OLIVER WYMAN

AI FOR GOVERNMENTS

Jad Haddad
Manuel Abat
Ahmad Mourtada
Stephen Rawson
Andrew Faddoul

AI IS TRANSFORMING MIDDLE EASTERN PUBLIC POLICY

Five Steps To A Technology-enhanced Future

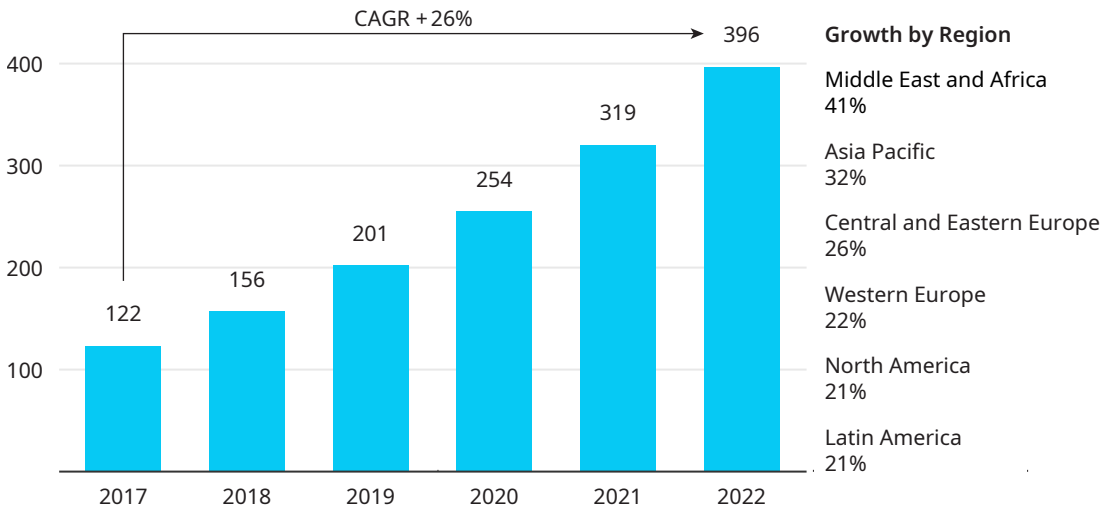
Oliver Wyman estimates that the efficiencies generated by artificial intelligence (AI) technology can support Middle Eastern government budgets by up to US $7BN annually. These same technologies stand ready to accelerate and transform public services — from citizen-government interaction to infrastructure and healthcare provision — and drastically reduce costs. However, the disconnect between vision and value, as well as reach and reality, has led to significant confusion over how governments can best access the benefits of AI.

In our experience, many governments in the Gulf and wider region assume that AI is simply too complicated to adopt, requiring a complete overhaul of public sector technology. While implementing AI certainly requires a definitive strategy, there are a striking number of "quick wins" that governments can and should implement to drive impact. The key to success is for governments to act now in designing and implementing a roadmap to capture the benefits of AI, while minimizing the inherent risks and addressing its implementation challenges.

UNDERSTANDING THE DATA EXPLOSION

With storage and processing costs dipping in recent years, data is more available now than ever, enabling high-impact AI projects. This data explosion has been additionally boosted by the growing use of Internet of Things (IoT) technologies by businesses and governments. Middle East and Africa (MEA) is the leading region in forecasted internet protocol (IP) traffic growth, at 41 percent growth by 2022. The MEA region is witnessing a digital transformation across all sectors driving the proliferation of machine-to-machine connections and the adoption of personal devices. This includes the roll-out of smart video surveillance, smart meters, smart logistical solutions, digital health solutions, and other projects creating a need for new networks and data requirements. Governments, thanks to their breadth (different sectors) and depth (citizen-level) of data, are uniquely positioned to leverage AI projects to accomplish a broad range of objectives, including improving government services, creating citizen-centric public policies, helping public servants to be more inventive, and optimizing budget initiatives.

