

Cloud computing & AI in MENA: The next big game changers

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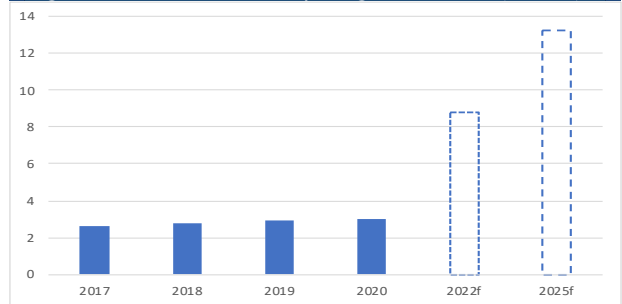
- The cloud computing sector in the MENA region is growing rapidly, with several governments initiating public-private partnerships and attracting investments from international cloud-service providers.
- GCC countries have the potential to be in pole position when it comes to adopting cloud technologies for public sector services as they shift from oil-driven to data-driven economies.
- We expect demand for artificial intelligence (AI) in the MENA region to remain above pre-pandemic levels, capitalising on the boost it received last year due to its role in the fight against COVID-19.

GCC navigating the cloud

COVID-19 has defied nearly every sector, irreversibly amplifying the role of disruptive technologies and digitalisation. Fuelled by both the pandemic and an increase in government spending on ‘smart’ cities, cloud computing is accelerating at a rapid pace throughout the MENA region.

- Global cloud computing is in high demand due to younger and more dynamic populations which are completely *au fait* with digitalisation. Further drivers include the rapid expansion of start-up communities, and the ambitions of global corporate giants to provide productive digital solutions across several industries.
 - More recently, the sudden shutdowns of offices, schools and businesses due to the pandemic have increased the demand for cloud solutions and services.
 - The global cloud computing services market size is forecast to grow from USD 371B in 2020 to USD 938B by 2027, at an annual growth rate of about 17%.
- In the MENA region, the market is still relatively nascent. However, this is changing as countries seek to diversify to non-oil sectors.
 - The region’s cloud infrastructure market size is expected to grow by nearly 320% from 2016 to USD 8.8B in 2022, and at a compounded annual growth rate of 27% thereafter.
 - The MENA region is projected to have the world’s highest cloud traffic growth rate; this is underscored by the region’s highest rate of mobile penetration globally.
 - The public sector cloud market, particularly in the GCC, is emerging as the catalyst for the sector’s growth. It is expected to more than double in value by 2024, growing from USD 956M in 2020 to USD 2.4B by 2025.
 - This growth not only stems from cloud computing’s lower operational costs; there is increasing governmental drive to digitalise public and private sectors, expanding cloud-dependent technologies such as ‘bring your own device’ (BYOD) and the ‘Internet of things’ (IoT).

Figure 1 - MENA Cloud Computing Market Size (USD, B)¹



- The UAE was among the first MENA countries to adopt public cloud computing services² and continues to be a leader in the market today.
 - In 2013, the government launched its ‘mGovernment’ initiative, which saw the creation of ‘One App’, an application that offers over 4,000 federal and local government services. This includes issuing or renewing visas, passports and licenses, as well as paying utility bills.
 - Moreover, it is estimated that nearly half of public IT spending across the UAE is cloud-based. This is expected to rise going forward.
 - Cloud computing spending across the UAE is expected to reach USD 411M in 2022, compared with USD 120M in 2017.
 - Across the MENA region, the average is estimated at USD 3B, compared with the global average of USD 258B.
 - In 2020 alone, cloud computing in the UAE made up around 60% of all IT infrastructure and 70% of all software, services and technology spending. This reflects the strong demand for cloud computing, even during the pandemic-induced economic slowdown.
- Saudi Arabia is also rapidly driving digital transformation via cloud computing in its public sector.
 - In 2020, the kingdom set up the Unified National Platform GOV.SA, which aims to provide high-quality and efficient public services.
 - Currently, the platform provides 3,300 different services to around 900K users.
- The kingdom was one of the first countries globally to issue specific regulations for cloud computing governance.
 - Saudi Arabia’s Communications and Information Technology Commission (CITC) put forward the Cloud Computing Regulatory Framework in 2018. It was recently updated in December 2020.
 - The framework clearly outlines the roles and responsibilities of the cloud service providers and users, namely individual customers, government agencies and enterprises.
- Additionally, Saudi Arabia’s Ministry of Communications and Information Technology launched the country’s Cloud First Policy in 2019.
 - This policy is in line with the Saudi Vision 2030 ambition to accelerate the pace at which the authorities migrate to cloud solutions and adopt cloud computing services.
- Similarly, Bahrain ranks among the MENA region’s earliest proponents of cloud regulation.
 - As part of its plans to become a regional cloud computing hub, Bahrain issued the Cloud Computing Services Law in 2018. This allows for the provision of cloud services to foreign parties.

¹ Arabia Monitor; MarketWatch.

