كلية محمد بن راشد للإدارة الحكومية
MOHAMMED BIN RASHID SCHOOL OF GOVERNMENT

Bridging the AI Divide

Inclusive Governance, Innovation & Competitiveness in the MENA Region

In Partnership with

Google.org

Authors and Citation

The report was prepared by independent researchers at the MBRSG Policy Research Department. Views expressed, or results presented, in the report are those of the author(s) and do not necessarily reflect the views of the Mohammed Bin Rashid School of Government MBRSG) and its associated entities and initiatives, nor those of Google.org, which provided funding.

This research report was authored by:

Salma Alkhoudi
Research Fellow
Mohammed Bin Rashid School of Government, Dubai, United Arab Emirates
Stanford University, Stanford, United States of America

Sarah Shaer
Research Fellow
Mohammed Bin Rashid School of Government, Dubai, United Arab Emirates

Fadi Salem
Director of the Policy Research Department
Mohammed Bin Rashid School of Government, Dubai, United Arab Emirates

Special thanks to Eiman Almarzooqi for leading the research project coordination and Kalimat for their efforts in the production and creative design of this publication.

Copyrights

Acknowledgements

The authors would like to acknowledge the valuable contributions of the following entities and individuals through various stages in the development of this report:

Ahmad Bhinder	**Digital Cooperation Organization (DCO)**
Dr. Aisha Bin Bishr	**Sharjah Research, Technology and Innovation (SRTI) Park**
Aziz Hachem	**Plug and Play**
Barry West	**Abu Dhabi Global Market (ADGM)**
Dr. Bilal Baloch	**Shorooq Partners**
Colin Andrews	**UN Habitat**
Emad Al Khaja	**INJAZ Qatar**
Fahad Al-Dossary	**ARAMCO**
Fahad Alsharekh	**Sakhr Software**
Faraj Abdulla	**Ministry of Communications and Information Technology, Qatar**
Golestan "Sally" Radwan	**UN Environment Programme**
Dr. Hoda Baraka	**Ministry of Communications and Information Technology, Egypt**
Karim Samra	**ChangeLabs**
Karima El Hakim	**Plug and Play**
Dr. Khalid Almutawah	**Information & eGovernment Authority, Bahrain**
Lama Arabiat	**Ministry of Communications and Information Technology, Jordan**
Dr. Lutfi Al-Sharif	**Al Hussein Technical University (HTI)**
Maryan Al Ansari	**Itifaq**
Mohamed Abdou	**Pravica**
Mohammad AlMosa	**Sharjah Entrepreneurship Center (Sheraa)**
Philip Marnick	**Telecommunications Regulatory Authority (TRA), Bahrain**
Racha Ghamlouch	**Digital Digest**
Rahul Nandwani	**VGLNT AI**
Roland Abi Najem	**RevoTips**
Dr. Salim Al-Shuaili	**Ministry of Transport, Communications and Information Technology, Oman**
Tarek Seif El Nasr	**Falak Startups**

The authors would also like to acknowledge the time and effort that was generously provided us by public and private sector entities and small-and-medium enterprises (SMEs) across the MENA region. Due to anonymity requirements, we are unable to thank organizations by name but wish to express our appreciation for the many entities who responded to our extensive survey and participated in interviews, and without whom this work would not have been possible.

The development of the report has benefited from a generous grant from Google.org, through the Google Digital Futures Fund.

About the Mohammed bin Rashid School of Government

The Mohammed Bin Rashid School of Government (formerly Dubai School of Government) is a research and teaching institution focusing on public policy in the Arab world. Established in 2005 under the patronage of HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates and Ruler of Dubai, in cooperation with the Harvard Kennedy School, MBRSG aims to promote good governance through enhancing the region's capacity for effective public policy.

Toward this goal, the Mohammed Bin Rashid School of Government also collaborates with regional and global institutions in delivering its research and training programs. In addition, the School organizes policy forums and international conferences to facilitate the exchange of ideas and promote critical debate on public policy in the Arab world. The School is committed to the creation of knowledge, the dissemination of best practice and the training of policy makers in the Arab world. To achieve this mission, the School is developing strong capabilities to support research and teaching programs, including:

- applied research in public policy and management;
- master's degrees in public policy and public administration;
- executive education for senior officials and executives; and,
- knowledge forums for scholars and policy makers.

The MBRSG Research Department focuses on the following seven priority policy areas:

1. Future Government and Innovation
2. Education Policy
3. Health Policy
4. Public Leadership
5. Social Policy, Wellbeing and Happiness
6. Sustainable Development Policy
7. Economic Policy

For more information on research at the Mohammed Bin Rashid School of Government, please visit: https://mbrsg.ae/research

Future Government and Innovation Research Track

The emerging domains of research within this theme includes digital-era societal transformations, technology policy, innovation policies, big data policy, artificial intelligence governance, open government data, smart cities and future of urban development, cybersecurity policies, inclusion and citizen-government interactions in the digital age, the ramifications of the "Fourth Industrial Revolution," among others.

1 The MENA Region and the Global AI Landscape

A Review of Key Themes, Trends & Best Practices

1.1 The AI Race

Over the past decade, artificial intelligence (AI) has been pushed to the fore as the race of the century, with substantial economic and geopolitical stakes propelling its rapid development and adoption. Key players across various regions are investing heavily in AI research, talent, and infrastructure, and nations are increasingly positioning AI capabilities as vital to economic growth, national security, and international influence. Trillions of dollars are on the table, with a UN Trade and Development (UNCTAD) report projecting that the global AI market will leap from $189 billion in 2023 to $4.8 trillion by 2033. Major economies stand to benefit disproportionately: China and North America alone hold 60% of all AI patents and produce a third of global AI publications (UNCTAD, 2025), while many developing regions lad behind.

In January 2025 alone, major global developments in AI have accelerated and disrupted the ecosystem — from the United States announcing a $500 billion investment in the Stargate Project, a new AI infrastructure initiative backed by major players in Western technology and finance, to the sudden controversy around DeepSeek, a Chinese AI app that reportedly cost just $6 million over a two month development timeframe, stunning investors and prompting a nearly $1 trillion tech sell-off in U.S. tech stocks. There is growing recognition, particularly after the DeepSeek shock, that bigger is not always better. The preliminary AI rush to build ever-larger AI models has at times produced an "AI bubble" of inflated expectations and more studies are showing that strategic, focused approaches to AI implementation may be more likely to deliver value than broad, unfocused adoption (Zhan, et al., 2024). Generative AI, on the other hand, given the immense hype over the past couple of years, is expected to see a backlash as companies struggle to prove ROI despite requiring significant upfront investment and recurring costs (Gartner, 2024).

For the Middle East and North Africa (MENA) region, the stakes are particularly acute. Some MENA countries, especially in the Arab Gulf, have launched ambitious national AI strategies, investing billions in infrastructure, education, and public-private partnerships in an effort to leapfrog traditional developmental stages. At the same time, other MENA nations remain in early stages of AI integration, grappling with limited digital infrastructure, regulatory fragmentation, and constrained institutional capacity. The disparities underscore profound regional asymmetries.

However, what unites these divergent MENA trajectories along with the rest of the world is a shared urgency: the belief that AI will not only reshape industries and labor markets but will also determine which countries help shape global norms, and which must adapt to rules made elsewhere. The challenge is not just to adopt AI, but to do so on terms that preserve sovereignty, ensure social benefit, and allow meaningful participation in global governance. In that regard, the MENA region's position — geographically, politically, and economically — makes it both vulnerable and potentially pivotal in the evolving landscape of AI power. In 2025, U.S. President Donald Trump's visit to Saudi Arabia, Qatar and the UAE, his first official state visit since beginning a second term, emphasized the point that the region is capable of becoming a hotspot for technopolitical collaboration and investment.

Alongside the vast potential for possibility, the AI risk landscape has also shifted and expanded, revealing new fault lines. Early debates on AI ethics centered on challenges such as algorithmic bias, data privacy and security risks, and potential job displacement — all of which remain urgent. Biased AI systems can perpetuate and amplify societal inequalities, with a scope of error that extends beyond the data used to train software to include human and systemic biases (NIST, 2022). Likewise, data governance failures can lead to privacy violations and security breaches on a massive scale.

Yet, in the past two years, additional risks have surfaced in debate. The advent of powerful and more sophisticated generative AI models, from text to image and video, has introduced concerns about the scale of misinformation, deepfakes, and the unpredictability of AI behavior. Researchers warn that

without robust safeguards, there is a high potential for malicious exploitation of LLMs used in Generative AI — for example, to generate false news at scale or carry out sophisticated cyberattacks — emphasizing the need for urgent and robust regulation (Kim, et al., 2023) . Recent studies have also sounded the alarm on the use of prediction algorithms in high-stakes domains like healthcare (Nazer et al., 2023) and in the public sector (Alon-Barkat & Busuioc, 2023), underscoring that unchecked AI deployment can do tangible harm.

Another emerging risk is the proliferation of AI agent systems — autonomous digital assistants that are marketed as being able to perform complex online tasks on behalf of users, from booking flights and messaging contacts to purchasing goods and scheduling events. Meredith Whittaker, CEO of Signal and longtime critic of centralized digital surveillance, has warned that such systems pose a profound threat to privacy and digital autonomy. For AI agents to execute the tasks they promise, they require access across multiple layers of our digital lives: web browsers, messaging platforms, calendars, financial data, and more. As Whittaker notes, “It would need to be able to drive that [process] across our entire system with something that looks like root permission… probably in the clear, because there’s no model to do that encrypted.” In other words, AI agents threaten to break the “blood-brain barrier” between the application layer and the operating system layer, fusing once-discrete data environments into a vulnerable mesh under centralized control—likely processed off-device, in cloud environments with limited user visibility. This introduces not just unprecedented vectors for surveillance and attack, but a paradigm shift in how data, identity, and control flow through digital ecosystems. For regions like MENA, where debates around digital sovereignty and infrastructural control are already underway, the widespread adoption of agent-based AI could undermine national policy goals and deepen public mistrust unless safeguards are proactively established.

These complex risks unfold against a backdrop of geopolitical competition and power asymmetry in AI: the global AI frontrunners dominate compute infrastructure and talent, resulting in outsized influence over AI innovation. A few big tech firms, often headquartered in the U.S. or China, control the majority of AI platforms, datasets, and patents, giving them immense leverage. The World Bank and others warn that this digital divide — unequal access to technology and AI capabilities — could exacerbate global inequalities if left unaddressed. For example, the entirety of the Middle East, Türkiye, and Africa combined are projected to account for only about 2-3% of global AI spending by 2028 (IDC). It is worth noting that this forecast, as many others, may not account for the more recent commitments by MENA’s regional tech hubs, like Saudi Arabia’s $140 billion AI initiative, Abu Dhabi’s ambitious $13 billion investment in becoming an AI-powered government by 2027, and more.

Crucially, these power imbalances raise questions of legitimacy and inclusion in the global AI governance narrative. Who sets the rules for AI, and who gets a voice at the table? Thus far, international discussions on AI governance have been dominated by global superpowers with limited input from regions like the MENA. Many Arab nations have been standard-takers rather than standard-makers, forced to navigate regulatory frameworks developed without their direct participation. For small and medium enterprises (SMEs) focused on the development or use of AI in the MENA region, these challenges create a cyclical problem. SMEs must compete while navigating complex regulatory environments and infrastructure limitations, yet their countries' limited participation in global governance discussions means these very environments and limitations are shaped without adequate consideration of regional needs.

Despite the challenges, it’s important to remember that AI’s impact is not zero-sum. Indeed, global trends suggest that AI will create new opportunities even as it disrupts old ones. The World Economic Forum’s Future of Jobs 2025 analysis indicates that, by 2030, AI will both eliminate and generate millions of jobs – but on balance slightly more are expected to be created. Specifically, about 9 million jobs worldwide could be displaced by AI by 2030, but around 11 million new jobs will be created in fields ranging from data analysis to AI maintenance. The MENA region’s ability to participate in and benefit from the AI revolution will significantly impact their economic development and technological sovereignty, but the capacity to do so is constrained or enabled by governance frameworks that must be developed with their input. Ensuring this happens requires both improving MENA countries' ability to operate within current frameworks and ensuring MENA voices help shape future governance structures. As Sheila Jasanoff argues, we need new “technologies of humility” in governance: recognition of the limits of our knowledge and inclusive deliberation on the social and ethical dimensions of innovation (Jasanoff, 2003).

1.2 Global AI Governance

As AI technology races ahead, governments and institutions worldwide are grappling with how to govern it. The quick, transformative adoption and cross-border nature of AI technology has required national governments, NGOs, and private sector actors around the world to collaborate on questions of AI governance, developing broad regulatory frameworks and practices to manage the risks associated with these unpredictable technologies. However, the rapid pace of AI development often outstrips the ability of regulatory bodies to keep up, while the global reach of AI deployment often challenges traditional notions of jurisdiction.

