Journal of Posthumanism
2025
Volume: 5, No: 6, pp. 2563–2588
ISSN: 2634-3576 (Print) | ISSN 2634-3584 (Online)
posthumanism.co.uk

DOI: https://doi.org/10.63332/joph.v5i6.2378

Artificial Intelligence Applications in Economics: Opportunities and Challenges

Magda Mohammed Zakaria Mohammed[1]

Abstract

Artificial intelligence represents the most important output of the Fourth Industrial Revolution due to the importance of its uses in many economic, social, technical and educational fields and the automation of various economic sectors in line with digital transformation. This research aims to shed light on artificial intelligence and know its applications, impact and repercussions on the economy in various fields, as artificial intelligence has become included in many areas of life, and therefore most of the work will be through the smart device in the near future. The research problem was how to understand artificial intelligence as a modern technology that simulates human intelligence and how to face challenges and seize opportunities in the economic field to benefit in order to reduce risks in this field. The importance of this research is evident in the fact that artificial intelligence brought with it huge opportunities to promote economic growth and overcome traditional challenges. From a scientific point of view, despite the existence of studies that dealt with artificial intelligence, there is still a need for more studies in this field, especially in light of the competition between countries in allocating more resources and investments, this research is expected to be an addition in this field. As for the practical side: This research and its results are expected to be beneficial to economic decision-makers. The research uses the descriptive analytical approach, and relied on the questionnaire as the main tool to collect data from the research sample, the research community consists of workers in different economic sectors, the most important findings of the research are that artificial intelligence It contributes significantly to improving production efficiency in various economic sectors and that there is a strong positive relationship between policies supporting artificial intelligence and business efficiency, and that the risks associated with data shortages and digital disparity negatively affect business efficiency, the most important recommendations in this research are that increasing investment in artificial intelligence to improve operational performance in institutions, and that organizations must Develop strategies to reduce job losses, enhance transparency in algorithms to avoid bias and improve confidence in AI applications.

Keywords: *Artificial Intelligence, Digital Transformation, Automation, Fourth Industrial Revolution, Opportunities, Challenges.*

Introduction

The world is witnessing a huge transformation driven by artificial intelligence, which has become an urgent and indispensable necessity in business organizations, and this has covered many areas, including the economy, and as expectations indicate, artificial intelligence will be a tool for the economy in the near future.

"Artificial intelligence applications are considered one of the most prominent modern applications of information systems, concerned with studying and understanding the nature of human intelligence and simulating it to create a new generation of smart computers, which can be programmed to accomplish many tasks that need a high ability of deduction, deduction and perception.

[1] Assistant Professor Al-Imam Muhammad Ibn Saud Islamic University Applied College Huraimla Branch, Kingdom of Saudi Arabiam, Email: magdazakaria135@gmail.com, ORCID: https://orcid.org/0009-0007-9597-7541.

AI interacts with economics innovatively that influences economic decisions and improves public understanding of economic dynamics. One of the most important areas of interaction between artificial intelligence and economics is forecasting and analysis, so smart models can leverage big economic data and analyze it at breakneck speed, to predict market trends.

The problem of the study: Artificial intelligence has become an integral part in many areas of life, so most of the work will be through artificial intelligence, because it is concerned with simulating human intelligence. Thus, the problem of the study lies in the definition of artificial intelligence applications in the field of economics and the policies that organizations must take to take advantage of artificial intelligence opportunities and reduce risks in the field of economics and know The main challenges facing the applications of artificial intelligence in the economic field, and the role of artificial intelligence applications in the field of economics to change the way companies work and restructure them.

Objectives of the study: It is to know the impact of artificial intelligence on the economy, and to identify the efforts and development of countries in the field of artificial intelligence, as well as clarify the role of artificial intelligence in relation to the growth of the GDP of countries, and enrich the scientific arena with everything that is new in science and knowledge.

The importance of research: stems from the fact that artificial intelligence technology has become a tangible reality in all countries, as artificial intelligence represents a qualitative leap in the world of technology, and has proven its ability to transform many sectors, including the economy sector.

Study hypotheses: The study assumes that AI applications significantly enhance organizational performance and productivity and provide a competitive advantage in a rapidly evolving global market. Investing in research and development in AI technologies can drive innovation and boost economic growth. The challenges faced by AI professionals require innovative solutions. Organizational structures of companies will need to adapt and restructure in response to the integration of AI.

Study Methodology: It is the descriptive and analytical approach where the legal texts related to the economic use of artificial intelligence technology were analyzed and the social effects resulting from the uses of artificial intelligence were determined.