Exhibit 1: Global IP Traffic Growth
2017-2022

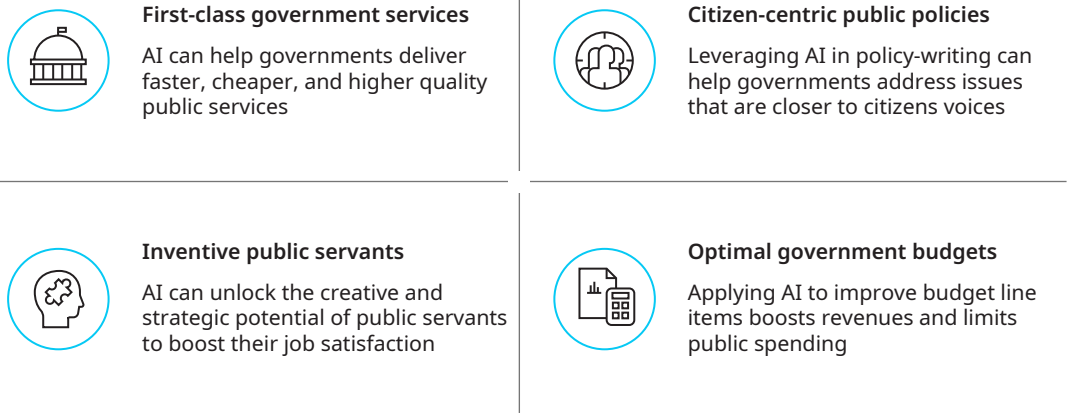


Source: Cisco VNI Global IP Traffic Forecast 2017-2022

AI Applications in Action

The most popular AI technologies used in government fall under natural language processing (NLP), visual AI, robotic process automation, and predictive and statistical AI. Below we have looked at several global examples that could be adopted and tailored by individual governments in the region.

Exhibit 2: Four ways AI is helping governments



Source: Oliver Wyman Digital Insights

First-Class Government Services

Citizens often interact with government agencies to complete mundane tasks, typically leading to complaints around speed, quality, and bias. This is particularly true for administrative processes such as setting up businesses, registering properties, completing tax obligations, and interacting with the postal services. Personalizing such services can leverage models that optimize for citizen-specific attributes, such as next-best-action (NBA) models embedded in chatbots or virtual assistants.

Example: UAE's Virtual Assistant, "Rashid"

The UAE has begun moving government services to digital channels as Dubai launched its AI-backed advisor "Rashid", the virtual assistant for citizens, residents, and tourists in the emirate. Rashid collects data from multiple public and private entities to answer concerns ranging from setting up a business, licensing and attestations, to transportation in the city.

Example: Qatar's Employment Platform, "Kawader"
In August 2020, The Ministry of Administrative Development, Labour and Social Affairs in Qatar launched a national employment platform to provide citizens with opportunities that suit their qualifications, both in government bodies and the private sector. Candidates are recommended job opportunities that match their educational background and receive a percentage match score with selected opportunities. This digitization effort will not only simplify procedures, speed up processes, and avoid bureaucratic obstacles, but it will also reduce unemployment, activate the private sector (especially for nationals) and in turn increase gross domestic product (GDP).

Citizen-centric Public Policies

Governments can leverage AI to shape the content of their policies. This allows them to take action proactively prior to formulating a particular policy. For instance, gathering tweets of citizens of a certain locale can highlight common concerns. It also allows for reactive action after the release of a policy by monitoring and analyzing replies to accounts of government officials. AI can offer the necessary tools to analyze social media emotion and extract insights from the expressions of fear, anger, happiness, and satisfaction to enhance the policy development process and tailor it to the needs of the people.

Example: Belgium's Crowdsourcing Tool
CitizenLab, a Belgian civic technology company, developed a platform that empowers decision makers to readily analyze previously collected citizen contribution data. In early 2019, volunteers protesting against inaction towards climate change received more than 1,700 ideas and 32,000 votes from citizen submissions. Using the platform's advanced analytics capabilities, these ideas have been translated into 15 priority policies that the public can vote on.

Inventive Public Servants

Embedding AI solutions into government processes liberates public servants from mechanical, non-creative tasks. Machines are superior to humans in completing such tasks quickly and accurately. Acknowledging this reality offers public sector employees the chance to focus on those tasks that are performed better by humans, including communication, problem-solving, and creative thinking. This offers employees more time to lead meaningful engagements with citizens they are servicing, while increasing productivity, and efficiency.