Global AI governance represents a collective effort to develop and implement norms, standards, principles, and frameworks for responsible AI development and use. These efforts are inherently multistakeholder and multi-scalar, involving local and national governments, tech companies, academia, civil society, and international organizations. As a result, approaches to AI governance differ both within and between nations, ranging from hard laws to soft guidelines, each rooted in distinct national priorities, political values, and economic strategies.

These approaches can be broadly categorized into four types (WEF, 2024) — risk-based, rules-based, principles-based, and outcomes-based frameworks — each with distinct implications for development and implementation. Understanding these models is crucial because they carry real trade-offs for innovation, public trust, and global competition. This section briefly compares these different approaches, with each model reflecting a particular ethos on AI's role in society: what purposes it should serve, who should control it, and how to balance opportunity and risk (as well as who gets to define these risks).

- **Risk-Based Approaches:** Exemplified by the EU AI Act, these frameworks focus on classifying and prioritizing risks in relation to potential harms. While this approach offers careful consideration of impact and application area, it can create barriers to market entry, particularly for emerging market companies that may lack resources for complex risk assessments.
- **Rules-Based Approaches:** As seen in China's regulation of generative AI services, these frameworks provide detailed, specific rules and standards. While offering clarity, such approaches can increase compliance costs and may stifle innovation, particularly challenging for SMEs.
- **Principles-Based Approaches:** Demonstrated by Canada's voluntary code of conduct, these frameworks offer guidelines while leaving implementation details to organizations. While this flexibility can foster innovation, it may lead to inconsistent implementation and challenges in enforcement, as well as potential abuse by bad actors.
- **Outcomes-Based Approaches:** As adopted in Japan's AI governance guidelines, these focus on achieving measurable outcomes without prescribing specific processes or actions that must be followed for compliance. While this can support efficiency and innovation, it may create challenges in accountability and transparency

At the level of global governance, each of the above four models carries unique trade-offs, reflecting different answers to a fundamental question around how much (and what kind of) oversight is needed to ensure AI benefits society without strangling innovation. There was a common view over the last several years that, despite their differences, countries might agree on certain shared baseline concerns: the need for AI transparency, accountability, fairness, and safety (all of which are echoed in virtually all frameworks). This has led to some efforts at convergence. For instance, the OECD's AI Principles (adopted in 2019) were supported by over 45 countries including the EU members, the US, Singapore, a number of Latin American countries, Turkey, and other, establishing a baseline of values like human-centeredness and robustness in AI. UNESCO's Recommendation on the Ethics of AI (2021) has also been endorsed and is applicable to all 194 member nations. These international norms seemed to indicate consensus on what good AI governance might strive for, even if the mechanisms differ, aiming to reduce fragmentation by creating interoperable or at least complementary frameworks.

However, while these international efforts aim to establish a unified framework of sorts, their adoption and implementation still leave much to be desired. As an example, Egypt and Saudi Arabia (by way of the G20) stand as the only two Arab nations to have formally adopted the OECD AI Principles. This prompts some reflection on the barriers perhaps faced by other Arab and MENA countries: Is it due to nascent AI ecosystems, divergent socio-political values, or skepticism about the impact of such principles?

Compounding these challenges is a noticeable

global shift in popular AI governance discourse. The 2025 Paris AI Action Summit, which succeeded the 2023 AI Safety Summit, marked a departure from earlier emphases on AI ethics and safety. The rebranding of the UK's "AI Safety Institute" to the "AI Security Institute" underscores this transition, signaling a move away from preventative ethics and towards defensive security measures. The U.S. and U.K.'s refusal to sign the summit's declaration on "inclusive and sustainable" AI, endorsed by over 60 countries, also highlights a growing divergence in global AI governance approaches. In the U.S., policy shifts have further accentuated this trend, with the recession of the Biden-ear "AI Diffusion rule," a move that emphasizes a move towards deregulation in favor of innovation and competitiveness.

These trends and practicalities of implementation are underpinned by fervent philosophical and sociocultural arguments around the role and importance of AI governance, which basically functions as a mediator between the goals of the AI system "operators" (e.g. an organization or corporation) and broader social/public goals, requiring the enforcement of existing industry/sector standards (e.g. data protection), and the development of novel standards designed specifically for AI systems (Korinek and Balwit, 2023). In addition to considering issues of harm reduction, and the ways in which AI systems can abide by existing guidelines, it is important to understand that AI systems are being imbedded in vastly different social and economic contexts, each with their own opportunities and inequalities. In these various contexts, algorithmic bias and the representativeness of training data are both important factors, but as AI becomes more prevalent in important decision-making processes, each context has to independently assess AI's capacity to heavily impact people's access to opportunities, capital, justice systems, public services and more. In that way, considerations of whether AI systems are fair are already entrenched in age old philosophies of public policy and management — what makes a system fair or just? — and therefore cannot be considered independently of existing issues and debates (cf. Himmelreich and Lin, 2022; Vredenburgh, 2022; Lazar, 2022). This is a core reason why the close input of MENA countries in AI governance framework development is so crucial and, beyond that, why each country needs to adapt approaches to AI governance for its own unique context.

At present, these dynamics present both challenges and opportunities for the MENA region. The limited adoption of international AI principles may hinder the region's ability to influence global AI governance, which would be less than ideal, as mentioned. However, it also offers a chance to develop context-specific frameworks that align with regional values and priorities. As later sections will discuss, some Gulf states have begun issuing AI ethics guidelines and strategies that borrow from global best practices, while others remain largely in a wait-and-see mode regarding regulation. Engaging proactively in the evolving global AI discourse is imperative to ensure that the region's perspectives and interests are adequately represented.

1.2.1 Challenges in AI Governance

Balancing diverse national contexts and priorities while creating coherent governance frameworks, and ensuring no one is left behind in the process,[1] is a significant challenge that requires inclusive governance. Without collaboration, fragmented efforts may lead to inconsistent regulations and standards which hinder innovation and fail to address global concerns effectively and to AI systems which widen digital and social gaps and exacerbate structural injustices (WEF, 2024) both globally and domestically. This study's survey data confirms these challenges, with companies citing increased costs, slowed down innovation, and global market inaccessibility as major negative impacts of regulations. In interviews, one MENA founder explained that "Essentially only founders in the MENA with access to massive amounts of capital and mobility [i.e., visas, foreign passports] are able to compete with foreign companies and startups, even in our local markets." In short, the winners are those who are able to circumvent (and in the case of big tech companies, influence) regulatory boundaries.

Part of the challenges is that AI intersects with numerous, siloed policy areas — from data protection and cybersecurity to labor laws and education policy — leading to a lack of cohesion in overall AI governance. As such, countries and cities might face regulatory arbitrage, where AI developers shop for the most supportive or permissive regulatory environments and relocate talent, further

1 The UNSDG stresses "Leave No One Behind" as the second principle of its Universal Values, writing, "Leave no one behind (LNOB) is the central, transformative promise of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). It represents the unequivocal promise of all UN Member States to eradicate poverty in all its forms, end discrimination and exclusion, and reduce the inequalities and vulnerabilities that leave people behind and undermine the potential of individuals and of humanity as a whole."

complicating efforts to address cross-border data flows and other transnational challenges. In fact, nearly one-quarter of MENA SMEs indicated that they would like their governments to prioritize clear and supportive AI regulations.

Another challenge to AI governance discussions is the lack of a universally accepted definition of AI (WIPO). Due to this ambiguity around what AI is, there's subsequently little consensus on what "AI governance" entails. AI itself encompasses a broad range of applications, from narrow AI focused on specific tasks to hypothetical general AI and its potentially looming risks. The OECD defines an "AI system" as "a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment." This broad definition is an example of the difficulty in producing a definition of AI that reflects the full diversity of AI technologies, contributing to the lack of consensus on what precisely constitutes AI and rendering it as a catch-all term. Additionally, the rapid evolution of AI technologies makes things even more difficult — what was considered cutting-edge AI a decade ago might now be viewed as simple automation. Simply put, AI technologies are developing at such a pace that regulatory frameworks struggle to remain relevant and comprehensive (European Commission, 2020). Data privacy and protection are also at the forefront of global concerns[2], and as cross-border data flows become increasingly essential to developing robust AI systems, concerns around data sovereignty and jurisdictional control over data also arise3.

The lack of clarity around AI extends beyond definitions and permeates the entire AI system lifecycle, particularly in relation to data usage and model development. AI models, especially large language models and deep learning systems, require vast amounts of data for training, often operating within a "black box" that poses significant challenges for data sourcing, privacy, consent, and transparency4. Additionally, regulators continue to struggle with assessing and monitoring AI systems without infringing on IP or sacrificing performance, especially when the internal workings of these systems are opaque even to their developers5.

Underlying all these concerns are a few key tension points between AI governance priorities themselves:

- **Innovation vs regulation:** While some argue that regulation stifles innovation by imposing constraints that hinder creative development and slow down technological progress (Aghion, et al., 2023), others contend that the right regulations can often allow for more innovation by establishing clear rules, building public trust, and creating a stable environment conducive to investment.
- **Economic Implications:** AI is a catalyst for economic transformation, promising new industries and employment opportunities . Yet, this promise is tempered by the specter of job displacement.
- **Transparency vs Intellectual Property:** The call for AI transparency often conflicts with the need to protect intellectual property, like source codes and training data, and maintain competitive advantage.
- **Inclusive Global Development vs Monopolization:** There is growing concern about the tension between inclusive global AI development and the monopoly on AI by a handful of tech giants (Lynn, B et al., 2023). This dynamic exacerbates the global digital divide, creating a landscape where tech advancement is not solely determined by a region's needs and aspirations, but also by the strategic decisions of a few corporations, or the political pressures of a global hegemony.

For countries in the MENA region and beyond, "inclusive AI" has been a leading concern, even while the dimensions of "inclusion" and cultural diversity in AI systems remain unclear. Several MENA countries, including the UAE, Saudi Arabia and Qatar, have created their own versions of "Arabic AI" to speak to the localization of AI technologies. This cultural dimension of AI inclusion is particularly salient amongst the MENA policymakers who stress that AI systems must be developed in a manner that reflects regional and national values. This opens important ethical and governance questions about which social or state actors or technology developers are in a position

2 The European Union's General Data Protection Regulation (GDPR) serves as one of the earliest examples of a framework aiming to protect individual data rights while allowing for technological advancement (European Parliament and Council, 2016), creating a domino effect of subsequent regulatory frameworks and guidelines.

3 The OECD's Cross-border Data Flows report (2022) highlights the need for international cooperation to address these challenges.

4 According to the European Union Agency for Fundamental Rights (FRA, 2020), the opacity of AI systems makes it difficult to assess compliance with data protection regulations, such as the GDPR.

5 To address these various challenges, for example, the EU AI Act (2024) categorizes AI systems based on risk levels and imposes corresponding transparency and oversight requirements. However, research around these challenges still remains in its early stages.

to determine what count as regional or national values, how they might be intentionally or unintentionally encoded in algorithms, and what (and who) is being left out of regional technology development.

13 Reframing AI Competitiveness

The traditional narrative of AI competitiveness, centered on large-scale investments and global technological dominance, requires fundamental reconsideration, particularly for developing regions. While metrics like GDP investment in AI, number of AI startups, or scale of AI models have dominated discussions of national AI capability, emerging evidence suggests these may be misleading indicators of meaningful progress. The rush to develop large language models and pursue artificial general intelligence (AGI) has created what has been called an "AI bubble," where success is measured by scale rather than impact. This reality presents both a challenge and an opportunity for MENA countries to reimagine what AI competitiveness means in their context. Rather than attempting to compete in resource-intensive general-purpose AI development, countries can focus on targeted solutions that address specific regional challenges and leverage existing strengths.

In this report, AI competitiveness refers to a nation's capacity to leverage artificial intelligence for economic growth, innovation, and societal advancement. It encompasses not only the technological capabilities and infrastructure that enable countries to harness AI's transformative potential but also the institutional frameworks, socioeconomic factors, and regulatory environments that underlie AI development. However, countries and regions have vastly different starting points in this journey, and success comes from building sustainable, inclusive environments where AI can be effectively developed, deployed, and governed.

The foundation of AI competitiveness starts with a dependable digital infrastructure — the physical systems needed to develop and run AI applications. This includes high-speed internet connections, compute power, data centers, and reliable energy supply. The World Economic Forum's Blueprint for Intelligent Economies (2025) emphasizes that building competitive AI capabilities requires more than just technological investment, it demands sustainable and resilient infrastructure development. This includes considering environmental impact and energy use, particularly crucial for the MENA region where resource efficiency is paramount. Regional frameworks for sharing AI infrastructure and resources can help overcome individual national limitations, suggesting that competitiveness might be better achieved through collaboration than competition.

The talent ecosystem remains equally crucial in the assessment of AI competitiveness: having the right people with the right skills. This means not just technical experts who can develop AI systems, but also professionals who understand how to apply AI in specific industries and managers who can guide AI implementation. In many developing regions, this talent gap often proves to be the biggest challenge. Data also emerges as a critical component of competitiveness, as the availability of high-quality datasets becomes increasingly essential for the development of equitable and accurate AI models. This means ensuring data not only exists but reflects the needs, languages, and cultures of local populations. For the MENA region, this presents the opportunity to develop datasets that better represent regional languages and priorities.

