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Artificial Intelligence in the Arab World: Strategies and achievements

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Abstract:
The study aims to highlight the position of Arab countries in the field of artificial intelligence technologies by examining their rankings and levels of readiness according to international indicators. It also explores the key national strategies adopted by selected Arab countries in the areas of research, development, and innovation within the AI sector. The study concluded that there are significant disparities among Arab countries in terms of their preparedness and contributions to the field of artificial intelligence. While some countries have made substantial progress, others remain in the early stages of formulating future plans. Consequently, countries such as the United Arab Emirates are considered leaders in this sector according to these indicators, whereas others continue to lag behind.

Keywords: *Intelligence; Technologies; Artificial Intelligence; Arab Countries; Strategy; Achievement.*

L'intelligence artificielle dans le monde arabe : stratégies et réalisations

Résumé :
L'étude vise à mettre en évidence la position des pays arabes dans le domaine des technologies d'intelligence artificielle en examinant leur classement et leur niveau de préparation selon les indicateurs internationaux. L'étude examine également les principales stratégies nationales adoptées par certains pays arabes en matière de recherche, de développement et d'innovation dans le secteur de l'IA. Elle conclut à l'existence de disparités importantes entre les pays arabes quant à leur niveau de préparation et de contribution au domaine de l'intelligence artificielle. Si certains pays ont réalisé des progrès substantiels, d'autres n'en sont qu'aux prémices de la formulation de leurs plans d'avenir. Par conséquent, des pays comme les Émirats arabes unis sont considérés comme des leaders dans ce secteur selon ces indicateurs, tandis que d'autres restent à la traîne.

Mots-clés : *Intelligence ; Technologies ; Intelligence artificielle ; Pays arabes ; Stratégie ; Réalisations.*

Introduction

Artificial Intelligence (AI), with its diverse technologies and systems, has brought about a genuine revolution in the realm of modern technology. This is due to the real opportunities it has created across various sectors economic, social, political, healthcare, educational, cultural, and beyond. AI has emerged as one of the most prominent global priorities, as evidenced by international indicators that evaluate and rank countries (both Western and Arab) in terms of their readiness and advancement in this domain.

Given that AI is now considered a key driver of power and competitiveness, particularly for developed nations, several Arab countries—such as the United Arab Emirates, the Kingdom of Saudi Arabia, Egypt, and Algeria—have shown growing interest in this field. They have begun to formulate national strategies and future-oriented plans aimed at securing a competitive position in the global AI landscape.

Research Problem:

Accordingly, this study raises a central research question: In light of the accelerating advancements in artificial intelligence technologies, to what extent have Arab countries been able to keep pace with global developments in the application and integration of AI?

Research Objectives:

This study aims to:

- Clarify the conceptual framework and definition of artificial intelligence.

- Examine the position of selected Arab countries in AI-related technologies as reflected in international reports from 2022 and 2023.
- Identify key national strategies adopted by Arab countries in the field of AI, and analyze the main objectives set within these strategies.
- Highlight the most significant achievements and contributions made by these countries in research and innovation related to AI technologies

Research Methodology:

To assess the status of Arab countries in the field of artificial intelligence, this study employs a case study approach, focusing on selected Arab nations (namely the United Arab Emirates, Saudi Arabia, Egypt, and Algeria). In addition, a descriptive analytical method is used to interpret the findings, relying on selected international indicators from 2022 and 2023, and analyzing the strategies and accomplishments realized by these countries in the AI sector.

Study Axes:

Axis One: The Position of Arab Countries in Artificial Intelligence Technologies.

1- The Concept of Artificial Intelligence and Its Fields of Application.
2- Ranking of Arab Countries in Global Artificial Intelligence Indicators (2022–2023):

Axis Two: Strategies and Achievements of Arab Countries in the Field of Artificial Intelligence Technologies.

1- Overview of Selected Strategies and Goals of Arab Countries in Developing AI Technologies.
2- Contributions of Arab Countries in the Field of Artificial Intelligence.