Example: The United States and Robotic-Process Automation (RPA)
In its 2020 RPA-dedicated playbook, the General Services Administration quantifies the impact of RPA on federal operations. Current programs are achieving a five-hour workload elimination per public servant. A government-wide application of current RPA practices could achieve a twenty-hour workload elimination per employee and save US$ 3 billion worth of capacity. The playbook confirms that the main benefits include a reduction in organizational work which translates into capacity to address implementation issues within agencies and enhance cross-agency collaboration.

Optimal Government Budgets

AI offers tangible ways for governments to manage their finances. Public finance management can leverage algorithms to improve revenue collection, optimize budget allocation, detect and reduce financial fraud, and augment government audit capabilities to reduce corruption and avoid wasting taxpayers' money. Machine learning models can predict taxpayers with the highest risk of incomplete tax reports and take the relevant action automatically.

Example: Australia's Tax-Default Predictor

The Queensland Office of State Revenue (OSR) leveraged machine learning to predict the risk of taxpayers defaulting, before they actually do. Each year, an average of five percent of tax revenues in Australia remains uncollected by the due date. The pilot that the OSR ran predicted 71 percent of tax payment default risks. This allowed the agency to proactively enforce measures to prevent taxpayers from becoming debtors and collect revenue on time. Importantly, it also gave them data insights to understand the reasons why taxpayers default.

FIVE-STEP AI STRATEGY

Evidently, AI is ready to empower public sector innovation across a diverse range of areas. However, many governments in the region still feel that the challenges outweigh the benefits. To capitalize on the benefits of AI technology, governments and government agencies need to take a holistic approach, meaning building a strategy that reflects the intersection of technological aspirations and their technical requirements. This should incorporate historical learnings, best practice benchmarks, and managerial perspectives. Without an overarching strategy, governments cannot sensibly identify or prioritize AI investments. They would struggle to find data and technologies to underpin AI's impact, and fail to articulate AI's value to citizens.

Exhibit 3: Five-step AI strategy

1. **Aspire**
   What is our level of ambition for AI? What top-level objectives will AI support for us? How do our short and long term objectives differ?
2. **Prioritize**
   What sectors, applications, and problems should we target with AI? Where should we start in order to generate immediate impact and gain momentum?
3. **Enable**
   How can we ensure our AI projects are a success? What talent, technology, or organizational factors must we provide?
4. **Measure**
   How do we track the impact of our AI projects? How can we control bias and maintain accuracy? How do we emphasize transparency as our tools develop?
5. **Manage**
   How do we culturally adapt to AI in the public sector? How do we efficiently manage AI projects and resources?