The importance of research facilities is also central to competitiveness, requiring a well-funded ecosystem where universities work closely with industry to generate new ideas into practical solutions, and where entrepreneurs get the support they need to turn concepts into businesses. The most successful AI ecosystems have figured out how to create kind of environment where innovation flows naturally from research to real-world application.

The size and sophistication of available markets play a crucial role as well. Countries need to consider both their domestic market opportunities and their ability to access regional and global markets.

And, often central to these discussions, is investment — having access to funding, whether from government sources, private investors, or international partners, can make the difference between ideas staying on paper and becoming reality. The investment environment and market access take on new meaning when viewed through this lens. Public-private collaboration becomes essential for widening access to AI capabilities. The WEF advocates for public-private subsidies to make AI-ready devices more affordable, helping local innovators adopt AI technologies and scale their operations.

Research suggests that traditional ways of measuring AI competitiveness like counting investments, patents, or startups, don't tell the whole story. These numbers might show how much is being invested into AI development, but they do not necessarily show the impact in terms of real benefit. More meaningful measurements would assess practical results, specific benefits in different sectors, how efficiently resources are being used, and how AI is serving society as a whole. Recent frameworks, such as WEF's Blueprint for Intelligent Economies (2025), suggest that success metrics should also include sustainability of AI infrastructure, quality and diversity

of datasets, strength of ethical guidelines and safety measures, level of regional collaboration and resource sharing, and effectiveness of public-private partnerships.

Perhaps most importantly, good governance and competitiveness in AI are not opposing forces – and robust ethical and safety guardrails are essential for ensuring AI benefits society while reducing risks, building trust in AI systems, and promoting responsible development that can sustain long-term competitiveness. The OECD's AI Policy Observatory (2024) has found that countries with clear rules and well-managed AI governance systems tend to see more AI adoption and innovation. Understanding these elements of AI competitiveness is crucial for examining the challenges and opportunities in the MENA region. The survey of companies and stakeholders across the region reveals how these theoretical ideas play out in practice, offering important insights for developing effective strategies to enhance AI competitiveness in the MENA context.

2 The Study

Research Approach and Methodology

2.1 Aims of the Study

There are two key goals of this report and its associated data collection methods. First, to understand and address the growing governance and regulatory challenges resulting from the rapid adoption of Artificial Intelligence (AI) in key MENA markets, as well as the integration of the MENA region in global AI governance efforts. And second, to examine how AI adoption can be leveraged to drive economic growth and regional competitiveness while, in returning to the first goal, ensuring responsible governance. As MENA countries increasingly pivot toward knowledge-based economies and digital transformation, it becomes even more important to understand the challenges and opportunities facing organizations that are developing or implementing AI technologies. In this sense, the study centers the idea that good governance is one that enables good competition and innovation, creating opportunities and ripening markets for SME growth.

Given the need to understand both governance and competitiveness dimensions of AI development in MENA, the Mohammed bin Rashid School of Government (MBRSG) conducted this comprehensive research with support from Google. Building on six years of prior research, this study aims to provide a comprehensive understanding of how MENA countries can responsibly adopt AI technologies, align with global governance frameworks, and enhance regional competitiveness in the AI sector. The insights are intended to inform not only regional policy but also global AI governance strategies.

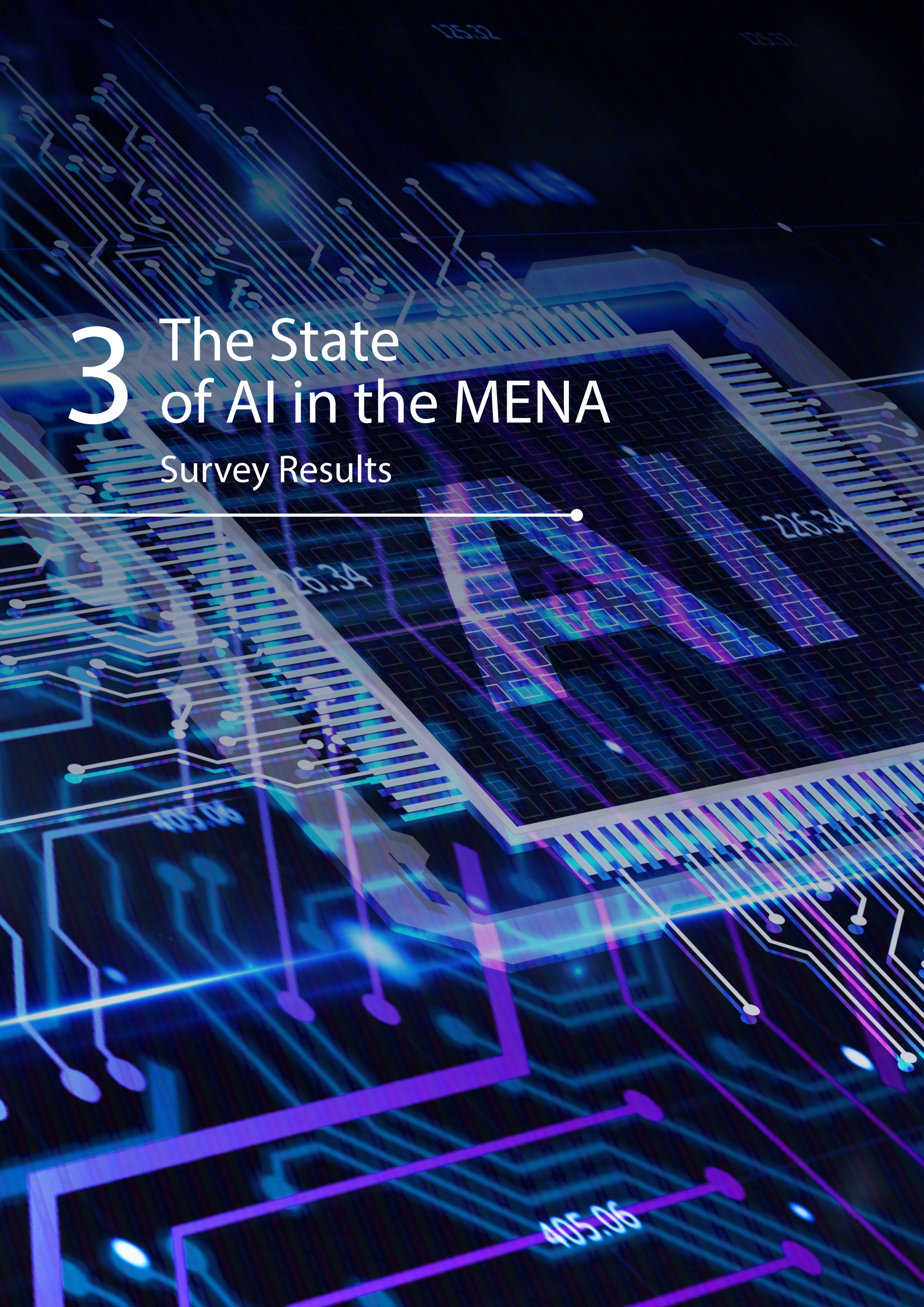
2.2 Methodology

The research employed a mixed-method approach, combining qualitative and quantitative data collection through multiple research components. At the core of the study is a comprehensive survey that captured in-depth responses from 327 AI and digital companies across 10 MENA countries. The survey response distribution provided broad regional representation, with the United Arab Emirates accounting for 25.1% of respondents, followed by Saudi Arabia at 16.8%, Morocco at 16.5%, Bahrain at 8.6%, Jordan at 8%, Qatar at 6.4%, Kuwait at 6.1%, Egypt at 5.8%, Oman at 5.2%, and Tunisia at 1.5%.This distribution provides insights into how AI and digital companies across these markets are experiencing and responding to various aspects of the AI ecosystem.

The survey examined multiple dimensions of AI development and adoption, including use cases and enablers, digital infrastructure and ecosystem components, talent availability and development, access to funding and markets, data accessibility and governance, intellectual property concerns, regulatory awareness and compliance, infrastructure and resource challenges, and AI ethics and implementation practices. To complement the survey data, the research team conducted dozens of high-level interviews across the AI ecosystem, engaging with stakeholders through policy roundtables and workshops. These qualitative insights provided crucial context for understanding the survey findings and developing policy recommendations.

2.3 Results

The UAE's AI strategy is not just about research The findings presented in this report synthesize insights from all research components to examine the fragmented landscape of AI governance, impact on regional participation in global frameworks, challenges in infrastructure and implementation, opportunities for strategic alliances, and pathways to regional interoperability. Recognizing the region's immense diversity, this report emphasizes that there is no one-size-fits-all solution to approaching AI development and governance. Instead, it advocates for a nuanced multi-stakeholder approach that is based on country priorities, strengths and technological readiness. Ultimately, this report provides a roadmap for the MENA region to navigate the fragmented AI governance landscape, fostering regional competitiveness and interoperability while amplifying its voice in shaping global AI norms and standards.



3 The State of AI in the MENA

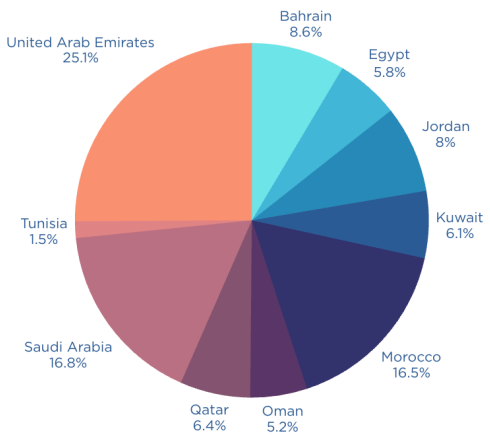
Survey Results

This chapter presents the findings from the report survey, a region-wide assessment of 327 AI and digital SMEs from across the Middle East and North Africa (MENA). The survey offers a comprehensive snapshot of who these companies are, how they are using AI, the state of the supporting infrastructure and funding, governance, and ethics around AI in the region. Overall, the results reveal a dynamic and uneven landscape: a handful of countries (notably the UAE and Saudi Arabia) are emerging as AI leaders ripe for SME growth and competitiveness, while others are still in nascent stages. Businesses overwhelmingly express optimism about AI's potential, but they also report significant challenges from inadequate infrastructure to gaps in governance that temper some of the enthusiasm. Each section below breaks down the major findings by theme, providing a clearer picture of the state of AI in the MENA region, and setting the stage for deeper analysis in the following chapters.

3.1 Company Demographics and Sectoral Spread

The survey captured responses from ten MENA countries — all six member nations of the GCC, plus Morocco, Egypt, Tunisia and Jordan — reflecting MENA's geographic and economic diversity. About a quarter of all respondents are based in the UAE (25.1%) underscoring its prominent role in the regional AI ecosystem. The Gulf Cooperation Council (GCC) countries overall account for over two-thirds of the surveyed respondents (68.1%), led by the UAE and Saudi Arabia (16.8%). A significant number of participants also came from Morocco (16.5%), Egypt (5.8%), Tunisia (1.5%), and Jordan (8%).

Figure 1: **In which country is your company based?**

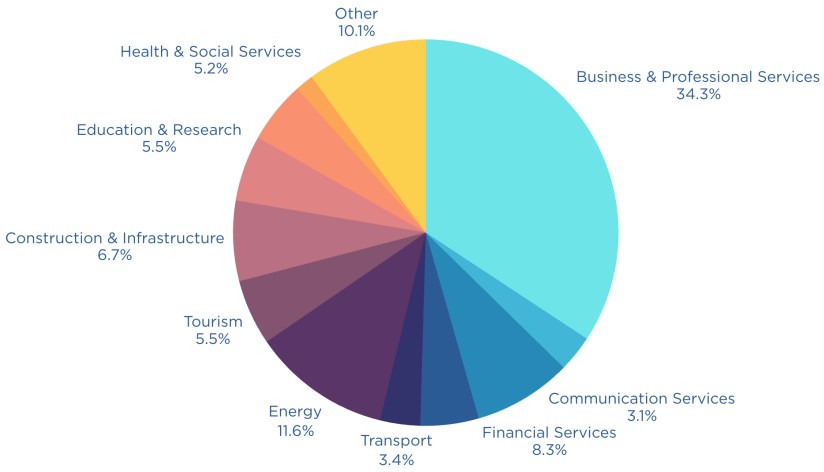


Bahrain: 28
Egypt: 19
Jordan: 26
Kuwait: 20
Morocco: 54
Oman: 17
Qatar: 21
Saudi Arabia: 55
Tunisia: 5
United Arab Emirates: 82

Total Respondents: 327

Many of the surveyed SMEs are startups or early-stage ventures that have been operating for only a few years, while others are more mature mid-sized companies that have scaled up their products or services. In practice, this means most respondents reported relatively modest workforce sizes (tens to low hundreds of employees, as opposed to thousands) and lean organizational structures. These smaller firms are often agile and innovation-driven, but their size also implies resource constraints — a factor that emerges in their feedback about infrastructure and talent (discussed later). A number of the companies can be described as "AI-native" startups, businesses whose core product or service is built around AI technology. At the same time, a portion are traditional sector companies (e.g. in finance, healthcare, education, retail) that are adopting AI to enhance their existing operations. This blend of AI-focused providers and AI adopters gives a balanced view of the ecosystem: we see both those creating AI solutions and those implementing AI solutions represented in the data.