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1. Technologies

1.1. The Concept of Artificial Intelligence and Its Fields of Application:

1.1.1. Definition of Artificial Intelligence:

Throughout history, technological advancements have played a significant role in promoting economic growth—from the earliest inventions to the most recent innovations. In the contemporary era, digital technologies have become central to this process, with Artificial Intelligence (AI) standing out as one of the most transformative innovations. AI refers to the use of computer systems capable of performing tasks that typically require human intelligence, such as speech recognition, visual perception, and decision-making.[1]

In a more technical sense, AI is a specialized field within computer science that focuses on developing machines and systems capable of carrying out tasks either with minimal human intervention or entirely autonomously. These systems rely on cognitive functions such as reasoning, perception, decision-making, and the ability to store and apply accumulated human knowledge and experience. In this context, AI can even encompass abilities such as imagination, creativity, and understanding of visual inputs.[2]

Another definition views (**AI**) as a collection of computer programs specifically designed to solve complex problems by mimicking human cognitive functions. These applications employ a variety of tools, including analysis, search, and heuristic

[1] -Meenakshi Nadimpalli, Artifical Intelligence Risk and Benefits, International Journal of Innovative Research in Science, Engineering and Technology, Vol06, Issue6, June 2017, p1.

[2] - Fatma Mostafa Rezk, Legal Protection of Creations Produced by Artificial Intelligence Technology. Journal if jurisprudence and Legal, N09, 2024,p53.

processes [1] For instance, machine learning enables AI systems to detect patterns and analyze data, while natural language processing (**NLP**) allows machines to understand and interpret human language.[2]and another definition, Artificial intelligence is an imitation of human cognitive processes with the help of machines. In particular, the unique implementation of AI, including computer systems specialist systems, artificial language processing, voice recognition and artificial intelligence performed by Machine Vision. AI is the way the human brain thinks, learns, defines, and functions as it tries to solve problems.[3]

Based on these definitions, it is evident that artificial intelligence revolves around designing human-made systems and programs capable of performing tasks that usually require human intelligence—such as comprehension, data and image analysis, and interactive behavior with the environment in a manner that closely resembles human reasoning.

1.1.2. Key Fields of AI Application:

Medical Sector: (**AI**) has revolutionized healthcare through its advanced technologies, significantly contributing to various domains within the medical field. In patient care, AI has enhanced decision-making based on data and evidence, enabled accurate cancer diagnoses, and improved treatment forecasting.

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[1] -Singh Arun, The Concept of Artificial Intelligence, Journal of Emerging Technologies and Innovative Research(JETIR), Vol06, Issue03, March 2019,p566.

[2] -Vanessa Georgina Udeh, "L'Impact de L'intelligence Artificielle sur L'Apprentissage et L'Enseignement des Langues dans les Etudes Françaises. Action research journal Indonésie(ARJI), Vol06, N4, 2024, p280.

[3] - Rupen Chatterjee, Fundamental concepts of artificial intelligence and its applications, Journal of Mathematical Problems, Equations and Statistics,1(2),2020, p13.

AI also supports remote care via smart applications and helps analyze patients' medical histories. It has also been instrumental in elderly care, as seen in the development of assistive robots such as the Japanese nursing robot (2015), Panasonic's robotic solutions, and Australia's ZORA robot, which offers recreational services to seniors including reading, physical activity, storytelling, and communication.[1]

- Crime Detection and Prevention: AI has contributed to rapid economic and security advancements, particularly in crime prevention and law enforcement. It has introduced innovative tools and techniques for identifying criminal patterns and behaviors, utilizing technologies such as ground-penetrating radar, facial recognition, and voiceprint identification. Smart policing tools like AI-powered police robots have been adopted in countries such as Saudi Arabia and the United Arab Emirates, as well as global powers like China, the United States, Singapore, and Russia.[2]

- Oil and Gas Exploration: (**AI**) has found extensive applications in the energy sector, especially in oil and gas exploration. Given the high costs associated with this industry, companies are turning to AI for more efficient and intelligent resource utilization. AI offers solutions to key challenges in exploration, production, distribution, refining, and marketing. The global AI market in the oil and gas sector is projected to reach **USD 7.99** billion by **2031**, growing at a compound annual growth rate (**CAGR**) of **13.5**% from **2022** to **2031**. AI can leverage machine learning algorithms and comprehensive geological data analy-

[1] - Maher Abdellatif, Artificial intelligence in Healtheare. Kuwait: Arab Center for Authorship and Translation of Health Sciences, 2024, p p 01-02.