Source: Oliver Wyman Digital Insights

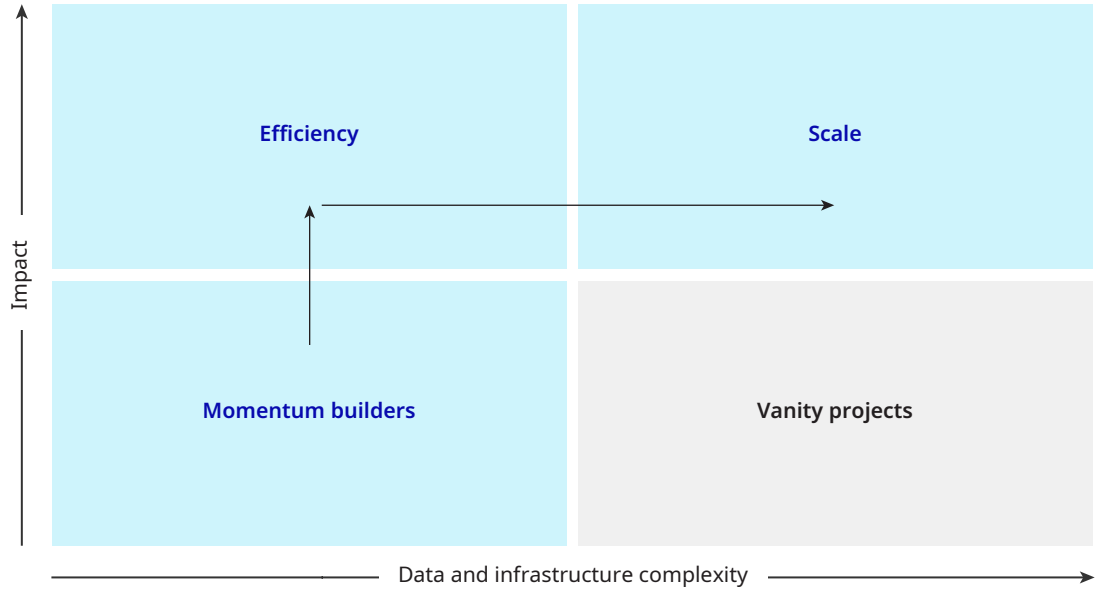
1. Aspire

Defining the level of AI ambition and setting relevant targets is the first step of any sustainable and integrated AI roadmap. Saudi Arabia, for example, states its vision for "the largest and most ambitious economic reform and transformation program in its history [where] digitization and AI are key enablers". Not only does this aspirational statement serve as the springboard for all future AI efforts, but it allows the Saudi government to better articulate AI strategy to citizens and the private sector, a key factor in the wider acceptance of AI in the public sector. More broadly, when governments define their AI aspirations, they should evaluate their long-term ambitions for investment in AI, and how these correspond to short-term objectives — it is crucial that "quick wins" are identified and pilot projects rapidly initiated in order to generate momentum.

2. Prioritize

With the public sector's vision for AI defined, governments must concentrate on where to direct AI investment and talent. Prioritization of AI projects can utilize myriad frameworks. We propose that governments simplify their decision making to assess two straightforward concepts — impact and feasibility.

Exhibit 4: Proposed prioritization of AI projects



Source: Oliver Wyman Digital Insights

Impact reflects how projects propel the government towards its AI ambitions, and how they are related to its other top-level objectives. This can be measured both qualitatively and quantitatively (such as through financial metrics such as program revenue or political metrics such as segment unemployment). Complexity of implementation, on the other hand, incorporates all potential challenges AI projects face (for example talent or other infrastructure gaps, data quality issues, and so forth).

Feasibility, particularly in the early stages of an AI roadmap, should be prioritized with a focus on easier pilot projects that tackle significant elements of top-level objectives. These should be meaningful enough to develop internal capabilities, prove the merits of AI to both internal and external stakeholders, and build critical momentum for future projects. Then, focus should expand to projects promising the highest effectiveness. Typically, these projects are narrowly focused but generate significant improvements versus baseline. Only later should governments expand their scope to grander, more challenging, and high impact projects.

3. Enable

Having defined the focus of their AI roadmap, leaders must decide how best to enable and accelerate these projects. Here they face several common obstacles, each of which must be addressed to varying extents on a per-project basis. These range from talent scarcity, to projects not being managed properly, to legacy technology infrastructure, and poor data integrity.

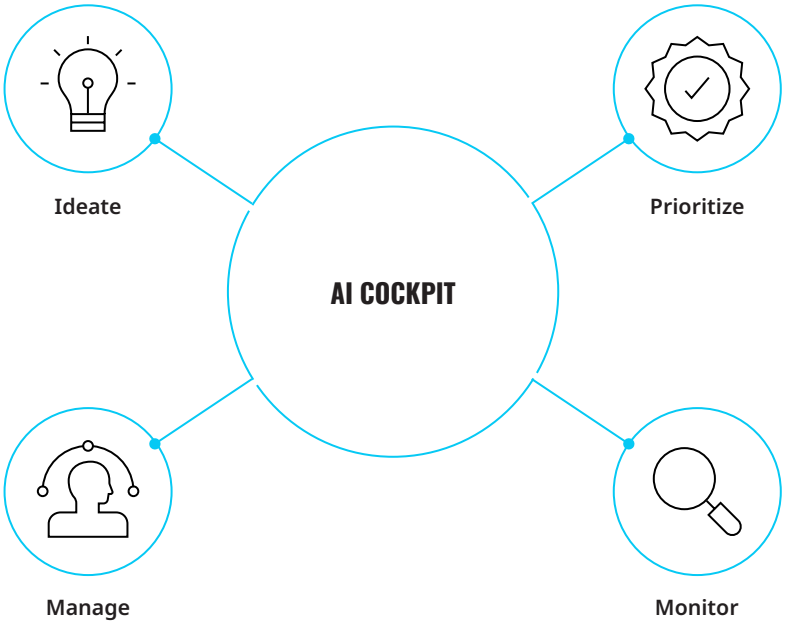
Each of these obstacles has the potential to severely hamper any AI project, but all of them are remediable. First, talent can be recruited, upskilled/reskilled, or incubated if not partnered. Then, an agile project management approach can overcome many of the inefficiencies of traditional waterfall programs. Here, it is important to have autonomous, results-oriented, and multidisciplinary teams. Finally, AI planning must be hyper-aware of technology or data issues. Ideally, such roadblocks are upgraded or cleansed in parallel to prioritized (and more feasible) AI implementation.