Figure 2: **In which industry does your company operate?**

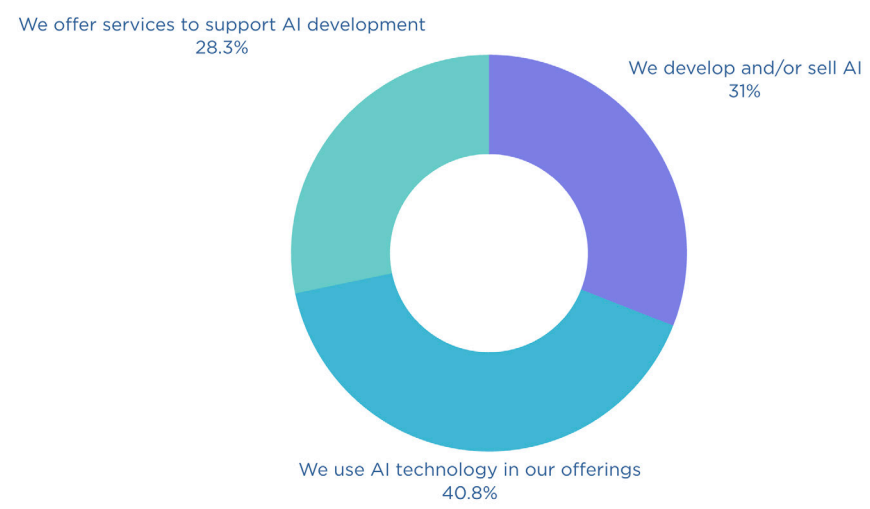


The respondents also span a wide range of industries. A significant segment operates in the business and professional services domain (34.3%). There is also representation from the energy sector (11.6%), finance (8.3%), construction (6.7%), education (5.5%), and others as noted above. These are sectors where AI is increasingly applied for competitive advantage (such as algorithms for financial risk scoring, medical diagnostic tools, personalized learning platforms, recommendation engines for online retail, and smart government initiatives). The presence of these sectors in the survey indicates that AI activity in MENA is not confined to pure tech startups; it is also spreading into traditional industries via innovative SMEs. For example, a healthcare startup might use AI for medical image analysis, or a fintech company might leverage machine learning for fraud detection.

3.2 Current State of AI Adoption and Use Cases

According to the survey, AI adoption is well underway among MENA's tech-oriented firms, though the level of maturity varies significantly. A portion of companies report having deployed AI solutions into their core business processes. These firms describe using AI in day-to-day operations, whether it's an algorithm embedded in a product or an AI system supporting internal decisions. On the other end of the spectrum, many organizations (especially from countries where the tech sector is still developing) are at earlier stages of adoption, such as running pilot projects, conducting proof-of-concepts, or planning their AI strategy. It's common for these less mature adopters to be experimenting with one or two AI use cases on a small scale, rather than having fully integrated AI throughout the enterprise.

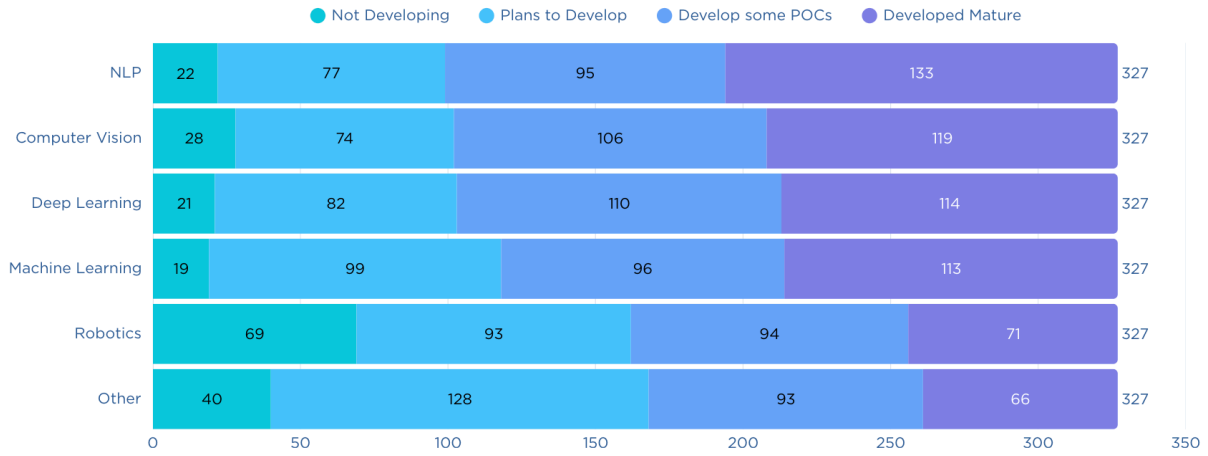
Figure 3: SME AI Use



Perhaps unsurprisingly, there is a positive correlation between SMEs with more advanced AI adoption and higher revenue brackets. However, it is unclear whether AI integration may contribute to business growth or if companies with more capital are simply able to invest more in AI development and adoption. In any case, funding constraints and infrastructure barriers continue to hinder smaller firms from scaling AI-powered solutions.

Across the region (in line with global trends and hype cycles), certain AI technologies and application areas stand out as particularly widespread. The most commonly reported implementations involve machine learning and deep learning — essentially algorithms that learn from data to make predictions or decisions.

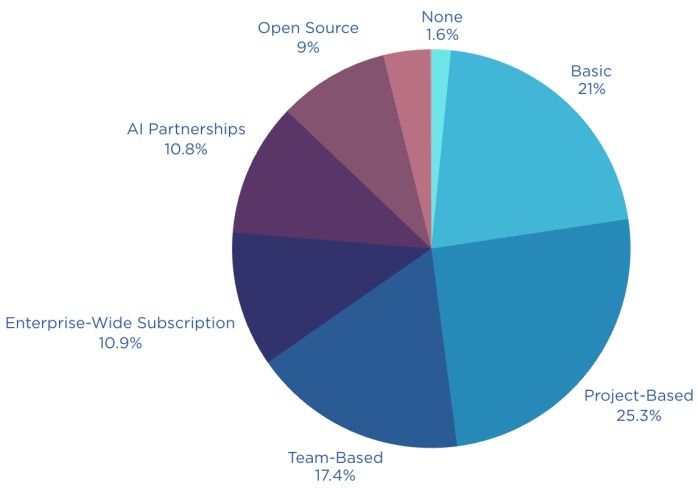
Figure 4: AI Technology Development



The vast majority of respondents have delved into natural language processing (NLP), which powers technologies such as chatbots, virtual assistants, and text analytics. For example, companies mentioned using chatbot platforms to automate customer inquiries in both Arabic and English, or employing NLP to analyze social media sentiment about their products. Another prominent area of development is computer vision, which involves AI processing of images or video. Some startups — especially in fields like security, smart cities, or manufacturing — use computer vision for things like facial recognition access systems, monitoring of industrial equipment, or automated inspection of products on assembly lines. In addition, many firms are leveraging Machine Learning and Deep Learning for tasks like predictive analytics (forecasting demand, customer behavior, credit risk scoring), recommendation systems, or anomaly detection (e.g., fraud detection), and these technologies form the foundation of AI development in the region, with 35% of companies reporting mature development of both techniques.

It's also worth noting emerging technologies like generative AI, which have gained global attention recently. Some leading-edge companies in the sample have begun experimenting with generative AI models (for example, AI systems that can produce human-like text, images, or code).

Figure 5: **Gen AI Implementations**



A few respondents indicated they are testing large language models (LLMs) for tasks such as content generation, coding assistance, or translation, and exploring creative AI applications in design and media. The dominant approaches are project-based implementation (25.3%), followed by basic implementation (21%) and team-based usage (17.4%). This cautious approach reflects both the nascent state of the technology, and the challenges companies face in integrating these tools into their operations.

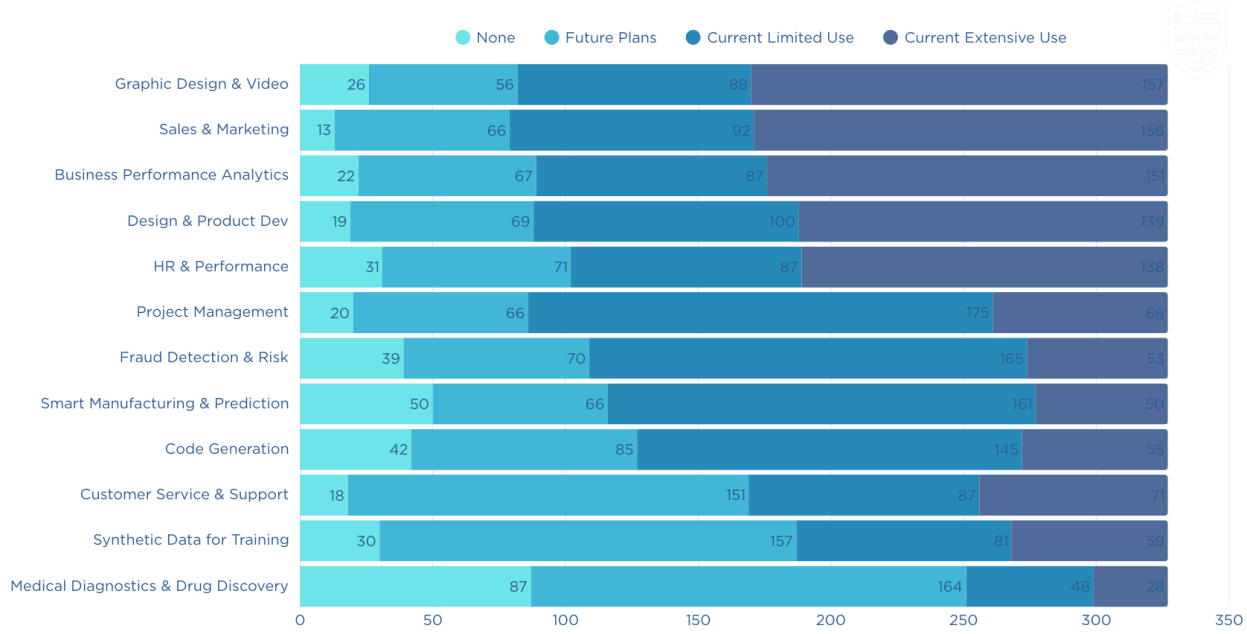
The ways in which AI is being applied by MENA companies are diverse, reflecting different industry needs. Broadly, we can categorize their AI use cases into a few areas:

- **Customer Engagement and Service:** Many firms use AI to enhance customer interactions, for example through chatbot-based customer service, personalized product recommendations on e-commerce platforms, or AI-driven marketing targeting. NLP and machine learning models help these companies provide quicker responses and tailored experiences to customers.
- **Operations and Efficiency**: A number of respondents employ AI internally to streamline operations or optimize resources. This includes predictive maintenance systems in energy or manufacturing (anticipating equipment failures), route optimization in logistics, or AI-based schedulers and process automation (RPA) in back-office functions. These uses aim to cut costs and improve efficiency.

- **Decision Support and Analytics:** AI-driven analytics are widespread. Companies are using machine learning to crunch large datasets and inform strategic decisions — for instance, analyzing user behavior data to guide product development, or using AI forecasts to plan inventory and supply chains. Many fintech respondents highlight AI in investment analysis, where algorithms can evaluate risk faster than traditional methods.
- **Domain-Specific Innovations:** Some applications are unique to particular sectors. Healthcare startups reported using AI for diagnostic support (such as analyzing medical scans or patient data for early disease detection). In education, EdTech firms use AI to personalize learning, adjusting content to each student's progress. In public safety or smart city projects, AI vision is used for traffic management or surveillance analytics. These domain-focused AI solutions illustrate how companies tailor general AI capabilities to solve local problems – for example, using AI to optimize water usage in agriculture in arid regions, or to enhance Arabic language translation for better local communication tools.

Looking closely at specific generative AI applications, the survey reveals varying levels of current implementation and future planning across various business functions. Design and product development show the most extensive current use, with sales and marketing also having strong adoption trends.