[2] - Gharib Bilal, Terghini Amel, the Duality of Technology and Crime in the Rapid Development of Artificial Intelligence Technologies. Alegria: Edition Jouda, 2025, p p 49-121.

sis to predict potential oil and gas locations. For instance, ExxonMobil has developed AI-driven underwater robots capable of analyzing seabed data at depths of up to **6,000** meters, thereby minimizing environmental damage to marine ecosystems. Additionally, advanced drone technologies equipped with high-precision sensors can capture high-resolution images, which can be processed by sophisticated **AI** algorithms to generate accurate models of underground geological formations.[1]

- **AI in Education**: One of the key advantages of **AIED** is its ability to personalize the learning experience for each student based on their individual needs and interests. By leveraging AI, education can become more accessible for students with disabilities and special needs, ensuring that receive the necessary support and accommodations. Furthermore, AI can contribute to the scalability of educational resources and support, enabling a wider reach and impact.[2]

1.2. Ranking of Arab Countries in Global Artificial Intelligence Indicators (2022–2023):

Artificial Intelligence (AI) and its various systems have attracted significant attention from governments and major institutions around the world due to the transformative achievements it has enabled across a wide range of sectors—including agriculture, industry, tourism, healthcare, services, media, education, culture, transportation, aviation, and even security and defense. As a result, AI has become a key driver of progress and a benchmark for measuring the level of development and innovation across nations.

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[1] - Abd Ellah ben Mohamed, Applications of Artificial Intelligence in Earth Sciences. Riyad: king fahd national Library, 2024, p p 142-143.

[2] -Zebda Abdelbaki, the Promise and Peril of Artificial Intelligence, Journal of Law and Interscience, Vol02, N03, 2023, p143.

In this context, several Arab countries have actively sought to benefit from AI technologies by fostering innovation ecosystems conducive to research and development. These efforts have included investing in AI infrastructure and launching supportive policies and national strategies aimed at achieving regional and global leadership in this critical field—mirroring the strategic direction of leading global powers.

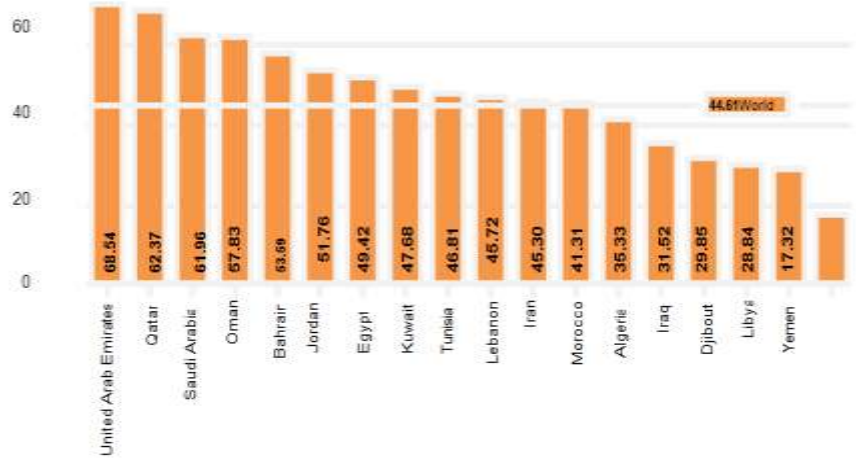
Some Arab countries have achieved notable positions in global AI rankings, as reflected in various international reports and indices. One such source is the "Government AI Readiness Index **2022**" issued by Oxford Insights, which assesses the preparedness of governments to implement AI in public service delivery. The **2022** edition of the report evaluated **182** countries and revealed that the Middle East and North Africa (**MENA**) region ranked second globally in terms of score range.

The report also noted that, by **2020**, only five countries from the MENA region had published national AI strategies, the majority of which were from the Gulf region—namely Qatar, the United Arab Emirates, and Saudi Arabia—who were among the earliest adopters and developers of AI strategies in the region.

As for the specific rankings of Arab countries and select Middle Eastern nations, the report provided a comparative overview based on each government's readiness to deploy AI technologies. These rankings are illustrated in **Figure 1**.

which shows the relative positions of Arab countries and other Middle Eastern states in the 2022 Government AI Readiness Index.[1]

[1] - Oxford Insights, Government AI Readiness Index 2022, 2022, p30.