4. Measure

Governments must continuously monitor AI projects to ensure effectiveness. Indeed, measuring the impact of AI plays a pivotal role in maintaining momentum and demonstrating its benefits. Transparency is increasingly pertinent with complex AI implementation, so regular monitoring is even more essential than in other public sector settings. Project leaders must also be able to take into account and correct any bias regarding the input of data or use of AI, as this can affect results — in terms of performance, but also in the critical sense of “fairness” for all stakeholders. AI tools must be regularly tested and retrained (if necessary) to ensure accuracy.

To maximize effectiveness, we recommend that governments launch an “AI cockpit” responsible for project ideation and planning, performance metric definition, and initiative monitoring. These hubs are often the backbone of a governmental operating model for AI and tend to serve regularly as the interface between technological and managerial stakeholders. The same AI cockpit that originates and monitors AI projects should be responsible for guiding and scaling them.

Exhibit 5: The role of the "AI Cockpit"



Source: Oliver Wyman Digital Insights

5. Manage

Governments must develop a management structure that validates, guides, scales, and tracks AI projects from pilot to peak performance. The importance of change management protocols should not be underestimated. AI is by default disruptive, and both internal and external stakeholders must be prepared for its impact. Government leaders must develop governance frameworks to provide human oversight — ensuring AI is used in the right place and at the right time. This extends into regulation, where governments must ensure that legislation keeps up with both public and private sector innovation in AI.

AI's organizational benefits are mostly straightforward to demonstrate — dramatic improvement in speed, effectiveness, accuracy, and cost. For public sector employees, the benefits should be more sensitively explained. The workforce should be reassured that new AI projects won't simply eliminate their jobs. Managers should rather show how AI technology will enhance existing roles. Liberating employees from repetitive manual roles in favor of more enjoyable, intellectually stimulating, personable work can greatly enhance job satisfaction. Positioning AI projects as such is fundamental to achieving internal buy-in.

AN AI-ENHANCED FUTURE

If the benefits of AI to governments were tangible by the end of 2019, they are now even more pertinent in the context of COVID-19. The crisis driven by the global pandemic has led to widespread economic uncertainty. With significant oil prices cuts and reduced OPEX+ production agreed, all governments in the Gulf region have announced stimulus packages. Saudi Arabia's Ministry of Finance also announced an increase of VAT from 5 percent to 15 percent, while further regional support may be necessary for the sustainability of Bahraini and Omani currencies and debt levels. Patently, the current economic climate renders AI more impactful than ever.

Most governments are therefore accelerating their AI planning. First, these governments should set clear, targeted, and public aspirations for their use of AI. Then, they should ideate, prioritize, and enable a sequentially more challenging set of AI-driven projects, each with a specific and tangible impact target on the government's broader set of goals. Starting quickly and generating momentum is crucial. Finally, governments must monitor and manage AI projects effectively. Here, an AI cockpit can play the crucial orchestrator role — it develops, implements, and then scales all AI-based projects.

Undeniably, AI is transforming the world we live in today. For Middle Eastern governments to benefit from its rapid development, they should act now. Designing and implementing an AI roadmap is a priority, but so is gaining the crucial momentum required to make such an effort a sustainable success.

Oliver Wyman is a global leader in management consulting that combines deep industry knowledge with specialised expertise in strategy, operations, risk management, and organisation transformation.

For more information, please contact the marketing department by phone at one of the following locations:

EMEA	Americas	Asia Pacific
+44 20 7333 8333	+1 212 541 8100	+65 6510 9700

AUTHORS

Jad Haddad
Manuel Abat
Ahmad Mourtada
Stephen Rawson
Andrew Faddoul