Figure 6: **Generative AI Use Cases**

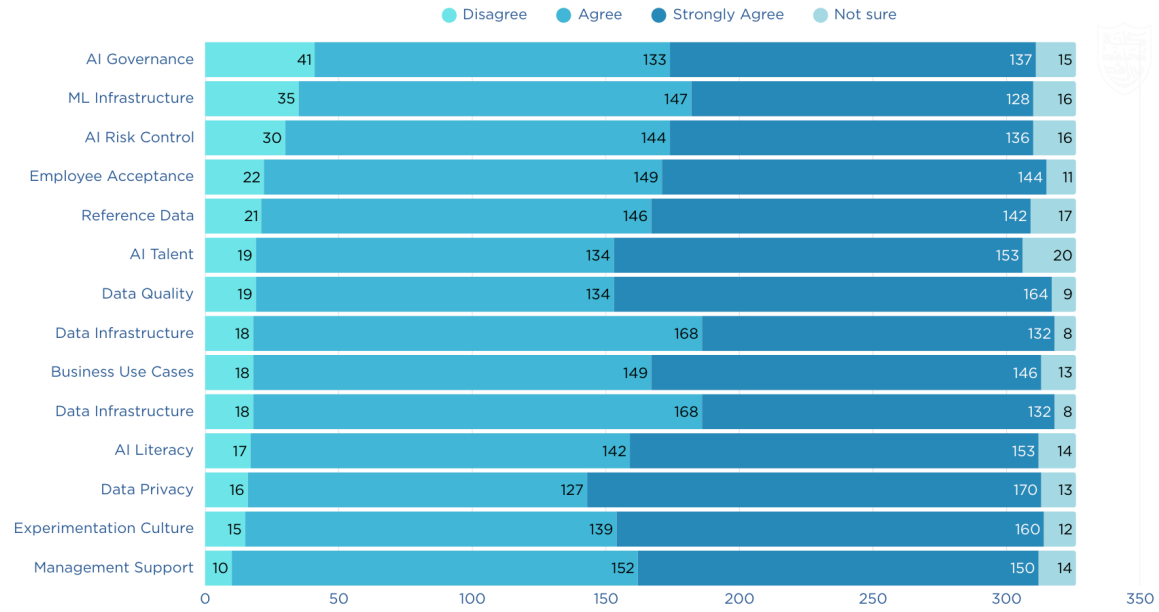


The breadth of use-cases indicates AI permeation across business functions. However, a two-speed adoption pattern is evident: common applications (marketing, content, analytics) have high current usage, whereas more advanced or regulated applications (manufacturing, healthcare) are mostly on the drawing board. This reflects both optimism and caution – companies are eager to leverage AI where feasible but acknowledge barriers (technical, regulatory) in certain domains. It also underscores a maturity gap among firms: some have institutionalized AI (multiple extensive-use areas), while others are largely in trial phases.

3.3 Internal Drivers: AI Enablers and Gaps

Implementing AI requires a robust foundation of internal capabilities, from skills and culture to data and infrastructure. Respondents were asked to rate the extent to which various "AI enablers" are present in their organization (from "disagree" to "strongly agree" that the enabler applies to them). The results show that most companies report having many of these prerequisites in place (at least partially), with one significant exception.

Figure 7: **AI Enablers**



The vast majority of firms believe they have the human capital and data foundations needed for AI:

AI-skilled talent: Roughly 88% of surveyed SMEs actively agree (including "strongly agree") that their organization has the necessary skilled AI talent. This suggests that, at least in the view of respondents (who include company leadership and AI team leads), talent shortages are not a crippling issue, companies have either hired or trained the people they need to work on AI. Similarly, only ~5% report lacking basic AI literacy among staff, while the rest have been building awareness and understanding of AI internally. This is likely due to two overlapping effects: First, Gulf hubs in particular have used generous visas and globally competitive salaries to import experienced AI talent, while government scholarships and coding boot-camps have boosted baseline AI literacy for existing staff. Second, the survey asked leaders to agree or disagree with having "necessary" talent; many interpret "necessary" relative to their current, often narrow, proof-of-concept workloads, so a lean team of two or three specialists can feel "sufficient," though deeper or broader AI deployment would expose the need for more specialized skills.

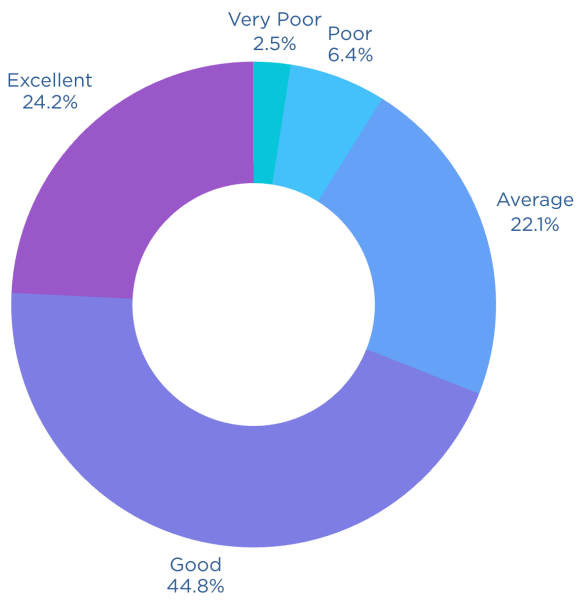
Data and Infrastructure: Almost all companies report having access to the data and platforms required. For example, ~94% of respondents have at least some relevant business use cases for AI in mind or in development, indicating that AI projects are grounded in real business needs. Moreover, over 90% report having put in place the data architecture (data storage, processing capability, etc.) to support AI work. High data quality was also widely affirmed — only a handful of respondents doubted their data's adequacy, while the rest agree their data is of sufficient quality for AI purposes. This does not

necessarily mean that every SME in the MENA region is sitting on curated, bias-free, production-grade datasets. Rather, because the sample skews toward cloud-native SMEs and tech-first start-ups, most respondents have already "leap-frogged" to pay-as-you-go cloud stacks that bundle data lakes, GPUs, and governance tooling — so basic storage and pipelines feel "in place." Government digitization drives and recent data-protection laws have further forced firms to rationalize and clean their data, while widely available Arabic NLP corpora and pre-trained models lower the bar for "adequate" local datasets. Add in the fact that today's dominant use-cases (marketing content, chat-bots, dashboards) need modest data volumes, and it is unsurprising that 9-in-10 companies perceive their data architecture and quality as sufficient—even if deeper, large-scale or bias-sensitive deployments would expose remaining gaps.

3.4 Ecosystem Conditions: Infrastructure, Funding, and Support

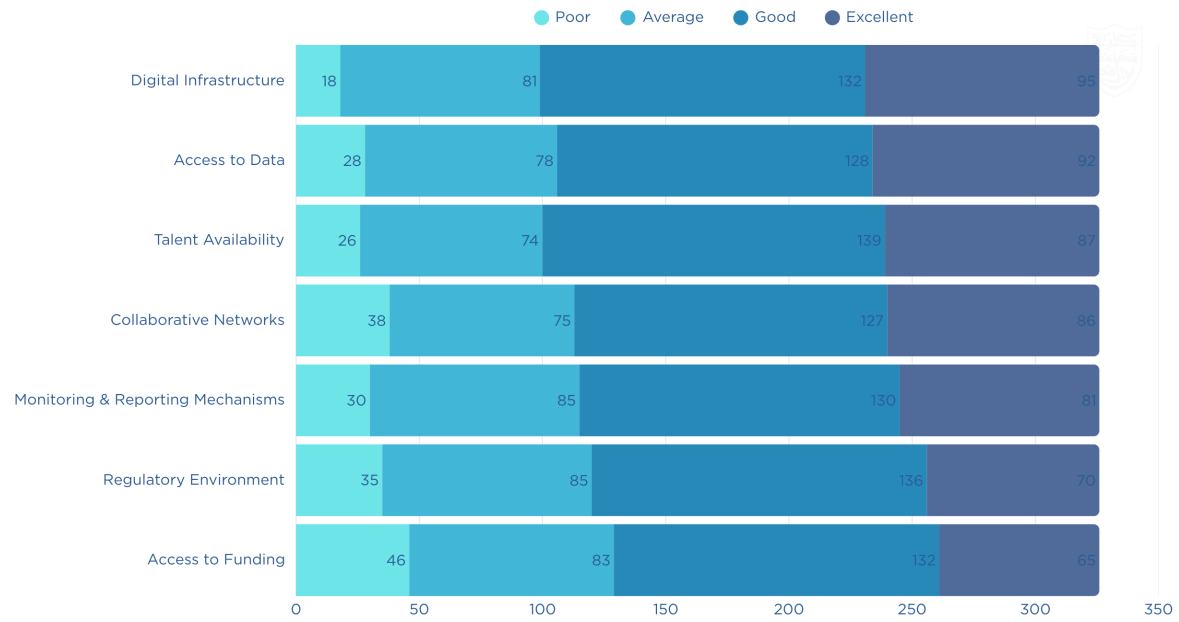
While internal capabilities are crucial, an enabling external environment — including digital infrastructure, funding availability, and human capital pipelines — determines how far and fast AI innovation can go. The survey asked respondents to rate the overall health of their country's AI ecosystem and specific aspects of that ecosystem. The results show a mix of optimism and acknowledgment of persistent structural challenges.

Figure 8: **Overall Health of the AI Ecosystem**



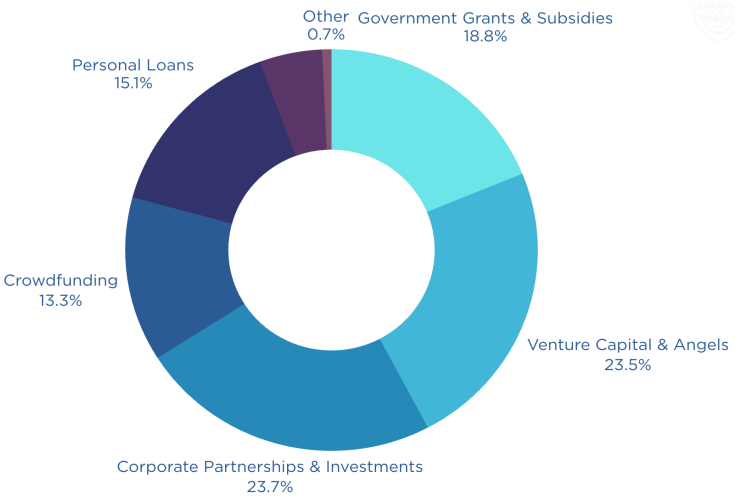
Overall, about 69% of respondents described their country's AI ecosystem as "Good" or "Excellent" (45% Good, 24% Excellent). Another 22% said "Average", and only roughly 9% felt it was "Poor" or worse. This is a notably positive outlook – nearly three-quarters of participants see their domestic AI environment as at least adequate, if not favorable, for growth. In qualitative terms, an "Excellent" ecosystem was defined in the survey as one where policies actively support AI development and necessary resources are readily available. Reaching ~24% Excellent suggests that in leading MENA countries, stakeholders feel the government and market are aligning well to promote AI. The plurality "Good" rating (45%) indicates that most others see a solid foundation with some room for improvement, rather than major deficiencies. This cautious optimism aligns with the region's recent AI investments (national strategies, innovation hubs, etc.). It implies that many professionals believe the basic building blocks of a viable AI ecosystem are emerging in MENA.

Figure 9: Apects of the AI Ecosystem



Infrastructure and Talent: When diving into specific aspects of the ecosystem, respondents tended to give more middling ratings. The majority of participants rated critical factors like digital infrastructure, talent availability, data access, funding, and regulatory environment as “Average” and “Good” rather than “Excellent.” Only about one-third of respondents rated their digital infrastructure as excellent. A similar pattern appears for AI talent availability at the ecosystem level. Even though companies felt internally confident about talent, at a country level many perceive a moderate shortage of skilled AI professionals and researchers (again, only around one-third gave a positive rating, while the bulk were lukewarm). In essence, respondents feel these pillars exist in their countries, but often “leav(ing) room for improvement,” as we frequently heard in interviews with founders.

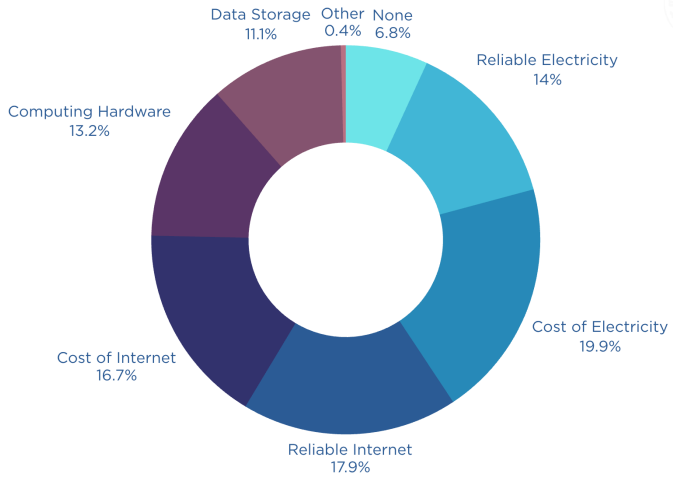
Figure 10: Funding Sources



Access to Funding: Securing capital remains a notable pain point, as the highest rated "poor" and least rated "excellent." This perception aligns with the qualitative interviews and the data on actual funding sources: only 23.5% of firms reported obtaining support from venture capital or angel investors, and a similar 23.7% from corporate partnerships. In fact, many startups are bootstrapping or underfunded, with 15.1% of respondents relying on personal loans to finance their AI projects — essentially self-funding through debt — and 18.8% turning to government grants or subsidies. These figures underscore a limited private funding ecosystem: venture financing, while present, reaches only a minority of companies, and a significant number must fall back on personal funds or public-sector support. With such constraints, it's understandable that respondents view the funding environment as one with room for improvement. Many companies likely feel they could grow faster with more readily available risk capital or credit geared toward AI innovation.