This figure illustrates the notable rise of certain Gulf countries such as the United Arab Emirates, Qatar, and Saudi Arabia as well as some Middle Eastern nations like Jordan, in this index compared to some North African countries such as Algeria, Tunisia, and Libya. This advancement is attributed to the Gulf countries' adoption of clear national strategies, as evidenced by the substantial financial support they allocate to the artificial intelligence sector. In contrast, the other countries continue to suffer from a lack of specialized centers in the field of modern technology.

In another context, the report issued by the United Nations in September **2024** on AI Governance for Humanity highlighted the ranking of the top **60** countries in the field of artificial intelligence, based on the **2023** Tortoise Index. According to the report, several Arab countries—such as the United Arab Emirates and the Kingdom of Saudi Arabia—ranked among the top positions. The following table illustrates this:

Table 1: Ranking of Selected Arab Countries in the Field of Artificial Intelligence in 2023.

Country	Rank
United Arab Emirates	**27**
Saudi Arabia	**30**
Egypt	**50**
Tunisia	**54**
Morocco	**55**
Bahrain	**56**

Source: Adapted by the researchers based on the final report AI Governance for Humanity, published by the United Nations, September 2024**.**

These indicators suggest that some countries—particularly the Gulf states such as the United Arab Emirates, Saudi Arabia, and Qatar—have made significant and advanced strides in the field of modern technological development, particularly in artificial intelligence (AI). Meanwhile, other countries, such as those in the Maghreb region, are still attempting to catch up with this technological revolution.

2. Strategies and Achievements of Arab Countries in the Field of Artificial Intelligence Technologies.

2.1. Overview of Selected Strategies and Goals of Arab Countries in Developing AI Technologies.

Artificial intelligence has rapidly advanced within the realm of technology, transforming various human activities and sectors due to the wide range of opportunities it presents. This development has permeated numerous fields, prompting many countries—including Arab states—to invest in AI technologies to harness their advantages and services. This strategic orientation has become increasingly evident in recent years, as several Arab countries have launched national strategies accompanied

by clearly defined objectives to keep pace with these developments. However, the level of preparedness to adopt these strategies varies from one country to another. For example:

United Arab Emirates: The United Arab Emirates (**UAE**) is placing enormous bets on artificial intelligence (**AI**) to diversify its economy and become the world's next technological hub.[1]

In **2017**, the United Arab Emirates (**UAE**) released a national strategy for artificial intelligence (**AI**) that declared its goal of becoming 'the world leader in AI by 2031'. Since then, the government has invested billions of dollars and transformed the country into a centre for technological innovation and foreign investment, the latter notably coming from China and the United States.[2]

The **UAE** is considered one of the world's leading nations in the research and development of modern technological innovations, particularly in the field of artificial intelligence. In recent years, the country has gained a prominent position both globally and in the Arab world, as reflected in numerous international reports. AI has become one of the key pillars in the UAE's national plans and strategies. To sustain and build upon this qualitative leap, the UAE has formulated its strategic vision for AI, aiming to become a global leader in this field by the year **2031**. This vision aligns with the UAE Centennial **2071**, which aspires to make the UAE the best country in the world by **2071**.

The UAE's AI strategy is significantly contributing to the advancement of education, the economy, and government de-

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[1] -Gregory Allen, Georgia Adamson, Lennart Heim, The United Arab Emirates AI Ambitions key Implications for Maintaining U.S.AI L leadership, Report of the CSIS Wadhwani AI Center for strategic international studies, , JANUARY2025,P01.

[2] - IISS, The UAE's technology ambitions October 2024,Vol30,p06., https://www.iiss.org/publications/strategic-comments/2024/10/the-uaes-technology-ambitions/

velopment through various AI applications. To realize its AI strategy, the UAE has outlined eight strategic objectives:

- Build a strong reputation as a leading global destination for AI.
- Enhance the UAE's competitiveness in priority sectors by deploying AI.
- Develop a fertile and integrated AI ecosystem.
- Integrate AI into customer services to improve the lives of individuals and governments.
- Attract and train talents for the future jobs enabled by AI.
- Provide world-leading research capabilities to collaborate with targeted sectors.
- Ensure the availability of data and supporting infrastructure to make the UAE a global AI testbed.
- Guarantee effective AI governance and regulation.[1]

- Saudi Arabia: The Kingdom of Saudi Arabia has recently launched a national artificial intelligence strategy aimed at making the country a global leader in the field of AI. The new strategy was unveiled during the opening day of the Global AI Summit, with the goal of achieving numerous national milestones by the year **2030**. Among the key objectives are positioning Saudi Arabia among the top 15 countries in artificial intelligence, reaching the top **10** in open data, and ranking among the top **20** countries in terms of contributions to scientific publications. Additionally, the strategy aims to develop human capital by establishing a sustainable talent pool of more than **20,000** specialists and experts in data and artificial intelligence.

