The power of intelligent automation
Making customer interaction smarter in the GCC
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Foreword

The rapid advancement of technology and changes in customer behavior are causing the industries of today to transform dramatically. Facing disruption, companies are erasing boundaries that once distinguished them from other industries. It means pharmaceutical retailers can merge with health care providers, or lead web retailers to buy grocers, or push automotive companies to develop renewable energy arms. Business models that have worked well for years are now shattering all the way along the value chain.

That trend toward convergence is global — but the pace of change in the Arabian Gulf Region has accelerated enormously this year, as governments and companies aim not only to catch up, but also to leapfrog others after a relatively slow start on digitalization. We are seeing traditional players collaborating with new participants from different industries to tackle challenges such as the rising costs of health care, climate change and urbanization. They are co-creating value in the ‘hot spots’ where industries converge. Those that are not open to collaboration in this new environment risk being left behind, as competition from new, digitally enabled business models is threatening their traditional services and methods of operation.

At EY, we aim to help EY clients understand the implications of convergence, and to recognize the opportunities opened by leveraging a range of new technologies and tools. In this report, we focus on how three customer-facing sectors in the Gulf Cooperation Council (GCC) – government services, retail and financial services – are using intelligent automation to transform interaction with their customers and ensure they are fit for the future.

We hope it inspires ideas and actions for your organizations – and we look forward to helping you remain agile enough to thrive in the era of convergence.
Introduction

The Arabian Gulf Region has recognized the potential of intelligent automation. Governments see it as a way to improve the efficiency of government services and increase citizen satisfaction while creating attractive jobs for nationals and boosting the competitiveness of the private sector. Several governments in the region have announced large-scale initiatives to leverage artificial intelligence (AI), robotics and digitalization. From Saudi Arabia’s offer of citizenship to a robot to the nomination of a Minister of Artificial Intelligence in the United Arab Emirates (UAE), these moves have created a stir.

In a survey of senior executives, 53% in the Middle East and North Africa (MENA) region say that AI and robotic process automation (RPA) are the most prominent technologies on their boardroom agenda – compared to 46% worldwide. Indeed, in consumer-facing sectors in the region, virtually all companies pointed to intelligent automation as their leading technology focus. Implementation is still in its infancy. Outside of a few government entities, a number of regional banks and the odd retailer, most GCC organizations are still at the stage of thinking and planning. Nevertheless, there is a window of great opportunity over the next few years for both public and private sector organizations to accelerate development and be at the forefront of digital transformation, especially in customer-facing operations.

Which of the following technologies are most prominent on your boardroom agenda?

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<th>Technology</th>
<th>MENA</th>
<th>Global</th>
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<td>Artificial Intelligence (AI) and robotic process automation</td>
<td>53%</td>
<td></td>
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<tr>
<td>Cloud computing and big data</td>
<td>27%</td>
<td></td>
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<tr>
<td>Distributed ledger technology (blockchain)</td>
<td>20%</td>
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<td>Other technology</td>
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Source: EY’s Global Capital Confidence Barometer 2018
What is intelligent automation?

Intelligent automation is a broad set of tools and technologies that enable organizations to increase revenue and reduce costs in a scalable and sustainable, customer-centric operating model. The technologies include **RPA, AI, blockchain, Internet of Things, 3D printing, and other digital enablers such as optical character readers (OCR) and smart forms.**

In this report, we look at how organizations in the retail, financial services and public sectors are using intelligent automation to drive efficiencies and use the resulting capacity to create new value, improve customer experience, and support product and service innovation.

In particular, we focus on:

**RPA**, which is the automation of standardized and rules-driven, system-based activities using scripts and other methods, to support efficient business processes. It is suitable in scenarios where it is too expensive or inefficient for humans to execute a task or process.

**Data discovery and prediction**, which covers predictive analytical tools that may be hard-coded to search for specific results, as well as AI tools that can analyze huge quantities of unstructured data (such as social media feeds) to recognize patterns that may be significant, solve complex and interrelated problems, and make choices and decisions. Newer AI tools such as natural language processing (NLP) are used to analyze text and unstructured information to understand the meaning, sentiment and intent. NLP is used to power chatbots and social robots, both of which are in increasing use in the Arabian Gulf Region.
Leveraging government strategies – public-private partnerships

The main reason for this window of opportunity is government leadership. Governments are mandating their departments to use intelligent automation to drive efficiency, inject innovation into the economy, and improve citizen, resident and tourist satisfaction by providing fast and efficient public services. The UAE’s Artificial Intelligence Minister, Omar Al Olama, has estimated the potential value of doing this: he says these technologies can increase the gross domestic product (GDP) by more than a third by 2031 and reduce government spending by half.