Regulatory Environment: This was often flagged in comments as a double-edged sword – while nations have introduced AI strategies or data laws, businesses find some regulations burdensome or unclear. Fewer than one-third of respondents rated their regulatory climate as good or excellent. Most see it as neutral or only somewhat supportive, and a notable minority see it as outright restrictive. One respondent noted that policies exist but "they are insufficient" for what AI companies need. We will delve deeper into regulatory perceptions in the next section, but from an ecosystem standpoint it's clear that policy uncertainty and bureaucracy temper the enthusiasm.

Figure 11: **Infrastructural Challenges**



Specific Infrastructure Challenges: Respondents were directly asked which digital infrastructure challenges they face, and their answers corroborate the above ratings.

- Cost of electricity is the top concern, selected by nearly 20% of respondents. High energy costs can impede AI work, especially for computationally intensive tasks (training models, running servers) that draw significant power. MENA countries vary in electricity pricing, but in some markets the cost for businesses is high, affecting the feasibility of running large data centers or AI hardware locally.

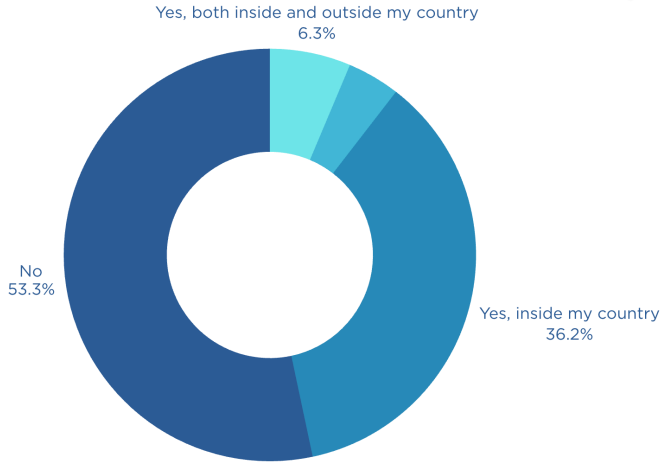
- Internet reliability was the second-most common issue (17.9%). Despite improvements, many respondents still struggle with connectivity, like unstable broadband or cloud access, which can disrupt data flows and cloud-based AI services. Following closely, internet cost (16.7%) was another barrier. Together these indicate that connectivity, both quality and affordability, is not yet at the level AI firms desire. Bandwidth constraints or expensive data plans could be limiting cloud adoption or real-time AI applications in the region.

- Electrical reliability (power outages) was cited by 14% of companies, showing that in some areas, inconsistent power supply is hampering tech operations. Additionally, lack of computing hardware (13.2%) and insufficient data storage capacity (11.1%) were notable challenges for a subset of respondents. These reflect that not all firms have local access to high-end GPUs, servers, or scalable storage — they might be constrained by the hardware available, or the funds to acquire it, which in turn could push them toward cloud solutions (tying back to the internet issues).

Overall, the picture is that infrastructure remains a foundational concern: nearly every company has one or more basic hurdles (power, internet, hardware) that it must manage alongside its AI ambitions. This finding underscores the importance of continued investment in digital infrastructure by regional governments — such as improving grid stability, expanding affordable high-speed internet, and possibly establishing shared compute resources — to support AI startups and projects.

Intellectual Property and Innovation: Two survey questions shed light on the innovation ecosystem's maturity: international IP activity and IP protection experiences. A resounding 93.9% of respondents have not registered any patents, intellectual property, or digital assets outside their home country. This suggests that relatively few MENA AI firms are yet at the stage of protecting IP in global markets (which is often a sign of cutting-edge R&D or intent to expand internationally). Many could still be focused on local deployments or using primarily open-source/copyright-free components that don't require patenting. It may also reflect limited resources or knowledge for international patenting among startups.

Figure 12: **Experiences of IP Infringement**



At the same time, a significant number of companies have already encountered IP infringement issues. Nearly 43% of respondents said they have experienced some form of intellectual property theft or misuse related to their digital assets or outputs. Breaking that down: 36.2% reported IP infringement occurring inside their country, and an additional 6.3% have faced infringements both domestically and abroad. Only about half (53.3%) have not had any IP infringement incidents to date. This is a surprisingly high incidence and may include scenarios like unauthorized reproduction of software, data or content theft, or unlicensed use of AI models. It highlights a potential weak spot in the ecosystem: IP enforcement and legal frameworks might not be keeping pace with digital innovation, leaving firms vulnerable. Especially for AI companies whose main assets are algorithms and data, weak IP protection can deter investment. The fact that over one-third have dealt with domestic IP violations suggests a need for stronger local protections (and awareness among firms to secure their IP), while the smaller percentage with cross-border issues points to the challenges of protecting IP regionally or globally.

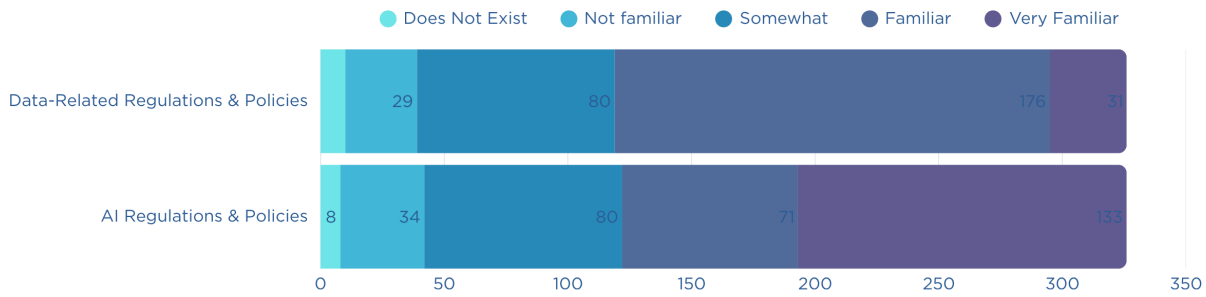
Innovation in MENA's AI sector is nascent, few patents are being filed abroad, yet IP risks are already manifesting, which could discourage entrepreneurs unless addressed through better governance.

3.5 Policy and Regulatory Environment

Public policy and regulation can significantly enable or hinder AI development. The survey probed how MENA companies perceive their regulatory environment – including familiarity with current laws, specific areas of concern, and the impacts (positive or negative) of government policies on their AI work. The responses reveal a nuanced view: respondents generally acknowledge efforts by governments to introduce AI/data regulations (and some benefits thereof), but they also highlight gaps in policy awareness, concerns about certain rules, and the burdens these impose.

Awareness of AI/Data Policies: A sizable portion of respondents are unsure or unconvinced about the existence or details of AI-related regulations in their country.

Figure 13: **Familiarity with Current Regulations and Policies**

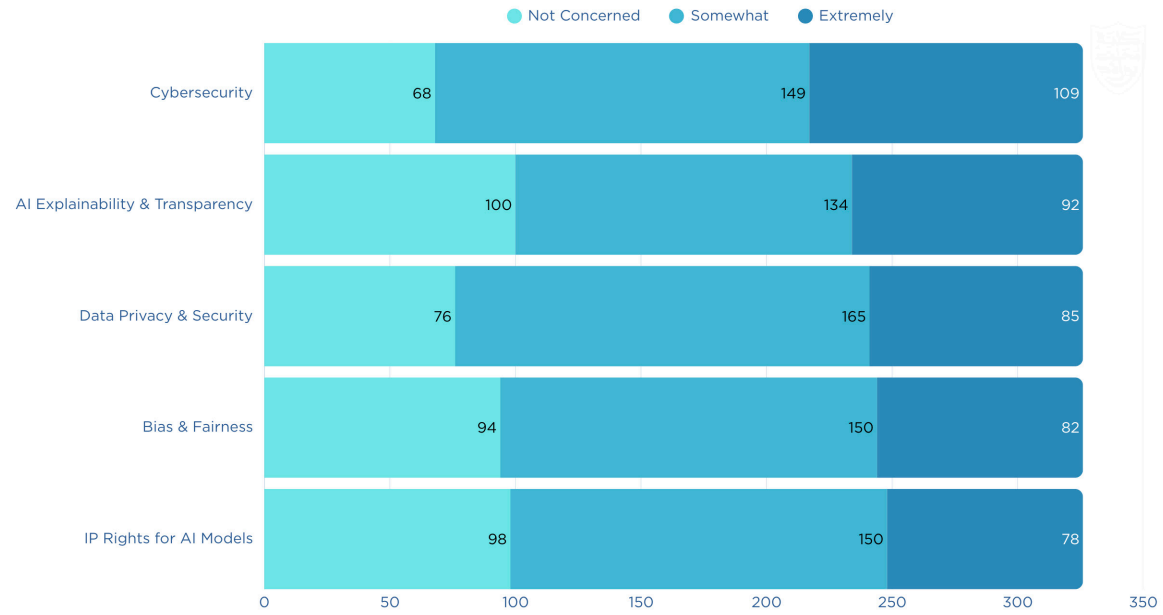


When asked "How familiar are you with your country's current regulations and policies related to data and AI?", roughly 9% are "not familiar" with the policies that do exist, and around 24% are "somewhat familiar." Only a minority reported being "very familiar" with data regulations and policies (about 10% or 31 respondents), whereas for AI regulations and policies, a higher 41% or 133 respondents claimed strong familiarity. The fact that the "very familiar" group is larger for AI than for data might indicate that in certain countries (like the UAE or Saudi Arabia), high-profile national AI strategies have been publicized, making those well-known to stakeholders, whereas data governance laws (privacy, security) might be less understood. Still, the overall implication is that there is still some hesitation around awareness. A significant number of entrepreneurs and managers are either unaware of relevant regulations or feel that clear policies might not even be in place. This can breed uncertainty. If companies are unsure of the rules, they might either proceed cautiously (slowing innovation) or inadvertently run into compliance issues. It suggests governments should do more to publicize and clarify AI-related policies, and perhaps engage the private sector in dialogue, so that companies know where the goalposts are.

Regulatory Areas of Concern: The survey asked companies how concerned they are about several specific regulatory or ethical areas affecting their business.

Importantly, the enthusiasm for GenAI in UAE is tempered by the fact that much of it is still in trial or incremental stages, not yet fully transformative deployments. This is expected given GenAI's novelty – companies are wisely experimenting in controlled ways. The survey's evidence of near-universal interest suggests that the next few years will likely see GenAI move from pilot to production in many UAE businesses, as successful experiments turn into core features.

Figure 14: **AI Ethics & Compliance Challenges**



The results show that most respondents are at least somewhat concerned about all listed areas, with a considerable share "extremely concerned" about certain issues:

- **Cybersecurity** tops the list as a worry, with the highest proportion of "extremely concerned" responses (33%) among the topics, and around an additional 46% somewhat concerned. This highlights that as companies deploy AI (often in critical processes), ensuring cybersecurity – and navigating any cybersecurity laws – is at the forefront of their minds. It could reflect the rising threat environment (recent cyber attacks in the region) and new regulations around data localization, breach reporting, etc., which can be onerous.
- **Data privacy and security** is another major issue. Fully 77% of companies are concerned to some degree about data privacy regulations impacting them, and about 26% are extremely concerned. This likely stems from the introduction of GDPR-like data protection laws in some MENA countries and the general sensitivity around data handling. Many AI solutions rely on personal or consumer data, so compliance with privacy laws (and fear of penalties or restrictions) is a serious matter for businesses.
- **AI explainability & transparency** requirements also register significant concern (about 28%extremely concerned, 41% somewhat). As global conversations about "black box" AI and algorithmic accountability grow, firms anticipate or face regulations that might require them to explain how their AI models make decisions. Many are moderately worried about how to comply with such expectations, especially if their AI systems are complex or proprietary.
- **Bias & fairness in AI** drew ~25% extremely concerned and ~46% somewhat concerned. This indicates awareness that regulations or public scrutiny around AI ethics (ensuring AI doesn't

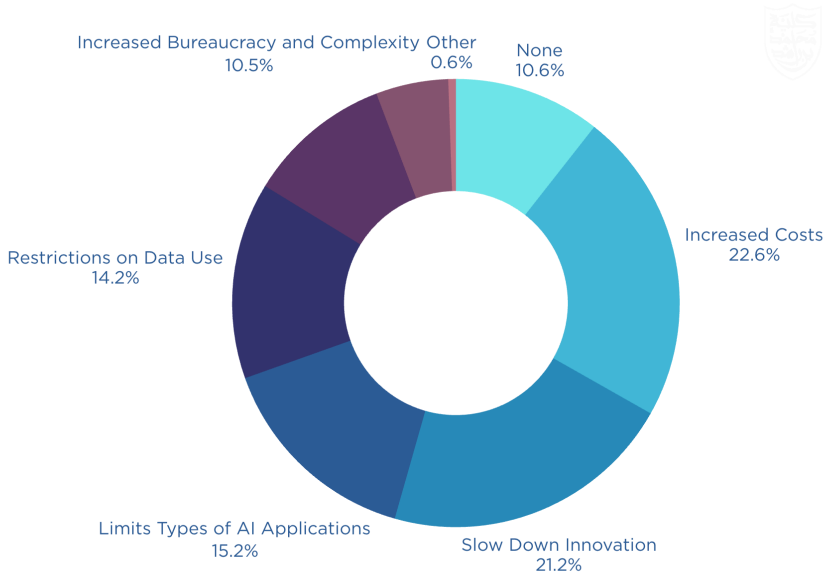
discriminate) could impact product development. Companies likely recognize that demonstrating fairness may become a compliance mandate, not just a moral one.