This will be pursued through a series of plans and stages covering various domains, including: skills development, poli-

[1] - UAE National Strategy for Artificial Intelligence2031, 2018.

cy and regulation, investment, research and innovation, and ecosystem development. The strategy seeks to fulfill several key dimensions (objectives), including.[1]

- Policies and Regulations: Creating the most supportive regulatory and legislative environment to attract AI companies and specialized talent—aiming to be among the top 10 countries globally in open data.
- Investment: Attracting effective and stable funding for investment opportunities in the AI sector, with a target of securing investments worth **75** billion SAR.
- Research and Innovation: Empowering institutions specialized in data and AI to lead innovation and contribute significantly to global knowledge—seeking to place the Kingdom among the top 20 countries in terms of published scientific contributions.
- Ecosystem Development: Promoting the adoption of data and AI technologies through a highly collaborative and forward-looking ecosystem—encouraging entrepreneurship and the establishment of over 300 startups in the fields of AI and data.
- The focus of this strategy will continue through to the year **2030**, as outlined in the following table:

Table 2: Strategic Directions of Saudi Arabia's AI Vision Towards 2030.

A Competitive and Pioneering Sector 2030	**Specialized Capacity Building 2025**	**Supporting National Priorities 2021**

[1] - Artificial Intelligence within Saudi Arabia's Vision 2030. Saudi: research and information center2021, 2021.

Meeting urgent needs to enable the Kingdom's transformation according to Vision 2030 priorities	Building a highly competitive foundation by specializing in specific fields	A leading economy based on: - Data - Artificial Intelligence

Source: Adapted by the researchers based on Artificial Intelligence – Vision 2030, Kingdom of Saudi Arabia, previously cited reference, pp. 09–10.

- Algeria: Artificial intelligence in Algeria is witnessing notable growth, as both the government and private institutions have begun investing in this sector by establishing research centers and educational initiatives to enhance AI capabilities. Algeria is seeking to apply AI technologies across various sectors such as healthcare, agriculture, and industry to promote economic and social development. The country has also devoted considerable attention in recent years to digitization and data modernization—factors that are expected to support the advancement of AI systems**.**

In **2018**, Algeria made the decision to develop a National Artificial Intelligence Strategy **2020–2030**, which includes a number of key initiatives, such as[1]:

- Establishment of the AI Center (Skailab): Located in the Skikda province and launched in February **2020**, it is considered the first national artificial intelligence center in Algeria.

[1] -Degaa Ahmed, Henniche, The Use Of Modern Artificial Intelligence Technologies In Arab Countries (A Case Study of Algeria), Journal of Economic and Financial Studies, VOL17,N01, 2024, p p 242-243.

- Creation of the National Higher School for Artificial Intelligence (ENSIA): Founded in **2021**, this institution focuses on training engineers specialized in AI and data science.
- Establishment of the Higher School of Mathematics (**ENSM**): Officially opened on October **12**, **2021**, this school aims to train high-level engineers in mathematics and provide support to major companies in Algeria. It also aspires to contribute to graduate (PhD-level) education and to lead scientific research in the country.
- **Jordan**: Jordan's Artificial Intelligence Strategy and Executive Plan (**2023–2027**) serves as an extension of previous strategies and policies that govern digital transformation and digital technologies initiated by the government. This strategy aims to accelerate socio-economic development for citizens in various sectors—including healthcare, education, social protection, employment, and well-being—by fostering an enabling environment for the development of AI systems at the national level. The strategy also seeks to position Jordan among the leading countries in this field. The executive plan includes 68 projects across various sectors over a five-year period (**2023–2027**). It is divided into two main components[1]

▪ **Part One**: Focuses on building the foundational ecosystem to support AI in Jordan.
▪ **Part Two**: Comprises applied projects aimed at integrating AI into key economic sectors.

[1] - The M ministry of digital economy and entrepreneurship, Jordanian Artificial Intelligence Strategy and Implementation Plan 2023/2027.