All GCC governments are aiming to leverage intelligent automation technologies in this way – and that helps all organizations to accelerate their efforts to generate new value and revenue through greater efficiencies and smarter customer interaction. “Where the government leads, everyone else follows,” says Gavin Maxwell, MENA Advisory Partner, Ernst & Young Middle East (Dubai Branch).

Some companies will rely on government-run digital infrastructure as a platform to spur their own intelligent automation initiatives. Sharjah Islamic Bank, for example, will leverage the UAE’s digital identity initiatives to create secure, validated, real-time systems for a range of public and other services across the country. “Banks can act as a valued partner for government in implementing their federal initiatives,” says Saleem Ahmed, Head of Information Technology, who is currently implementing a comprehensive intelligent automation strategy at the bank. Working with government in this way is helping them to improve customer satisfaction through an efficient payment experience, but also boosting their brand by granting them ‘trusted government partner’ status.

This kind of public-private partnership (PPP) model is expanding across digital public services and around the region, as governments look to the private sector to help them implement their strategies. In Saudi Arabia, for example, the Ministry of Health is collaborating with GE Healthcare and a number of Saudi companies and private equity investors to transform health care provision, using intelligent automation technologies to drive down cost and improve quality, access and costs for patients. Dubai’s Roads and Transport Authority (RTA) has partnered with Uber and Careem on its S’Hail transportation app and is using Dubai’s Future Accelerators program to work with international entrepreneurs to test ground-breaking technologies for autonomous transportation.

The ultimate aim is to stimulate the development of indigenous outsourced providers that use local talent and intelligent automation to do things that would have been offshored internationally in the past. A good example is Elm in Saudi Arabia, a company owned by the Public Investment Fund, that designs and implements innovative digital projects for government entities – and increasingly for the private sector.

Organizations can use broad partnerships – both public-private and cross-industry – to disrupt industry business models. From the customer’s perspective, many processes cross industry boundaries, so dissolving boundaries can create significant competitive advantage. Buying a car, for example, spans the dealer, the bank providing the loan, the insurer and the government office responsible for registrations. Partnerships that allow for real-time transactions between all these players mean that customers can view a car, buy it and be ready to drive it away, without having to wait. Such seamless, efficient customer experience benefits everyone.
Another factor encouraging the acceleration of digital transformation in the GCC is the region’s digital advantage. The population is young and digitally savvy, and the penetration levels of mobile broadband and social media are among the highest in the world. Where some regions see the threats and risks inherent in intelligent automation, young people in the GCC are more likely to share an ambition for their countries to be on the cutting edge.

For the past few years, there has been a yawning gap between this digital potential and the disappointing reality of a slow uptake in e-commerce. A slew of acquisitions and activity over the past year – including Amazon’s purchase of souq.com and Emaar Malls’ acquisition of Namshi – seems to have broken the dam, clearing the way for a rapid roll-out of more comprehensive intelligent automation strategies.

Beyond the pull brought by customer expectations, companies are also starting to benefit from government initiatives, not only to attract experienced expats, but also to develop the skills in AI and data science that are required to realize the digital potential. There are a number of encouraging initiatives, especially in the UAE. ‘One Million Arab Coders’ provides free training in programming and data science to young Arabs. Dubai’s Artificial Intelligence Smart Lab, a partnership between the government and IBM, trains government and private sector employees in AI and cognitive computing. Gulf organizations across sectors can take advantage of this government push to build homegrown talent.
Top-down or bottom-up?

How can public and private sector organizations best move forward to capitalize on these opportunities? Government organizations are largely taking a top-down approach to intelligent automation, linking it to major strategic objectives. Dubai’s RTA, for example, is looking to improve traffic management and reduce accidents in the short term, and transform mobility over the long term. It is combining sensors on vehicles, face and number recognition technologies, and predictive data analytics to manage traffic flows. It is also testing a range of autonomous transportation options using sensors and 3D cameras.

Dubai Police is leveraging technology to improve its ability to provide security. It is automating basic processes, such as reporting crimes and applying for visas, through self-service police stations that use NLP to recognize and respond to requests in several different languages. They are exploring the potential of predictive analytics to tackle crimes and using augmented reality to explore dangerous situations, such as chemical leaks.

This strategic approach has the advantage of building ambition and synergies into the planning from the beginning. It focuses primarily on improving the customer or citizen experience, with cost-cutting a consequence of automation rather than the main aim of the program. The scale and scope of these strategies also mean it takes time to plan and implement, and requires large resources and strong support from the top.