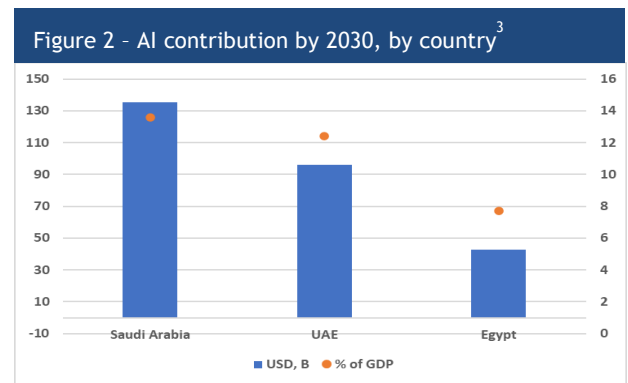
² Public cloud services are computing services offered by third-party providers over the public Internet, making them available to anyone who wants to use or purchase them.

- Under this law, the framework for “data embassies” was established, which enables foreign clients to store their data in Bahrain, while simultaneously ensuring that this data is subject to domestic laws and regulations in both Bahrain and their country of origin.
- More is needed to unleash the cloud market’s ability to operate efficiently and to protect data sovereignty on the national and regional levels. However, the growing implementation of cloud computing regulatory frameworks in the GCC bodes well for the market’s growth prospects.
 - This will be key to attracting investments for expanding data centre projects and ultimately facilitating economic growth.
- Revenue from the data centre market within the GCC is expected to reach USD 3.7B by 2025, 3% annual growth since 2019.
 - Major tech companies such as Google, Microsoft and AWS have already shown interest by launching their data centres in the region.
 - For example, Microsoft launched its first MENA data centre in the UAE in 2019.
 - Microsoft is expected to add 69K new jobs to the economy by 2024, with 16K created for skilled IT professionals.

Artificial intelligence drives very real innovation

While most AI technology in the MENA region is still imported, the pandemic has propelled local production and innovation. We expect this to accelerate AI development in the region going forward.

- By global standards, AI revenues in the MENA region are minimal. Yet the scope for AI to bolster regional economies is great. Even in this nascent stage of development, AI has the potential to create numerous jobs and investment opportunities.
 - By 2030, the MENA contribution to global AI revenues is expected to remain relatively low at USD 320B, compared with a global figure of USD 15.7T, and China’s USD 147B.
 - Nevertheless, the MENA figures only accounts for 2% of the worldwide total, it would still equal around 11% of the region’s GDP by 2030.
 - The UAE and Saudi Arabia are expected to be the most advanced in AI in MENA by 2030. AI is expected to account for 13.6% and 12.5% of their GDPs respectively. This would be just shy of the global average of 14%.
- In 2020, AI development across the MENA region grew at a rapid pace, mainly as part of an effort to combat the spread of COVID-19.
- Several countries used AI to collect information, sanitise public spaces, monitor cases and raise health awareness.
 - For instance, Bahrain launched ‘BeAware’, an app that allows residents to track and avoid people with COVID-19.
 - In Qatar, both the Ministry of Health and the Computing Research Institute launched a diagnostic monitoring app that compiles and geolocates COVID-19 cases.
 - In the UAE, the ‘Oyoon’ app uses facial, voice and license-plate recognition. It helped the police in Dubai to limit the movement of its residents and to monitor and manage permits required by those leaving their homes.



- Moving forward, the impact of AI across the MENA region could be even larger should governments continue to push the boundaries of innovation across businesses and sectors.
- Across the region, the UAE is the most active in the development and implementation of AI technologies. It has also placed AI at the forefront of strategic plans.
 - In 2017, the UAE’s government launched its AI strategy, demonstrating its commitment to the technological enhancement of the nation.
 - Among the UAE’s top national strategies are:
 - A ‘smart’ strategy which aims to transform Dubai through digital innovation.
 - An AI smart lab which focuses on training public and private sector employees in implementing AI in their fields.
 - A Dubai 3D printing strategy, targeted at the construction, consumer products and medical products sectors. By 2030, Dubai aims to have constructed 25% of its buildings using 3D printers.
 - Additionally, the UAE was the first country in the world to appoint a Minister of State for Artificial Intelligence, and in 2019, Abu Dhabi opened the Mohamed bin Zayed University of Artificial Intelligence.
- The university aims to incorporate AI into every facet of life from the economy to government, making businesses more productive and the public service more efficient. We are seeing several leading technology players establishing partnerships with government and private entities in the UAE.
 - The government-owned Dubai Future Foundation is working with Teacherly, a UK-based start-up, to put its AI-powered digital platform into practice for selected schools under the UAE’s Taaleem education group.
 - In June 2020, Microsoft’s first ever AI centre was opened in Dubai. Its purpose is to develop AI technologies that can be used in the global energy sector.
 - More recently, the Abu Dhabi-based technology company Group 42 (G42) formed a joint venture called Presight.AI with Israel’s state-owned Rafael Advanced Defense Systems to commercialise AI and big data technologies.
 - This JV has encouraged the US private equity firm Silver Lake to invest USD 800M and to buy a stake in G42. The size of the stake has not yet been disclosed.
- We expect this trend to continue and to expand beyond the UAE. It will encourage governments to relax national policies further in a bid to boost investment and attract foreign interest in the MENA region’s digitalisation potential.

² Arabia Monitor; PwC.

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