The executive plan covers approximately 12 sectors, including: digital government services, education, water, energy, smart cities, labor, finance, healthcare, agriculture, telecommunications, transportation, and cyber security.

The Jordanian AI strategy outlines five core objectives, aligned with the Jordan AI Policy of 2020:

- Capacity building and skills development in the field of artificial intelligence.
- Promoting scientific research and development in AI.
- -Strengthening the investment and entrepreneurship environment in the AI sector.
- Ensuring a regulatory and legislative framework that supports the safe adoption of AI.
- Applying AI tools to improve the efficiency of priority sectors, including the public sector.
- **Egypt**: Leading countries around the world are racing to enhance their growth in the field of artificial intelligence, viewing it as a critical pillar of national competitiveness in the coming era. This global race necessitates coordinated national efforts led by governments in collaboration with local and international entities to ensure the safe and ethical adoption of AI technologies, thereby achieving the desired goals. Egypt has joined this group of pioneering nations by launching its first National Artificial Intelligence Strategy in 2020, which introduced several initiatives aimed at increasing awareness of AI.
- The vision of Egypt's national strategy for artificial intelligence emphasizes:[1]

[1] - The national artificial intelligence concile, the second edition of the national artificial intelligence strategy2025-2030, Egybt,p p 07-26.

- Inclusive artificial intelligence to support the construction of a digital Egypt and to promote social and economic development that benefits all Egyptians.
- Enhancing Egypt's position in artificial intelligence at the African and Arab regional levels by developing a national foundational model to stimulate industry growth and strengthen regional and international cooperation.
- The Egyptian strategy encompasses several key pillars, including: governance, technology, data, ICT and AI infrastructure, ecosystem development, and skills building.

2.2. Contributions of Arab Countries in the Field of Artificial Intelligence

Given the significance of artificial intelligence across numerous social, economic, and industrial sectors, many Arab countries have begun adopting national plans aimed at integrating AI technologies within various domains, guided by well-defined strategies. These efforts have resulted in notable achievements and contributions. For instance:

- -**The United Arab Emirates (UAE)** is considered one of the leading countries in embracing AI technologies. Over several years, it has pursued a number of strategic objectives by integrating AI into various sectors, especially public services and healthcare. According to numerous reports, the UAE has made several contributions in this field, including.[1]
- -The formation of the "AI and Robotics Council", in collaboration with the World Economic Forum. This council

[1] - Majed Ahmed , Nada El hachmi, Artificial Intelligence in the United Arab Emirates United Arab Emirates. Ministry of economy first spring initiatives, 2018, p16.

aims to provide expert advice on the best ways to employ robotics and AI technologies.

- -The launch of the "UAE AI & Robotics Award for Good", valued at one million USD, which seeks to encourage research and address challenges in three areas: healthcare, education, and social services.
- -The launch of the "AI Protocol" by the UAE government, in partnership with the World Economic Forum in Davos. This protocol is intended to guide legislation ensuring that AI brings about global benefit.
- Similarly, Saudi Arabia has made significant contributions in pursuit of its national AI strategy goals. Key achievements in recent years include:[1]
- The establishment of the Saudi Data and Artificial Intelligence Authority (SDAIA) in 2019.
- The founding of the Saudi Company for Artificial Intelligence (SCAI) in 2020, aimed at attracting effective and stable investments in the data and AI sectors.
- The creation of the "Istishraf" Platform in 2018, which seeks to develop a comprehensive vision around economic, strategic, and social variables.
- Establishing more than four strategic partnerships with leading international and local organizations. Notable examples include the SDAIA Academy partnership with NVIDIA, as well as cooperation between SCAI and the Saudi Company for Comprehensive Technical and Security Control (TAHAKOM). Additionally, Saudi Arabia has launched several small and medium-scale AI models

[1] -Ayed Ali Qahtani, The role of artificial intelligence in achieving sustainable development In light of the vision of the Kingdom of Saudi Arabia 2030 ;Egyptian periodicals journal,N09, 2022, p p 119-120.

to support Arabic language localization and sector-specific applications, such as ARAMUS and NOON.[1]