The private sector has tended to take a more bottom-up approach, focusing on reducing costs and developing new capabilities. Many financial services companies in the region, for example, have started their intelligent automation journey by improving back-office transactions, using RPA tools that can handle large numbers of transactions fast and with great accuracy. “RPA is likely to play an increasingly important role in driving efficiency, with cost-savings of up to 60%,” says Khurram Siddiqi, EY Global Financial Accounting Advisory Services (FAAS) Robotics Leader and EY MENA FAAS Digital Leader. “But it can also enhance customer satisfaction by reducing manual errors and speeding transactions.” The process of onboarding a new bank customer, for example, can be reduced from many days to a few hours. That, in turn, brings efficiencies at the front end, reducing the number of customer support enquiries on the status of account set-up.

Tightening of the economy over recent years in Saudi Arabia means, “efficiency has become the name of the game,” according to Faisal Bokhari, Head of FMCG Sector at Mohamed Yousuf Naghi & Brothers Group. Arabian Trading Supplies Co. (ATS), the group’s marketing and distribution company in Saudi Arabia, has combined process automation with analytics to streamline the whole supply-chain, based on a detailed understanding of which products consumers are buying where. In a project with two of its global brand customers, ATS has shaved 20% off the supply time from factory to consumer, reducing operating costs by 15% and freeing up cash-flow not only for ATS, but also for its customers and wholesale partners. The end-consumer benefits by access to fresh products, and consistently stocked shelves.

Developing the business case for a bottom-up approach and implementing it is easier – but it can limit the potential benefits. Companies end up sticking to what is already known and tested, rather than rethinking the customer experience, disrupting business models through unusual partnerships and creating significant brand differentiation through smarter – but less quantifiable – customer interaction. There is, however, a middle way – known as a sprint and scrum approach – combining the benefits of a broad strategic framework with multiple small projects. These are broken down so that they can be implemented within a few weeks, scaled if successful and killed without significant overhead. “It’s important to conduct a thorough evaluation of existing processes and develop detailed use-cases for the application of new technologies in order to build a solid internal business case,” says Sharjah Islamic Bank’s Ahmed.
The state of automation in the GCC

The extent and maturity of intelligent automation implementation vary both between and within sectors, and more broadly, between the Gulf states. Dubai is the most advanced in the automation of public service delivery, with predictive traffic management, smart payment systems for transportation and a robot policeman that can be used to report crimes, pay fines and get information by tapping a touchscreen on its chest. Abu Dhabi’s Judicial Department has launched a “Justice Intelligence” project that leverages AI to provide support in case settlements. Saudi Arabia has announced a variety of high-profile and extensive initiatives requiring intelligent automation technologies, from smart cities to digital health care, but implementation progress is slow.

In the private sector, financial services is among the most advanced in the adoption of intelligent automation technologies, building on existing experience using RPA tools to automate back-office processes. Many are now moving to automate front-end interaction. Banks such as Mashreq in the UAE and Kuwait Finance House are using chatbots (programs that use NLP and other pattern recognition tools to interpret and respond to customer queries) to automate customer service. Physical robots are also making an appearance, with Emirates NBD’s Pepper social robot interfacing with customers at the bank’s Jumeirah Emirates Towers and Dubai Mall branches to issue branch queuing tokens, provide basic information about the bank’s products and services, and let customers give feedback through a ‘happiness meter.’ Moving the bank to the customer, either in the form of robots or sales staff equipped with tablets, expands the opportunities to cross-sell and upsell new products and services, and onboard new customers.

With a few prominent exceptions, such as Dubai’s Emaar Malls, UAE retail conglomerates like Majid Al Futtaim and Al Tayer, and Saudi Arabia’s BinDawood Group, retailers in the GCC are less advanced in their adoption of intelligent automation technologies than financial services companies, but this is changing. Retailers can reap substantial cost efficiencies through the automation of back-end functions such as warehousing and procurement, while also developing new operating models. At the front end, opportunities to increase customer satisfaction span the use of predictive analytics to drive targeted marketing campaigns through to chatbots and assistance systems for cross-selling and upselling.
The power of intelligent automation

Government and public sector

- GCC governments, led by the UAE, are taking a strategic, top-down approach to intelligent automation.
- But there are still relatively few live projects and collaboration with the private sector will be key to delivering.
- Governments must focus on building home-grown data science talent to improve service efficiency and fuel private sector innovation.

Financial services

- Financial services companies are forging ahead in intelligent automation.
- Many are building on existing back-office automation projects, such as automated loan approval, to find new sources of customer value.
- Partnerships with telecommunications and retail organizations are key to building a detailed view of the customer for personalized interactions.

