies are playing a pivotal role. The integration of **solar and wind farms** into the grid is facilitated by AI that can balance loads and storage in real-time. There's also a trend towards **decentralized energy systems** – microgrids and rooftop solar managed by digital platforms. At Middle East Energy 2025, decentralization and renewables were major themes, with technology enabling businesses and even households to become energy producers ("prosumers") feeding excess power back to the grid [40]. The UAE's energy strategy, for instance, leans on digital control systems to manage its mix of nuclear, solar, and gas power, ensuring reliability. Digital transformation is thus a two-way street for energy: it helps traditional oil & gas become cleaner and more efficient, and it accelerates the adoption of clean energy by solving complexity (like intermittency of renewables) via smart software.

Healthcare

Healthcare in MENA is experiencing a **rapid digital makeover**, improving patient care and enabling new models of delivery. Key developments include:

- **Telehealth and Virtual Care:** The COVID-19 pandemic dramatically accelerated telemedicine across MENA. By 2024, telehealth platforms had facilitated over **1.5 million virtual consultations in MENA** in that year alone [41]. Governments and private providers continue to invest in virtual care infrastructure: e.g., Saudi Arabia's Ministry of Health launched apps for remote consultations and prescription deliveries, and the UAE integrated telehealth into public health insurance offerings. Telehealth and mobile health apps have expanded access, particularly for rural or underserviced communities, and remain a cornerstone of regional health strategies going into 2025.

- **Digital Health Records and Data Exchange:** Countries are rolling out nationwide **electronic health record (EHR) systems**. A landmark project is Saudi Arabia's partnership with Orion Health to create the world's largest health information exchange – linking data from 5,000 public and private health institutions for **32 million people** [42]. This massive data integration is expected to save lives by enabling any hospital to quickly access a patient's history, and to facilitate research and public health analytics. The UAE, Qatar, and Egypt have similar initiatives to unify health records and use **big data** for health planning. Such projects require careful handling of privacy and cybersecurity, and thus coincide with stronger health data protection regulations being enacted.

- **AI in Healthcare:** AI is increasingly employed in diagnostics, personalized medicine, and hospital operations. Middle Eastern hospitals are piloting AI for medical imaging (e.g., AI systems to detect tumors on scans), predictive analytics for patient deterioration, and even **AI-assisted surgery**. For instance, Kuwait's Jaber Hospital performed the region's first endoscopic surgeries using AI visualization to spot hard-to-see tumors [43]. In the Gulf, where there is significant investment in cutting-edge healthcare, **AI-powered tools** like symptom checker chatbots (e.g., "Altibbi" – the region's largest AI-driven digital health platform, which raised $44 million in 2022 [10]) and robot-assisted rehabilitation are increasingly common. Governments also see AI as key to coping with workforce shortages – the UAE's health system signed an agreement in 2023 to deploy a "smart

virtual nursing" platform using generative AI across emergency and intensive care units [44], aiming to improve patient monitoring and outcomes.

- **Genomic Medicine and Personalized Care:** Several MENA countries are making bold moves in genomic medicine, enabled by digital tech. **Genomics programs** in Saudi Arabia, the UAE, and Bahrain are sequencing genomes at population scale [45]. The aim is to integrate genomic data into healthcare to predict disease risk and tailor treatments. These programs generate vast amounts of data, requiring robust bioinformatics and data storage solutions. Alongside this, some hospitals are experimenting with **digital twins** of patients – virtual models of a patient's organs or physiology – to simulate and plan complex surgeries or treatments in silico [46]. This innovative approach, used in specialized centers in the UAE, could improve precision in care and is a testament to the region's willingness to adopt *Fourth Industrial Revolution* tech in healthcare.

- **Improved Health Outcomes and Access:** The ultimate goal of health digitalization is better care for citizens. Early signs are promising: digital tools are reducing wait times (patients can book appointments or get lab results via apps), expanding reach (mobile clinics and telemedicine for remote areas), and even yielding economic benefits. A McKinsey analysis found that wider digital health adoption could unlock **$15–27 billion in economic value for Saudi Arabia's health system by 2030** [47] – through efficiencies and better prevention. Additionally, the growth of a medical tech startup scene (from AI diagnostics companies to online pharmacies) is creating new economic sectors. The focus now is to ensure these technologies are integrated thoughtfully, with attention to **privacy, cybersecurity, and clinician training** so that digital health innovations enhance rather than complicate the patient experience.