- **Intellectual property rights for AI models** (an emerging issue, covering data ownership, model copyright, etc.) was somewhat less pressing comparatively – about 24% extremely and 46% somewhat concerned. This still means over two-thirds are concerned, but it had the highest "not concerned" rate (~30%) of the listed issues. It's possible that many companies haven't yet encountered IP disputes around AI models, or find it abstract; whereas issues like privacy, cybersecurity, and bias have more immediate regulatory traction.

None of the SMEs surveyed are completely at ease about the regulatory landscape — the majority expressed at least some concern across all categories. The areas touching data (privacy, security) and algorithmic accountability (explainability, fairness) are clearly on companies' radar, likely because they foresee stricter regulations coming or already in effect. Cybersecurity stands out as the top extreme worry, aligning with the broader context of cyber threats and protective legislation. The breadth of concerns underscores that MENA companies are trying to stay compliant and ethical, but they do feel pressure in doing so. It also suggests that regulators need to strike a balance – companies are fearful of over-regulation stifling innovation, even as they acknowledge the importance of these issues.

Impacts of Current Regulations: Respondents were invited to indicate in which ways current government regulations and policies have affected their AI development or use, both negatively and positively. These were multi-select questions (companies could choose all that applied). The responses reveal a dual reality – there are tangible downsides that firms experience from regulations but also recognized upsides. This nuance is important; it's not all complaints or all praise.

Figure 15: **Percieved Negative Impact of Regulations**



Most SMEs could point to at least one adverse impact of current regulations.

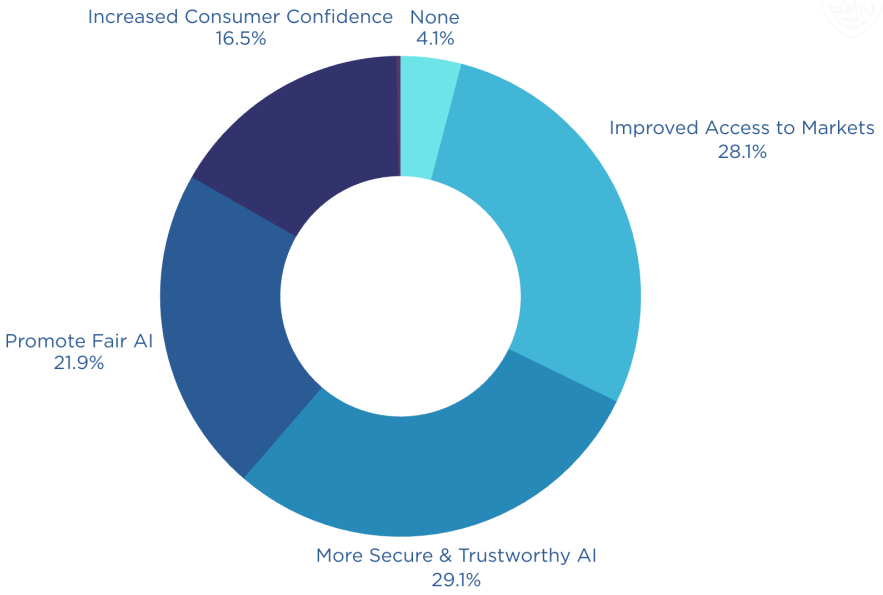
- The most frequently cited negative impact is **increased operational cost**s, chosen by 22.6% of respondents. Compliance often isn't free: companies might need to hire legal experts, implement new processes, or invest in technical measures to meet regulatory requirements, all of which drive up costs. For example, data privacy laws might necessitate expensive data security systems or data localization which raises hosting costs.

- A close second is that **regulations slow down innovation** (21.2%). Firms feel that bureaucratic hurdles – like needing approvals, conducting compliance checks, or restrictions on certain data/tech – can delay AI project timelines and make it harder to iterate quickly. In fast-moving tech development, these delays can be frustrating.
- Over 15% of companies feel some of their **innovative ideas are off-limits** due to the current policy environment, for instance, strict rules might bar the use of AI in sectors like fintech or healthcare without special licensure, or ethical guidelines might preclude use of facial recognition in public spaces.
- **Restrictions on data use** was also cited, referencing regulations (like privacy laws) that restrict data sharing, cross-border data flows, or usage of certain personal data can hamper model training and deployment. Companies may struggle to gather sufficient training data or integrate datasets because of these rules.

These negatives paint a picture that regulations, as currently implemented, do impose friction on AI innovation: mainly via cost and speed penalties. Many firms feel rules are not sufficiently streamlined for the pace of tech innovation. These insights can help policymakers identify pain points (e.g. perhaps simplify compliance procedures or provide clearer guidelines to reduce slowdowns and uncertainty). It's worth noting that these percentages are somewhat evenly spread — there isn't one single catastrophic effect, but rather a series of moderate burdens adding up.

On the other hand, a strong majority credit policy with at least one beneficial outcome:

Figure 16: **Percieved Positive Impact of Regulations**



- A large percentage of SMEs (29.1%) believe that regulations and policies have made AI in their country more secure and worthy of trust. This likely refers to data protection laws, AI ethics guidelines, or cybersecurity mandates that improve how AI systems are built and managed. Firms recognize that these rules can increase public and client confidence in AI solutions (e.g. by preventing misuse of data or requiring risk assessments). This goes hand-in-hand with increased consumer trust. For example, a clear data privacy law may make users more willing to adopt an AI-powered service, knowing their rights are protected. Or an AI quality certification could reassure buyers. Businesses notice this trickle-down effect: sound governance leads to greater public trust, which in turn helps adoption of AI

solutions.

- Nearly one-third of respondents (28.1%) also noted that policies have opened or improved access to certain markets. This could mean government-driven initiatives that create new opportunities – for instance, national AI strategies that fund pilot programs, or regulations that standardize AI certification thus enabling local firms to sell into regulated industries. It might also include trade policies or data-sharing agreements that broaden where companies can expand. Nearly three in ten see policy as an enabler for growth and market entry.
- Over one-fifth of respondents (21.9%) think current policies promote fairness in AI and reduce biases. This is a nod to the ethical frameworks being adopted (some countries have published AI ethics principles). Companies appear to appreciate that having these guidelines helps ensure a level playing field and mitigates the social risks of AI, which ultimately is positive for sustainable innovation.

To sum up the policy environment: MENA AI companies are operating under nascent regulatory regimes that cut both ways. They suffer under compliance costs and constraints yet simultaneously benefit from the structure and credibility those regulations lend. Many respondents effectively say, “Yes, the rules complicate things for us, but they are also making the ecosystem healthier.” The challenge ahead is to refine these regulations to maximize the positives (trust, security, market growth) while minimizing the negatives (cost, delay, uncertainty). For instance, streamlining bureaucratic processes or clarifying grey areas could reduce friction, while maintaining strong ethical safeguards.

Regulatory Supportiveness and Regional Coherence: When asked to characterize the overall regulatory environment for AI on a spectrum from very restrictive to very supportive, responses clustered toward the middle. A plurality likely view their environment as “neutral” or “somewhat supportive” — consistent with the mix of pros and cons noted above. Only a small minority would label it “very restrictive” or, conversely, “very supportive” without reservations. This middle-ground perspective reinforces the need for continued regulatory tuning. Additionally, about 31.5% of companies reported facing issues with interoperability of regulations across the MENA region, while 58.6% did not (9.9% were unsure). This indicates that roughly one-third of firms operating across borders encounter difficulties due to inconsistent or conflicting regulations between countries. For example, differing data transfer rules or AI certification standards can complicate regional expansion. It’s a call-out that greater regional harmonization of AI policies (perhaps through forums like the Arab Digital Economy or the Gulf Cooperation Council) could help companies scale across MENA markets more easily.

Desired Government Initiatives: Given these realities, what do companies want from their governments going forward? The survey asked respondents to select the top three government actions that would best support their AI-related business. The priorities that emerged align closely with the challenges identified. In order of popularity, the most requested initiatives were:

1. **Increased investment in AI research & development (25.5%).** Companies are looking for governments to pour more resources into AI R&D, whether through funding grants, creating research centers, or public-private partnerships. This would help generate new innovations and talent that ultimately benefit the private sector.
2. **Improved access to AI education and training (24.4%).** Firms want a larger pool of AI-literate workers and more opportunities to upskill their current workforce. They are signaling that educational initiatives (like university programs, online courses, or vocational training in AI) and scholarships would significantly help their growth. This also ties to inclusivity: broadening AI education ensures a steady talent pipeline and spreads AI capabilities beyond just a small elite.
3. **Clear and supportive AI regulations (22.3%).** This underscores earlier points: companies are seeking regulatory clarity and a supportive policy framework. They desire regulations that enable innovation (for example, sandbox environments, well-defined compliance requirements, and perhaps incentives for ethical AI) rather than ambiguous or overly restrictive rules. Essentially, businesses are asking governments to be partners in innovation – providing guidance and certainty that can help them plan and operate with confidence.

4. **Financial incentives and tax breaks for AI businesses (17.9%).** Given the funding constraints, it's not surprising that many firms would like direct financial relief. Tax incentives, innovation grants, or startup subsidies could alleviate some cost pressures and encourage investment. Companies see a role for government in de-risking AI entrepreneurship through fiscal support, at least in the early stages.

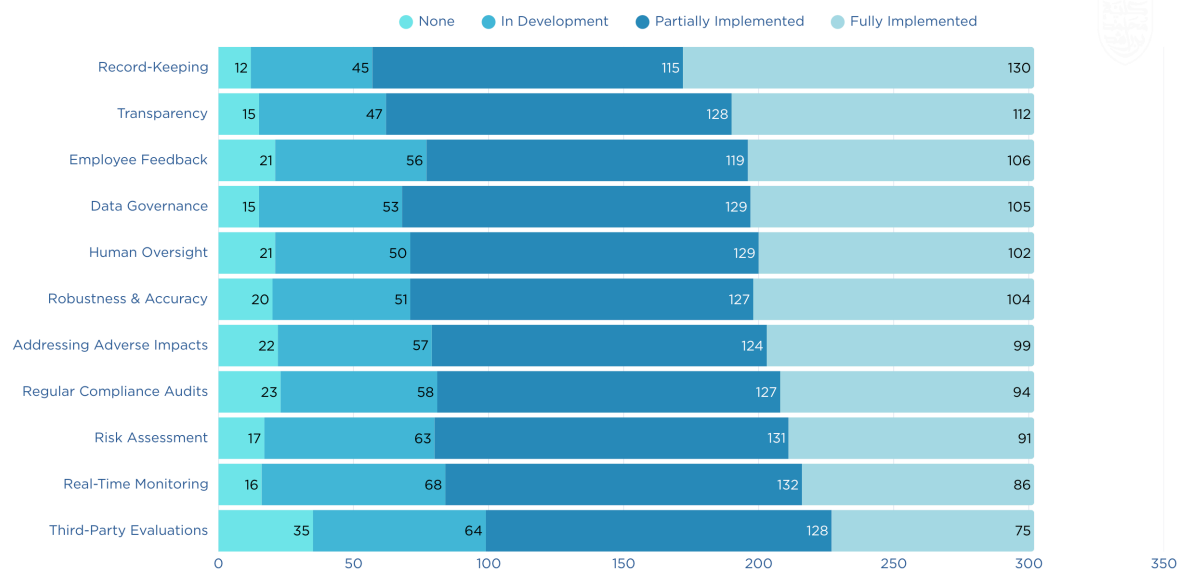
In summary, the private sector is essentially asking for a stronger enabling ecosystem engineered by policy-makers: invest in people and R&D, give us smart regulation, and help ease financial barriers. If governments in MENA respond to these calls, they could significantly accelerate AI development and adoption, bridging the gap between ambition and execution that many firms currently face.