Retail

- Retailers are in catch-up mode: only a few large companies have embarked on an intelligent automation journey.
- The potential is huge. RPA and AI can help retailers improve customer interaction, for example, through real-time, location-aware customized offers, and opportunities to cross-sell in store and online.
- Many retailers in the region are struggling to pull together a rich store of customer data. Sector leaders are turning to partnerships with telecommunications and financial service companies to fill this gap.
Making customer interaction smarter

RPA builds the foundation for an improved digital customer experience by bringing consistency, efficiency and greater capacity to focus on value creation. Making customer interaction smarter, however, will require more predictive technologies which leverage AI.

“The first step for many companies is to use intelligent automation to plug a gap in their capabilities without spending lots of money,” says EY’s Maxwell. “To do that, you need to understand the steps in the customer process and work out what to automate, cut out or enhance.” RPA tools are ideal for this, as they do not require time-consuming and expensive programming of new interfaces, or recoding of the legacy systems with which they interact.

A retailer could, for example, automate processes to create an e-commerce fulfillment bot that pulls data from separate warehouse, and planning and fulfillment systems to calculate and communicate dispatch slots for drivers. Smaller retailers may stop there, while larger companies can use a digital front-end powered by RPA as a stopgap, while they develop a fully integrated, end-to-end digital customer experience. Similarly, banks can build a digital, mobile interface at the front end that gives the feel of a digital bank but integrates with legacy systems such as regulatory compliance. Over time, the bank can then automate and integrate its back-end processes.

The next step in the intelligent automation journey is to combine RPA with predictive analytics. Retailers, for example, can transform the customer experience and boost revenues by developing context-aware, real-time interactions. Imagine this scenario: a person who has researched a pair of shoes online gets a text message that the shoes are available at a discount – at a store he or she happens to be passing by. In the store, the sales assistant consults an app and recommends matching items in the right size and color. While trying on the shoes, the customer can test out the various outfits virtually using product visualization in an interactive magic mirror and can also order them, since the app has checked availability.

Providing this seamless customer experience calls for a consistent view of, and interaction with, the customer across all channels. The customer may have researched their shoes on a PC, but is targeted based on this information on their mobile phone. The sales assistant’s tablet, meanwhile, has access to the full customer history across all channels.

This level of omnichannel interaction with individual customers, based on up-to-date storage of customer data, is the direction GCC retailers pursue to bring competitive advantage. For banks too, the goal is to provide end-to-end services for customers, with seamless connectivity between channels, and partnerships with other providers to enable immediate payments or loan processing.

Ultimately, however, a rich customer experience and timely fulfillment will become a basic expectation, says Ahmed Reda, EY MENA Consumer Products & Retail Leader. Twenty-first century buying will revolve around AI, voice, mobile, drones and self-driving delivery vehicles, while shopping will be all about experience. “The retail industry is being reinvented as customers change habits faster than ever before, so retailers need to envisage the world of tomorrow to prepare,” he says.
Using predictive technologies

“Working out how best to use predictive technologies is one of the biggest challenges facing all organizations in the Region,” says Krishnakant Duggirala, MENA Advisory Partner, Ernst & Young – Middle East (Abu Dhabi Branch). “AI is not a tool you can download from a CD. Over time, AI will become more commoditized and will be offered as part of broader cloud-based services, enabling smaller companies to take advantage of it.”

Whatever the approach, there are three areas customer-facing organizations need to focus on, to make predictive technologies successful:

1. **Build a rich repository of customer data**

Many organizations lack a detailed view of their customers, either because they do not capture the relevant data, or because they are unable to bring together the data they have from different systems in a form suitable for analysis. It is particularly tricky, for example, to combine data in structured systems using customer numbers and order codes, with unstructured data from social media using real names and product pictures.

Companies can overcome this by harnessing data from both structured and unstructured channels in data lakes – repositories generated specifically for analysis. They can also engage in cross-industry partnerships to add depth to customer data. For instance, financial services companies hold detailed information on individual customer purchases, while retailers understand broader customer buying patterns, preferences and brand aspirations. Telecommunications companies, meanwhile, understand customer mobility patterns and preferences for information consumption that are valuable for determining the right communications channels for customer types.

“Financial services and retail companies can learn from best practice in the technology and telecommunications sector,” says Marcelo Kekligian, EY MENA Digital, Analytics, Cyber and Innovation Leader. “These companies have so much customer data and lots of experience in using it to make better offers to customers, develop new products with partners, and improve their network quality.”

Retailers can also use data as a source of competitive advantage in securing distribution contracts with global brands. “Being able to provide our global suppliers with full access to data on stock levels and sales trends at item and branch level has led to long-term contracts with premium brands, benefiting our customers and reducing our costs,” says Salim Patka, CFO, BinDawood Group.