Key Challenges and Barriers

Despite significant progress, MENA's digital transformation is not without **hurdles**. Some of the key challenges include:

- **Talent and Skills Gap:** A shortage of skilled digital talent is one of the most acute challenges. The rapid pace of projects has outstripped the supply of experts in areas like AI, cybersecurity, cloud architecture, and data science. In the Middle East, even with a young population, competition for experienced tech professionals is intense – for example, **64% of global digital/IT executives cite talent shortage as the most significant barrier**, and it is "even more pronounced in the Middle East" given the scale of regional ambitions [48] [49]. Organizations often resort to outsourcing or bringing in expatriate talent, but long-term success requires cultivating local expertise. Upskilling and reskilling programs are vital, as is making the tech sector more attractive to nationals (some governments have incentives to train and hire local IT graduates). The talent gap also extends to leadership: there's demand for leaders who can straddle tech and business – which ties into the next challenge.

- **Cultural and Organizational Resistance:** True digital transformation demands not just new tech, but new ways of working. Many organizations (private and public) face internal **resistance to change**, often concentrated in middle management. BCG found that in the Middle East, **hesitation among middle managers and a desire to preserve the status quo** can slow transformation, especially in traditionally hierarchical cultures [50]. Similarly, a failure to adopt an **agile, fail-fast mindset** has hindered some projects; global research indicates 83% of failed transformations lacked

agile leadership [51]. The region's corporate culture often values stability and thorough planning, which can conflict with the iterative experimentation digital innovation needs [52] [53]. Overcoming this requires strong executive buy-in (interestingly, 82% of the most digitally mature organizations had high CEO engagement [54]) and focused **change management**. Companies are increasingly investing in change management programs to shift mindsets, breaking silos and encouraging cross-functional teamwork. This is where **cultural transformation expertise** – a hallmark of **BRSK's approach** – becomes invaluable: guiding organizations to evolve their culture, processes, and structures in tandem with new technologies.

- **Legacy Systems and Infrastructure:** Many entities still rely on **legacy IT systems** that are inflexible and outdated. These systems can be a bottleneck, making integration with new digital solutions difficult. Common pain points include siloed databases, proprietary systems with vendor lock-in, and lack of interoperability. In government, for instance, agencies may each have their own legacy databases that don't talk to each other, complicating unified digital services. Upgrading or replacing legacy core systems (e.g., core banking systems, utility grid control systems, etc.) is often risky and expensive, which delays transformation. However, not addressing them can undermine newer digital layers. Best practices suggest adopting modular, cloud-based architectures and open standards; yet executing this in large organizations is an ongoing challenge. The positive side is that many MENA organizations, especially newer ones, *don't have the burden of decades-old systems* and can adopt modern architectures from the start – a phenomenon visible in the rise of cloud-native digital banks and smart city platforms in the region.

- **Cybersecurity and Data Privacy:** With growing digitization comes **exposure to cyber threats**. MENA companies have been increasingly targeted by cyberattacks, ranging from ransomware hitting banks to attempted hacks on oil infrastructure. As per PwC's 2024 survey, **77% of Middle East organizations planned to boost their cybersecurity budgets for 2024** [55], reflecting the high priority of cyber defense. The same survey highlights that **53% are concerned about attacks on connected devices (IoT)** – a critical concern as everything from factory sensors to smart home devices come online [55]. Additionally, only about half of firms are "very satisfied" with their cyber capabilities, indicating room for improvement [56]. Alongside malicious threats, **data privacy** is a growing issue: consumers are more aware of their data rights, and new data protection laws (some akin to GDPR) are rolling out in countries like the UAE, Saudi Arabia, and Egypt. Organizations must ensure compliance – which involves mapping data flows, securing personal data, and sometimes localizing data storage. Achieving digital **trust** is essential for sustained transformation; hence, integrating privacy-by-design and beefing up cyber resilience are non-negotiable requirements moving forward.

- **Digital Divide and Inclusion:** While connectivity stats are vastly improved, there remains a **digital divide** in MENA. Rural communities, lower-income groups, and some marginalized populations (including refugees in conflict-affected parts of the region) may not fully benefit from digital advances. As noted earlier, only **51% of rural populations** in Arab states used the internet in 2023, versus 82% in urban areas [57]. If digital government services or online banking become the primary mode, those left offline could be further disadvantaged. Language can also be a barrier – Arabic-language digital content and services have grown, but technical and educational content in Arabic still lags, which can limit adoption for non-English speakers. Bridging these gaps requires targeted policies: expanding affordable internet to remote regions, maintaining offline alternatives for

essential services during transition, and fostering local content and applications that meet the needs of diverse communities.