3.6 AI Ethics and Responsible AI Practices

Implementing AI responsibly is a key theme of "inclusive governance." The survey explored how far companies have progressed in adopting AI ethics standards and compliance measures. This included questions on internal practices (like bias mitigation, transparency, oversight) and the degree to which these have been implemented. The findings indicate that while most companies are aware of and have begun instituting ethical AI practices, full implementation of rigorous compliance processes is still in its early days for many. There is a noticeable gap between high-level ethical intentions and the operationalization of those ethics – often due to resource constraints or lack of expertise.

Implementation of Ethics Standards: Companies were asked about a range of specific AI ethics mechanisms – from risk assessments to third-party audits – and whether each is not implemented, in development, partially implemented, or fully implemented in their organization. Figure 3.4 illustrates the distribution for select ethics measures. A clear pattern emerges: for each measure, the majority of firms have at least partially implemented it, but the minority have fully implemented it. In other words, most companies are in the middle of the journey on AI ethics compliance, rather than at the start or the finish.

Figure 17: **Implementation of AI Ethics Standards**



Some of the more fundamental practices show strong uptake:

- **Risk assessment for AI systems**: About 73% of companies have this either partially or fully implemented (with roughly 30% reporting full implementation). Conducting AI risk assessments – identifying potential negative impacts before or during deployment – is becoming standard practice. Only a small number (around 5–6%) have not started on AI risk assessments at all.
- **Data governance:** Similarly, ensuring proper data governance (quality control, lineage, privacy protection in data used for AI) is well advanced. About 35% of firms said they have fully implemented data governance measures for AI, and an additional ~42% have them partially in place. Less than 5% have nothing in development on this front. This high adoption likely correlates with the prevalence of data protection regulations – companies have had to put policies around data usage which feed into AI governance.
- **Transparency and human oversight:** These are also widely practiced in some form. Over 80–90% of respondents have at least partial measures to ensure transparency (e.g., documenting algorithms, explaining AI decisions) and human oversight of AI (human-in-the-loop review or the ability to override AI decisions). For instance, one-third have achieved full transparency standards internally, and about another 42% are partway there. Only ~5% have not considered transparency mechanisms yet. This shows a broad recognition that AI systems should not operate as black boxes in critical applications, and that human accountability must be retained.
- **Robustness & accuracy validation:** Around 34% of companies report fully implemented processes to test and ensure AI model robustness/accuracy, with a further ~42% partially implementing these. This might include validation on different data, stress-testing models against adversarial inputs, etc. The fact that three-quarters of firms are working on this indicates quality assurance is a priority, likely driven by both business needs (no one wants a faulty model in production) and emerging best practices.

However, when we look at more resource-intensive or advanced governance practices, the implementation levels drop:

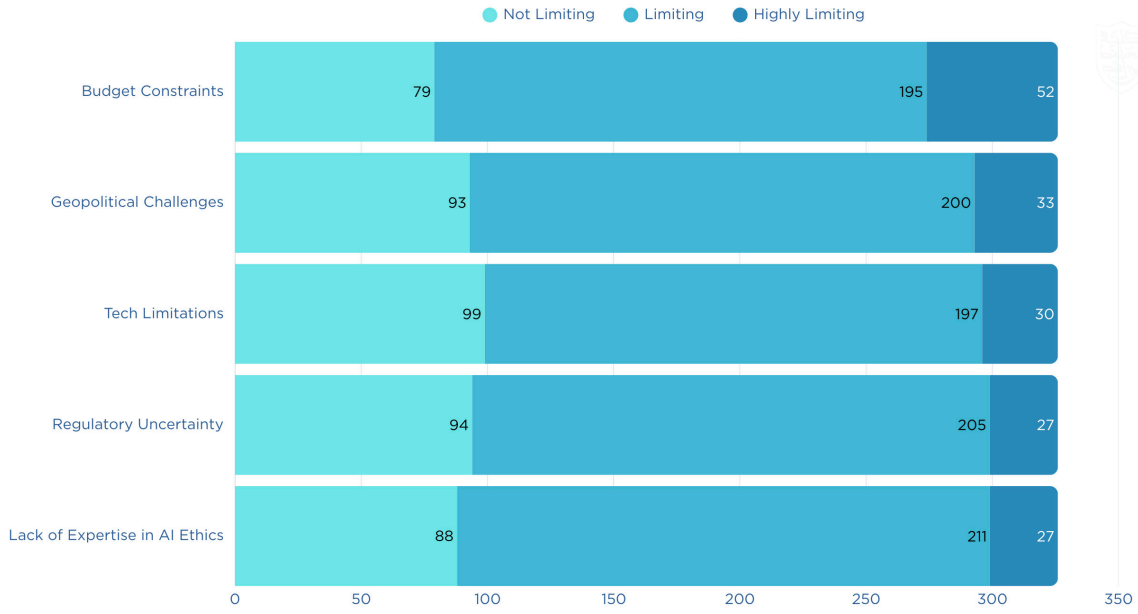
- **Formal record-keeping of AI decisions and data is one area lagging**. A striking 14.9% of companies have no AI record-keeping protocols in place (by far the highest “none” response among the ethics measures), and only ~ 4% have fully implemented this practice (meaning systematically logging AI model decisions, data inputs, revisions, etc.). The majority (roughly 85%) are either still developing such processes or only partially doing so. Maintaining detailed records can be onerous, and many firms – especially startups – may not yet allocate resources to it. Yet, record-keeping is crucial for audits, accountability, and learning from mistakes. The low full implementation suggests it’s an area needing attention; companies might be convinced to improve here if, for example, regulators demand audit trails for AI decisions in the future.
- **Regular compliance audits (internal or external) of AI systems are also not common.** Only about 25–30% of respondents have a fully implemented regime of periodic AI audits. Around 42% partially do, perhaps meaning they audit some projects or do it irregularly. And about 7–8% have nothing at all in development for AI auditing. This indicates that systematic review of AI systems for compliance with ethical standards or regulations is still nascent. Many companies likely handle issues on an ad-hoc basis rather than having formal audit processes.
- **Third-party evaluations (e.g., external audits or certification of AI systems) are among the least adopted measures.** Roughly 24.8% of firms have fully implemented third-party evaluation, and about 42% have partially done so (perhaps using external consultants for some checks). But notable, 11.6% have not even started considering third-party audits – a relatively high figure of non-action. Engaging external auditors or certifiers can be costly, which likely explains why many smaller companies haven’t gone there yet. It may also reflect a lack of established third-party auditing services in the region’s AI sector.

- **Employee feedback mechanisms for AI ethics are moderately implemented**: ~35% fully and ~39% partially have channels for employees to flag ethical concerns or biases in AI systems. This is encouraging, as internal whistleblowing or feedback loops can catch issues early. Still, a quarter of companies have at best something in development or nothing, so there's room to formalize this across the board.

In general, "softer" governance mechanisms — internal policies, working groups, training — seem to be ahead of "hard" oversight mechanisms like audits and certifications. Companies are making sure to be mindful of ethics (hiring ethics officers, creating guidelines, etc., which result in the partial implementations we see), but many have not yet closed the loop with rigorous enforcement and verification. The fact that most report partial implementation across the board suggests that management is aware of these issues and has initiated measures, but follow-through is incomplete (likely due to limits on time, money, or expertise in ethics).

Challenges in Ethics & Compliance: The survey also directly asked about challenges in implementing AI ethics and compliance frameworks. It's worth connecting those challenges to the above implementation status:

Figure 18: **Challenges in Implementing AI Ethics and Compliance**



- **The biggest constraint noted was budgetary**, with 16% of respondents noting budget limitations highly limit their ability to comply with AI ethics, and about 60% said budgets were at least somewhat limiting. This resonates with why practices like third-party audits or comprehensive record-keeping aren't fully in place: they can be expensive or resource-intensive with unclear short-term ROI. Smaller firms in particular might prioritize product development over investing in ethics infrastructure unless required.
- A **lack of expertise in AI ethics** was also cited (8% found it highly limiting, two-thirds found it somewhat limiting). This mirrors the partial implementation finding; companies may intend to do the right thing but not know exactly how to operationalize ethics. There is a shortage of professionals who specialize in AI ethics compliance, so firms are learning as they go or waiting for clearer best practices to emerge.

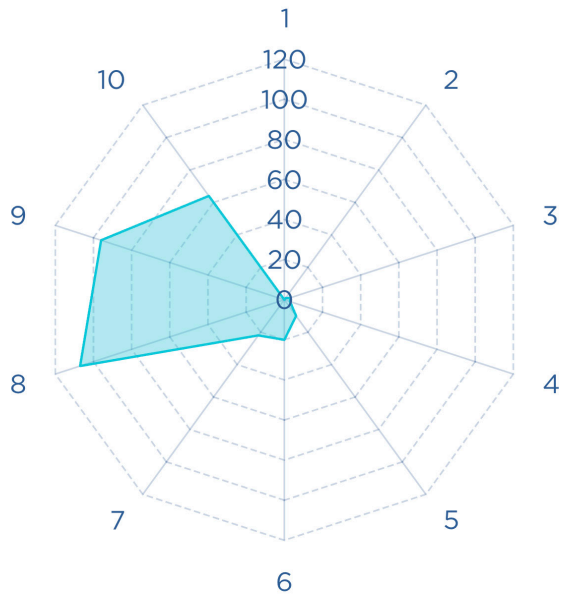
- **Regulatory uncertainty** (what exactly is expected) further complicates compliance efforts for about 63% of companies (8% highly limiting). If companies aren't sure which standards they will be held to, they may take a reactive stance rather than proactively implement measures.

In light of these insights, it becomes evident that to bridge the gap in responsible AI, companies will need support. This could mean government incentives or guidelines for ethical AI (so firms have clearer targets and possibly funding to meet them), industry collaborations to share best practices, and perhaps development of affordable third-party audit services in the region. Companies are trying – most have started the journey – but many have not reached the destination of fully robust, verifiable AI ethics programs.

3.7 Outlook and Competitive Advantage

Despite the challenges detailed above — infrastructure hurdles, funding bottlenecks, regulatory complications, and the work remaining in ethics implementation—– the overall tone among MENA AI practitioners is one of optimism for the future. This optimism, coupled with targeted improvements in governance and ecosystem support, could translate into a significant competitive advantage for the region if harnessed correctly.

Figure 19: **Optimism About the Future of the AI Ecosystem**



Optimism for the Next Five Years: Respondents were asked to rate their optimism about the country's AI ecosystem over the next five years on a scale from 1 (very pessimistic) to 10 (very optimistic). The ratings skewed clearly toward the optimistic end. A majority of participants gave a score in the upper range, and relatively few were pessimistic. More than two-thirds of respondents can be characterized as generally optimistic (scores above the midpoint). This aligns with earlier findings where 69% already saw the ecosystem as good/excellent today, implying they expect things to only get better from here. Contributors to this optimism likely include ongoing government initiatives (many countries have announced multi-year AI strategies and investments that have yet to fully materialize), a young and growing tech-savvy population, and the momentum of current AI successes globally which MENA firms feel poised to tap into. The data essentially signals confidence in potential: MENA's AI ecosystem has the ingredients to thrive

competitively – if stakeholders work to remove the barriers identified.

This chapter's findings highlight a central theme: bridging the AI divide in MENA will depend on how well the region can marry its optimism and talent with effective governance and support systems. Inclusive governance — meaning policies, regulations, and ethical frameworks that involve all stakeholders and protect societal interests — is not seen as antithetical to innovation. In fact, many survey respondents credit current governance measures with improving trust and opening markets. The key will be refining these measures (as the respondents' feedback indicates) so that they include the needs and voices of the AI business community, not just top-down directives. This includes clearer rules, regionally harmonized standards, and government actions closely aligned with industry needs (like those top initiatives: R&D funding, education, smart regulation, and incentives). If governments provide this enabling environment, companies in turn can more easily innovate, attract investment, and scale ethical AI solutions.

The competitive advantage to be gained is significant. MENA firms are already leveraging AI in creative ways (from Arabic NLP applications to AI for oil & gas optimization). With strong fundamentals mostly in place and an enthusiastic workforce, the region stands at the cusp of broader AI-driven economic growth. Survey respondents envision a future where, with a few course corrections – cheaper and more reliable infrastructure, greater funding access, and supportive governance – the MENA AI ecosystem can truly flourish and compete on a global stage. As one might conclude from these insights: the optimism of MENA's AI innovators, combined with targeted improvements in inclusive governance, could transform the region from an aspiring contender into a dynamic leader in the AI domain. The coming years will be crucial in translating today's positive momentum into sustained competitive advantage, ensuring that the AI divide (both within the region and between MENA and the world) is narrowed through collaborative, inclusive efforts.

كليـــة محمـــد بن راشـــد
للإدارة الحكـــومـــيـــة
MOHAMMED BIN RASHID
SCHOOL OF GOVERNMENT

Mohammed Bin Rashid School of Government
Convention Tower, Level 13, P.O. Box 72229, Dubai, UAE
Tel: +971 4 329 3290 - Fax: +971 4 329 3291
www.mbrsg.ae - info@mbrsg.ac.ae

/mbrsg /mbrsg /company/mbrsg
/+mbrsgae /mbrsgae mbrsgae