2. **Develop the skills needed to extract value from customer data**

As companies move from basic to more complex intelligent automation, they will need to acquire specific data science expertise, particularly around AI. Meanwhile, they must also focus on developing compelling roles and career paths for existing staff, transitioning those whose time has been freed by process automation to higher-value activities. In traditional companies and sectors, such as finance, and brick-and-mortar retail, these career paths also need to be attractive to new entrants who will increasingly be lured by the option of working for tech-savvy start-ups. For example, ATS’ extensive use of analytics applied to retail point-of-sale data has enabled the company to attract Saudi nationals into its sales staff. “Our salespeople are now able to have data-driven discussions with retailers, which young nationals see as a higher-skilled and more attractive role,” says ATS’ Bokhari. Two-thirds of the company’s salesforce is now comprised of Saudi nationals.

Larger private sector companies in the Arabian Gulf Region have already seen the opportunity and are investing in their own skill development programs. Majid Al Futtaim, for example, has established a School of Analytics and Technology...
within its Leadership Institute in Dubai, with the aim of training ‘analytics translators’ who will work with business units to assess how the use of analytics technologies could benefit business lines. The school will also offer learning labs to the company’s entire staff to help them understand how data can be used. For most companies, and particularly smaller ones, closer cooperation between government, education and business will be vital to ensure that curricula are tailored to provide the skills that are needed, in both institutional and workplace education.

3 Nurture and harness internal support

Companies in which the owner or the CEO drive customer satisfaction initiatives have the advantage of securing organization-wide attention and resources for intelligent automation projects. BinDawood’s Patka believes the commitment of the company’s owners and trust in team and vision coupled with the company’s strong strategy for bringing the brand online was the driving factor in the rapid roll-out of Danube’s ecommerce platform, which saw a ten-fold increase in customers in the first year of implementation. “Our lean management structure means we can take decisions very fast and experiment,” he says. “We understand our customers’ needs and we meet them.” The strong government focus on, and investment in, modernizing the delivery of public services puts public sector organizations in the Arabian Gulf in a prime position here and many are pushing ahead rapidly with intelligent automation implementations that involve predictive analytics — for example, Dubai’s predictive policing and smart traffic light initiatives.

For private sector organizations without a strong mandate from the top, it is important to lobby for internal support to ensure business units have a sense of project ownership. One approach is to start by working with individual operational units to build a strong business case aligned with their goals.
Seizing the opportunity

RPA is relatively simple to implement; it uses systems that are in place and involves no change to a company’s risk profile. As companies move into rapidly emerging predictive technologies, they need to review and address information security, data privacy and ethics. “Current information security strategies are not sufficient to deal with the volume and speed of transactions resulting from the use of AI algorithms,” says Duggirala. “But we’ll start to see the use of AI to monitor AI – detecting and then predicting network intrusion.” Both public and private sector organizations will need to develop their own data governance models and develop ethical guidelines on how customer data is used in order to manage reputational risk.

Data privacy and other regulations will also continue to evolve, impacting the potential for cross-sector collaboration and data aggregation. At present, in the GCC Region, as elsewhere, outdated regulations tend to be a drag on rapid digital transformation. As GCC governments leverage intelligent automation to modernize public infrastructure and services, they could become world leaders in developing a smarter, more supportive approach to regulations too. That would give the region a significant advantage. “Gulf states are using a push on e-government services to serve as role model for other sectors,” says Maxwell. “That’s a situation unique to the Gulf Region, and the private sector has a real opportunity to use it to leapfrog global competition.”
Contact

Ahmed Reda
EY MENA Consumer Products & Retail Sector Leader
ahmed.reda@sa.ey.com

Gordon Bennie
EY MENA Financial Services Sector Leader
gordon.bennie@bh.ey.com

Firas Qoussous
EY MENA Government & Public Sector Leader
firas.qoussous@qa.ey.com

Marcelo Kekligian
EY MENA Digital, Analytics, Cyber and Innovation Leader
marcelo.kekligian@ae.ey.com

Gavin Maxwell
MENA Advisory Partner, Ernst & Young Middle East (Dubai Branch)
gavin.maxwell@ae.ey.com

Krishnakant Duggirala
MENA Advisory Partner, Ernst & Young – Middle East (Abu Dhabi Branch)
krishnakant.duggirala@ae.ey.com

Khurram Siddiqui
EY Global Financial Accounting Advisory Services (FAAS) Robotics Leader and EY MENA FAAS Digital Leader
khurram.siddiqui@ae.ey.com
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EYG No. 03791-182GBL
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