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Automation: Boon or bane?

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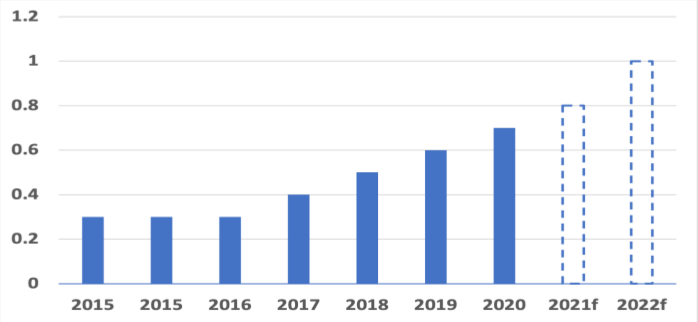
- **Automation is being adopted in both private and public sectors in MENA, but this trend is uneven among countries.**
- **Almost half of existing jobs in the Middle East are set to become automated by 2030; challenges lie ahead for policy-makers as unemployment is already widespread in the region.**
- **Although plenty of opportunities do exist, the MENA frontrunners lag behind other developed economies with regard to the automation of warehouse and logistics sectors.**

Sands of times to come

The race is on to lead the field in AI. Various GCC players, as well as Egypt, now recognise the economic benefits of automation and have incorporated these technologies to varying degrees. The UAE and Saudi Arabia are currently leading the pack.

- Just this month, the oldest privately owned bank in the UAE, Mashreq Bank, announced the launch of a new facial recognition service.
  - Emiratis will be able to open a bank account by simply scanning their ID and taking a 'selfie' to provide photographic evidence, negating the need to travel to a branch in person. The customer's identity will be instantly verified by AI.
  - In theory, these new technologies should invite fewer opportunities for financial fraud, meaning transactions will be safer to carry out.
- Last year, the Abu Dhabi National Oil Company (ADNOC) reportedly generated around USD 1B thanks to its Panorama Digital Command Centre.
  - This real-time digital data visualisation centre helps decision makers to maximise productivity and enhance their operations.
  - Such technological breakthroughs will underscore to countries throughout the region that future investment in AI is highly likely to boost GDP.
- Competing with the UAE is Saudi Arabia, which has demonstrated a serious ambition to reduce its dependency on oil as part of Saudi Vision 2030. This drive to diversify the kingdom's economy and revenue stream has been showcased through practical action.
  - One such initiative is Saudi Arabia's flagship project, NEOM, an ultramodern city that is set to be an AI epicentre.
- NEOM seeks to become the digital and AI capital of the world. Every aspect of the ground-breaking city will be monitored by technology, including practical safety aspects of everyday life such as traffic accidents.
  - The authorities intend to construct a cluster of multi-speciality smart hospitals in NEOM, which will provide residents with various automated services.
  - Saudi Arabia currently spends around USD 12.5B annually on overseas healthcare. We expect NEOM to redirect a considerable portion of this amount back into the kingdom.

Figure 1: Warehouse automation market size (USD B)[1]



  - Using the latest technologies, the Kingdom plans to deliver a best-in-class international standard of healthcare and wellbeing services within the futuristic city.
- Looking across the Red Sea, Egypt's government has officially relocated its headquarters to a new smart city (the New Administrative Capital, NAC) located about 28 miles (45km) from the traditional capital Cairo.
  - Around 50K employees will be moved on a gradual basis to the NAC in the coming months.
  - A major highlight of the new capital is the comprehensive adoption of smart cards and mobile applications to unlock doors and make payments.
- The government has a dedicated AI strategy called Artificial Intelligence for Development and Prosperity which comes under the Ministry of Communications and Information Technology.
  - The government wants to digitalise its institutions, streamlining operations and cutting unnecessary costs.
- Working away from the limelight is Qatar. The gulf state is home to regional landmark institutions such as the Qatar Centre for Artificial Intelligence (QCAI) and the Qatar Computing Research Institute (QCRI).
- A breakthrough development emanating from both organisations has been the development of a self-learning AI model capable of predicting car crashes.
  - As part of this new technology, risk-maps will ostensibly predict the number of vehicle crashes and identify high-risk areas.
  - The integration of such a model will be a valuable asset for the Ministry of Municipality and Environment's Urban Planning Department.
- Signalling that it now recognises the social and economic benefits of AI, Qatar will issue fast-track visas so as to attract foreign experts and AI developers.
  - This is seen as a move to market itself as an AI hub in the Middle East. While it is commendable to aim high, we believe Qatar will have a run for its money as neighbouring Saudi Arabia and the UAE have already made great strides in the field.
- Elsewhere, Kuwait decided to bolster its AI credentials by partnering with Microsoft in July 2021.
  - Kuwait's Central Agency for Information Technology (CAIT) is in charge of the initiative and aims to maximise the use of smart technologies within the country's public sector.