- **Regulatory and Policy Hurdles:** Regulatory environments in some MENA countries have struggled to keep pace with technological innovation. Fragmented or **outdated regulations** can slow down implementation of new services. For example, in the telecom sector, a GSMA report in 2025 warned that **restrictive licensing, short spectrum terms, and high sector taxes** are stifling investment in networks [58] [59]. In finance, differing regulations around digital payments or crypto between jurisdictions create complexity for regional fintech expansion. Cross-border data flow restrictions and lack of cloud regulations previously caused uncertainty for cloud adoption (though this is improving with clearer laws). Encouragingly, regulators are becoming more agile – many have introduced sandboxes and are collaborating with industry on forward-looking frameworks – but aligning regulation with the fast pace of tech remains a challenge that requires ongoing dialogue and reform.

Evolving Regulatory Landscape

Regulators and policymakers in MENA are actively addressing many of the above challenges through new **laws, guidelines, and collaborative initiatives**. The period 2024–2025 has seen several important regulatory shifts:

- **Data Protection and Privacy Laws:** A number of MENA countries have introduced comprehensive data protection laws, similar to Europe's GDPR, to govern how personal data is collected, stored, and processed. The UAE's Federal Data Protection Law (effective 2022) and Saudi Arabia's Personal Data Protection Law (updated and coming into full enforcement by 2025) are examples. These laws require organizations to implement stricter consent mechanisms, data security measures, and breach reporting protocols. While such regulations add compliance overhead, they are designed to build trust in digital services – giving users confidence that their data is safeguarded. They also facilitate international business, as adherence to global data norms becomes necessary for cross-border digital trade.

- **Fintech and Open Banking Regulations:** Financial regulators have been at the forefront in adapting rules. Bahrain, as noted, led with open banking mandates, and by 2025 Saudi Arabia and the UAE have operational open banking frameworks requiring traditional banks to open up certain APIs to licensed fintechs. Central banks have also been exploring **Central Bank Digital Currencies (CBDCs)** and issuing clearer rules for cryptocurrencies and digital assets – for instance, Dubai established a Virtual Asset Regulatory Authority (VARA) to oversee crypto exchanges and tokens. These moves are positioning the region as friendly to fintech innovation, under proper oversight. We see **crowdfunding and peer-to-peer lending** regulations emerging too, aimed at boosting SME financing through digital platforms under regulatory supervision.

- **Telecom and Digital Infrastructure Policy Reforms:** As highlighted by GSMA, governments are recognizing the need to modernize telecom policies. The GSMA's 2025 report calls for reforms such as **technology-neutral licenses, longer spectrum license durations, lower telecom-specific taxes, and support for network sharing agreements** [60] [61]. These measures would encourage telecom operators to invest more aggressively in 5G and rural coverage. Some countries have already begun action: e.g., Oman and Morocco have cut certain telecom fees and released 5G

spectrum with favorable terms; Egypt and others are streamlining cell tower permitting processes. Additionally, there's movement on enabling **cross-border data flows** – e.g., agreements within the GCC to recognize each other's cloud service certifications, which helps data move more freely while respecting security.

- **Innovation-Enabling Regulations:** To keep up with emerging tech, MENA regulators are adopting *"light-touch"* or pro-innovation approaches in areas like **autonomous vehicles, drones, AI, and digital health**. The UAE's AI ethics guidelines and Saudi Arabia's regulatory sandbox for digital health products (allowing quicker approvals for AI diagnostics under controlled conditions) are examples of adaptive regulation. Moreover, governments are working on **frameworks for AI governance**, ensuring AI systems are used ethically and transparently in both public and private sectors. Some countries (like Qatar and the UAE) have published national AI ethics charters that, while not laws, set principles that companies are encouraged to follow.

- **Regional and International Cooperation:** MENA nations are increasingly collaborating on digital policy harmonization. Within the GCC, there's discussion of **regional data protection standards** and unified digital market regulations (inspired by the EU model) to allow easier digital commerce across borders. Internationally, partnerships with the EU (like the EU's new Agenda for the Mediterranean focusing on digital transition support [62]) and global bodies (ITU, World Bank) are bringing funding and best practices to the region. One notable effort is the **EU's Global Gateway** investments in the Southern Mediterranean, which include digital projects like the aforementioned MEDUSA cable and startup incubators, aimed at boosting digital economies in North Africa [22]. Such cooperation also extends to security: information-sharing on cyber threats and alignment on cyber norms, which bolster the region's defensive posture.