In Egypt, national efforts in the AI field are focused on constructing a digital model to manage various aspects of daily life, aiming to enhance government performance while also meeting the requirements for comprehensive development. These efforts aim to improve Egyptians' quality of life. According to data from the Information and Decision Support Center (IDSC) of the Egyptian Cabinet, artificial intelligence is expected to contribute approximately 7% to the national GDP by 2030. Since 2019, the Ministry of Communications and Information Technology has been developing a vision to build a national AI industry. This included the establishment of the National Council for Artificial Intelligence, tasked with drafting the regulatory framework for the sector. Additionally, Egypt has worked to establish several new smart cities where AI technologies are utilized across various social and economic activities.[2]

As for **Jordan**, several AI-related projects have been initiated, such as the JAIES project, which spans approximately three years (2022–2026). This project aims to cultivate a supportive environment that enables effective assistance in the AI domain and fosters partnerships between the public, private, and academic sectors. One of the key outputs of this project was the implementation of four AI use-case models within the priority economic sectors outlined in Jordan's AI strategy.[3]

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[1] - Report the traditional artificial intelligence landscape in the kingdom of Saudi Arabia,oliverwyman, sdaia, 20/11/2024, p p 10-11.

[2] -Hasen Abu taleb, Artificial Intelligence and Developing Countries: Opportunities and Challenges. The Egyptian file, N105, 2023, p p 25-26.

[3] - entrepreneurship, Récupéré sur jordanian AI policy:2020, https://modee.gov.jo/ar/pages/AICustompage#categorys3

These collective efforts and strategies reflect the ambitious visions of Arab countries to integrate and apply artificial intelligence across diverse sectors. However, these visions continue to face multiple challenges—human, technical-technological, and legislative. Additional constraints include weak digital infrastructure and limited societal and cultural awareness regarding AI technologies. Overcoming these obstacles will require sustained effort to expand AI adoption and ensure its benefits reach broader sectors of society.

Conclusion:

Based on the analysis presented in this study, several key conclusions have been reached:

- Artificial intelligence has become a fundamental tool in the hands of many nations and is now considered a benchmark for measuring a country's level of development and progress.
- According to the reports and indicators examined, there is a noticeable disparity in the readiness levels of Arab countries regarding artificial intelligence capabilities.
- International reports indicate the emergence of some Arab countries—particularly Gulf nations—among global indicators. These countries have become leaders in modern technology (AI), thanks to their strong infrastructure, financial resources, and well-developed national plans and programs.
- Artificial intelligence and its various systems have attracted considerable attention from Arab countries, many of which have developed forward-looking national strategies to leverage the benefits of this sector across

diverse fields. Notably, the United Arab Emirates, Saudi Arabia, and Qatar were among the first to present comprehensive national plans. These strategies often aim to place these countries among the global leaders in AI. For example, the UAE has outlined goals extending to the year 2071, while others like Saudi Arabia, Egypt, and Algeria have strategies reaching to 2030.

- Despite the Arab world's considerable material and human resources, the level of advancement in AI technologies varies greatly among countries. Gulf States, for instance, are among the most developed in terms of investment volume, digital readiness, and infrastructure, whereas Maghreb countries (such as Algeria) lag behind. This discrepancy can be attributed to multiple factors including weak infrastructure, limited international partnerships, low cultural awareness of AI's importance, prioritization of other sectors like agriculture and transport, and political instability in some countries.
- Arab countries have shown increasing interest in modern technologies powered by artificial intelligence, investing billions of dollars in recent years. Some of these nations have achieved significant milestones by integrating AI into various sectors such as medicine, tourism, industry, security, and education.

Recommendations:

In light of the study's findings, the following recommendations are proposed:

- -Arab countries, particularly those in North Africa, should encourage private sector investment in AI technologies by offering incentives to companies willing to enter this field.

- Some Arab nations, such as Algeria, still require substantial support in strengthening technical and infrastructural readiness to ensure effective AI implementation aligned with their future strategic visions.
- Innovation and research in the field of artificial intelligence should be enhanced by establishing specialized centers for big data processing, which is essential for AI systems. Furthermore, investments should be made in human capital, and partnerships with foreign countries should be fostered to benefit from their technical and professional expertise.
- Focus should be placed on priority smart applications, particularly in sectors such as finance, energy, healthcare, and agriculture, especially in countries facing infrastructural deficiencies.
- Arab countries with lower AI readiness levels should integrate their AI strategies within clearly defined national development plans.
- The idea of Arab–Arab cooperation should be promoted and activated to benefit from the experiences of leading Arab nations in this field, such as Saudi Arabia, the United Arab Emirates, and Qatar.

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