[1] Arabia Monitor; Statista.

- Looking forward, the partnership will encourage pro-automation policies throughout various sectors within the Kuwaiti economy.
- We expect to see similar adoptions of automation across the region but the dominance of the UAE and Saudi Arabia is likely to remain undisputed.

Only human

The COVID-19 pandemic has accelerated the uptake of automated and semi-automated solutions. This new reality is shifting the demographic of the MENA region's labour market.

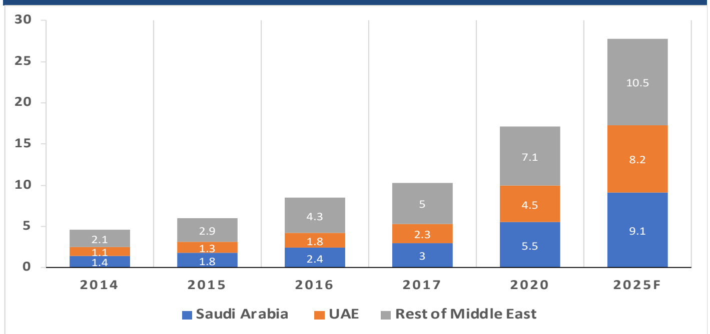
- It is well known that automation increases productivity while cutting costs such as employee wages.
  - Conversely, adopting technologies may lead to unintended negative consequences for the labour market.
- The gradual integration of robotics and AI into supply chains will push out workers whose skills do not mirror the knowledge required to manage new technologies.
  - For countries like Bahrain, Kuwait and the UAE, the projected adoption of automation by 2030 is higher than the global average of 32%.
- Furthermore, some jobs will be abolished due to the automation of certain types of work.
  - Sectors which involve routine or repetitive tasks are set to be most impacted; among others, these include manufacturing, transportation and warehousing.
  - Around 45% of existing jobs in the Middle East are expected to be fully automated by the end of this decade.
- Elsewhere, sectors which require human interaction are less likely to be as impacted; these include healthcare, education, the arts and entertainment.

Regulation up to standard

The increased use of surveillance technologies, as well as access to private data, will almost certainly generate anxiety regarding the potential misuse of automated technology. Waves of related regulations have spread across the region.

- Accompanying the increase in automation comes a plethora of cybersecurity threats.
  - The MENA region has been undergoing regulatory changes to safeguard the privacy of its citizens.
- Qatar was the first GCC country to adopt a Data Protection Law in 2016.
- Last year Egypt passed a new law which is in line with standards from the European General Data Protection Regulation (GDPR). In short, the legislation punishes the promulgation of personal data without consent.
- The Saudi Data and AI Authority (SDAIA) looks set to establish a Personal Data Protection Law within the next six months.
  - The law aims to prevent malpractice when data is collected and processed.
  - This is a positive development; Saudi citizens were initially apprehensive about sharing their details online due to a perceived lack of regulation and protection provided by the state.

Figure 2: E-commerce market size (USD B)[2]



- Our view is that the roll out of regulation in parallel to the growing automation presence will not pose a threat to AI growth.

The e-commerce catalyst

The advances in AI and robotics (part of the so-called 4th Industrial Revolution) continue to reshape the MENA region's logistics and warehousing sectors through the integration of automated solutions designed to improve operational and cost efficiency.

- The greatest growth driver for warehouse automation technologies in the MENA region is e-commerce.
  - The uptick in activity witnessed within the e-commerce market (which has been spurred by the COVID-19 pandemic) has increased demand for more warehouse space. This in turn has facilitated an increase in automation solutions within warehouses in order to compensate for manual labour shortages and increased demand from online retailers.
- In 2017, the MENA e-commerce market size reached around USD 10.3B which is a humble 1.9% penetration of total retail sales during that year in MENA.
  - In China and most developed countries, such as the UK, US, France and Germany, e-commerce takes up more than 10% of total retail sales.
  - By contrast, emerging markets, such as Brazil, Turkey and India, post figures below the 5% mark.
  - Last year the market size for MENA was USD 17.1B, indicating 66% growth from the 2017 figure.
- The status quo remains. The UAE and Saudi Arabia currently lead the way with a combined market share of more than 50% of the entire Middle East e-commerce market.
  - The UAE boasts the most advanced e-commerce market in the region, with a penetration rate of 4.2% of total retail sales, similar to that of Brazil and Turkey.
  - The regional competitor is Saudi Arabia, which trails closely at 3.8%.
  - At 2.5%, Egypt comes third. This is a notable feat; the figure is comparable to that of India or Indonesia.
- These statistics notwithstanding, e-commerce within the MENA region remains relatively low compared with other areas around the world.
  - With the growing usage of mobile internet, debit cards and cashless transactions, we anticipate slow but steady growth of the e-commerce market within MENA.

[2] Arabia Monitor; LogisticsIQ.

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