In essence, the regulatory landscape is **maturing** – shifting from reactive or piecemeal rules to a more strategic, enabling posture. Policymakers acknowledge that achieving national digital transformation goals requires a supportive environment: clear rules that reduce uncertainty, protect users, and encourage investment. The momentum in 2025 is toward **bridging the gap between ambition and action** in policy. Industry groups like the GSMA note that governments have set *bold goals but investment climates lag*; thus they provide roadmaps for reform so that "mobile can deliver the connectivity, services, and economic growth societies are counting on" [63]. The good news is many governments are heeding this advice, engaging in public-private dialogue. As GSMA's MENA head put it, the key is aligning the investment climate with the region's digital ambition – modernizing laws to unlock innovation and inclusion [64]. We are beginning to see exactly that unfolding.

Conclusion: Navigating the Future – Execution, Inclusion, and Impact

By 2025, the Middle East and North Africa have unequivocally embraced digital transformation as a cornerstone of their future. The region's digital economy is **diverse and dynamic**, governments are digitalizing at an unprecedented pace, and industries from banking to energy to healthcare are leveraging technology to leap ahead. MENA's success stories – a top-ranked e-government, fintech unicorns, AI-assisted oil fields, telemedicine saving lives – showcase the possibilities when vision meets execution. The coming years promise even more: **AI ubiquity**, more integrated smart cities, region-wide digital

marketplaces, and hopefully, a narrowing of the digital divide so all communities can benefit from the digital age.

Yet, as this report has highlighted, **technology is only half the equation**. The other half is **people and process**. Organizations must align their workforces and cultures with the transformation, or risk under-delivering on great ideas. It's telling that so many surveys and experts in 2024–25 talk about execution gaps – the need to **translate strategy into action** effectively. This is where domain expertise in **change management, cultural transformation, and strategic execution** becomes invaluable. In practice, it means cultivating leadership buy-in, breaking silos, training staff for new skills, iterating fast, and keeping the end-goal (better customer experiences, citizen outcomes, business value) always in sight. Firms like **BRSK**, which specialize in guiding such transformations, play a subtle but crucial role in the region: helping bridge the gap between ambitious digital roadmaps and the realities of implementation on the ground.

Moreover, inclusivity and sustainability should remain at the heart of MENA's digital journey. Digital transformation is not just a tech endeavor; it's a societal project. Ensuring rural villages have internet access, empowering women in tech careers, using digital tools for climate adaptation (think smart water management in arid regions), and safeguarding mental well-being in an always-online world – these are all part of the equation for a truly successful transformation. Encouragingly, regional discourse has started to incorporate these elements, such as discussions on **digital well-being** (e.g., balancing screen time and mental health) [65] and using digital means to achieve sustainable development goals.

In conclusion, the state of digital transformation in MENA in 2025 is one of **optimism tempered with pragmatism**. The foundation has been laid – infrastructure, strategies, pilot projects, and regulatory support are largely in place. The focus now is on *scaling and sustaining* the transformation: scaling pilots into nationwide platforms, turning sandboxes into industry standards, and sustaining the momentum by continuously adapting to new tech (like the next wave of AI or Web3) and new challenges. The MENA region has the advantage of late-mover benefit – it can adopt cutting-edge technologies without as much legacy drag – and a youthful population eager to innovate and adopt. If governments, businesses, and civil society can continue to collaborate, emphasizing execution excellence and inclusion, MENA is poised not only to transform itself but to emerge as a **global benchmark** in how digital transformation can drive economic growth and social progress.

Sources:

- Redseer Strategy Consultants, *"5 Predictions for MENA's Digital Economy in 2025,"* Jan 22, 2025 [1] [3].
- International Telecommunications Union via MEI, on internet usage rise in Arab states (2005–2023) [4].
- World Economic Forum, *"How digital innovation is reshaping healthcare in the Middle East,"* Oct 8, 2024 [6] [10].
- EY MENA, *"MENA 2024 Banking Report,"* Sep 16, 2024 [27] [28].
- MDPI Journal (Saeed, 2025), Saudi Arabia's UN e-Government Index rank [19].
- BCG, *"Digital Government Transformation in the Middle East,"* Aug 23, 2022 [30] [48].
- LinkedIn/AgileManagex, *"5 Ways Digital Transformation Is Reshaping the Energy Industry — Middle East Energy 2025,"* Apr 9, 2025 [13] [34].
- Offshore Magazine (Xodus at ADIPEC 2024), *"What AI can mean for the Middle East's energy sector,"* Nov 5, 2024 [35] [39].
- PwC Middle East, *"Digital Trust Insights 2024 – Middle East,"* 2024 [55].

- TechAfrica News, *"GSMA calls for regulatory reforms to boost MENA's digital economy,"* Apr 28, 2025 [58] [60].
- World Economic Forum, *"How digital innovation is reshaping Middle East healthcare,"* 2024 [42] [44].
- Middle East Institute, *"EU support for MENA's digital transformation,"* Aug 19, 2024 [57].

---

[1] [2] [3] [14] [15] 5 Predictions for MENA's Digital Economy in 2025 | Redseer
https://redseer.com/newsletters/5-predictions-for-menas-digital-economy-in-2025/

[4] [5] [22] [57] [62] The EU needs to expand its support for the MENA region's digital transformation | Middle East Institute
https://mei.edu/publications/eu-needs-expand-its-support-mena-regions-digital-transformation

[6] [10] [42] [43] [44] [45] [46] [47] How digital innovation is reshaping Middle East healthcare | World Economic Forum
https://www.weforum.org/stories/2024/10/digital-innovation-reshaping-healthcare-middle-east/

[7] [12] [33] How technology can extract a sustainable future for energy companies in MENA | EY - MENA
https://www.ey.com/en_jo/industries/energy-resources/how-technology-can-extract-a-sustainable-future-for-energy-companies-in-mena

[8] e& and IBM study focuses on MENA's opportunity to lead AI ...
https://mea.newsroom.ibm.com/e-report-AI

[9] [27] [28] MENA 2024 Banking Report | EY - MENA
https://www.ey.com/en_ps/technical/banking-capital-markets/mena-banking-report/mena-2024-banking-report

[11] [13] [31] [32] [34] [40] 5 Ways Digital Transformation Is Reshaping the Energy Industry — Reflections After Middle East Energy 2025
https://www.linkedin.com/pulse/5-ways-digital-transformation-reshaping-ahune

[16] [17] [18] [21] [30] [48] [49] [50] [51] [52] [53] [54] Digital transformation in the Middle East | BCG
https://www.bcg.com/publications/2022/government-digital-trasformation-in-the-middle-east

[19] [20] [23] Digital Transformation in Governmental Public Service Provision and Usable Security Perception in Saudi Arabia
https://www.mdpi.com/2078-2489/16/3/247

[24] [58] [59] [60] [61] [63] [64] GSMA Report Calls for Regulatory Reforms to Boost MENA's Digital Economy - TechAfrica News
https://techafricanews.com/2025/04/28/gsma-report-calls-for-regulatory-reforms-to-boost-menas-digital-economy/

[25] [PDF] Digital Banking in Middle East and Africa: Seven Key Trends ...
https://sbs-software.com/wp-content/uploads/2025/03/SBS-Study-Digital-Banking-in-Middle-East-and-Africa-Seven-Key-Trends-Shaping-the-Future.pdf

[26] [PDF] Digital Transformation: What's Next for Middle Eastern Banks?
https://www.publicissapient.com/content/dam/ps-rebrand/industry/financial-services/GBBS/2024/2024-MENA-GBBS-infographics.pdf

[29] Saudi Arabia Ranks First in E-Government Services (2025 Update)
https://soulofsaudi.com/saudi-arabia-ranks-first-in-e-government-services/

35 36 37 38 39 ADIPEC 2024: What AI can mean for the Middle East’s energy sector | Offshore
https://www.offshore-mag.com/regional-reports/middle-east/article/55240652/xodus-adipec-2024-what-ai-can-mean-for-the-middle-easts-energy-sector

41 The Middle East's Rapid Ascent in Digital Health Innovation
https://www.newswire.com/news/the-middle-easts-rapid-ascent-in-digital-health-innovation-a-global-22506988

55 56 Digital Trust Insights 2024 - Middle East findings
https://www.pwc.com/m1/en/publications/middle-east-digital-trust-insights-2024.html

65 MENA's digital transformation must not ignore well-being
https://www.arabnews.jp/en/uncategorized/article_149476/