2- Previous studies

1- **The study of Rajiv Suman et al**., Understanding the potential applications of artificial intelligence in the agricultural sector, advanced agricultural chemistry, (2023), where the study dealt with the applications of artificial intelligence in the agricultural sector, the problem of the study was since the agricultural sector is moving towards artificial intelligence technology. It makes it difficult for farmers to choose the optimal time to plant seeds The hypothesis of the study was that artificial intelligence will help farmers choose the optimal time for planting as it provides data on the weather forecast, and thus the results showed that farmers came up with advanced tools, data and analysis that will promote better agriculture, improve efficiency, and reduce waste in the production of biofuels and food while minimizing negative environmental impacts.. The study recommended that companies develop several technologies to facilitate monitoring the health of farmers' crops and soil and use artificial intelligence applications to optimize their production.

2- Study Walid Shehata et al., (2025): The impact of artificial intelligence applications on

entrepreneurship strategies by applying to small and medium enterprises in the industrial sector, the problem of the study lies in the fact that the great development in the field of artificial intelligence will lose human resources jobs and restrict their creativity. The study concluded that there is a statistically significant significant impact of AI applications on entrepreneurship strategy. The study has recommended that a multifaceted approach is necessary to promote Artificial intelligence in small and medium enterprises.

3- Bin Nasser Saeed (2024): Artificial Intelligence and the Digital Economy Opportunities and Challenges, the study concluded that artificial intelligence and the digital economy greatly affect each other, artificial intelligence enhances the digital economy, and the digital economy supports artificial intelligence with data and infrastructure, so small businesses and individuals must realize the potential cost of artificial intelligence before Decideon its adoption. There are a number of opportunities and challenges to consider when integrating AI into the digital economy, such as improving production efficiency, introducing new products, and improving government policies.

4**- Keegan Fonte (2025) –** The Intersection of Artificial Intelligence and Emerging Markets – Opportunities and Challenges, The AI and Machine Learning Revolution is already underway globally. This is problematic if economic sectors do not keep pace with this revolution, so emerging markets must adapt to avoid being left behind by more mature economies, which could widen the wealth and skills gap. The researcher assumes that by integrating artificial intelligence into the economy, it will provide many opportunities for emerging markets and accelerate economic and social progress, and the study concluded that there are challenges represented in the weakness of the infrastructure of some countries, the most important recommendations of the study are to rebuild infrastructure, especially in the field of communications.

What distinguishes this study from previous studies : The researcher believes that there is a remarkable development in this study because it is a comprehensive study, as it included all economic sectors, and that previous studies, each of which dealt with one sector, as well as the study methodology is a descriptive analytical approach, combining a quantitative and qualitative description of the studied phenomenon in order to analyze the impact of artificial intelligence applications on the economy, with a focus on the opportunities and challenges associated with it.

Theoretical Framework

The interaction between artificial intelligence and economics:

Nature, importance, objectives, characteristics, functions and tasks of AI

Definition of Artificial Intelligence:

There are many definitions about artificial intelligence, this definition was chosen for their comprehensiveness, as the author defined artificial intelligence as "human intelligence displayed by machines, and this means that artificial intelligence tools are developed to imitate intelligent human actions such as perception and speech recognition" Horodyski 2023, P 3)

Definition of AI in the Economic Literature:

Through research and knowledge, the researcher believes that artificial intelligence has an impact on production, employment and investment, as it is a complementary factor to production, as is the case in developed countries, and it is seen as a "substitutional" production

factor that replaces humans, as is the case in most developing countries.

Super AI is similar to human intelligence in terms of the ability to learn and accumulate knowledge, which has led to technological expansion within markets where the exit of products has become less time-consuming (Harvard University, 2022).

Some economists also see AI as just "automation", "robots" or "machines"(Dr. Amani, 2024).

Artificial intelligence can be defined as "the ability of a machine to mimic intelligent human behavior" or "the ability of a worker to achieve goals in a wide range of complex environments, which require tired mental focus and constant mental presence."

Artificial intelligence is one of the pillars of the digital economy, which provides new job opportunities that require high skill in modern technologies and will help increase productivity (Nawzad et al. 2023)

The importance of artificial intelligence: (Dr. Amani Ahmed Mukhtar 2024)

- Artificial intelligence contributes to maintaining the accumulated human experience by transferring it to smart machines.
- Because of artificial intelligence, humans are able to use human language in dealing with machines instead of computer programming languages, which makes machines and their use accessible to all segments of society, even with special needs, after dealing with advanced machines was the monopoly of those with expertise and specialists in the field of technology and programming.
- Smart machines relieve humans of many risks and psychological pressures, and make them focus on more important and more humane things, and this is by employing machines to do hard and dangerous work, and these machines will also have an effective role in the fields that include many details characterized by (Dr. Zamoki Salem and others, 2020).
- Artificial intelligence benefits humans in many aspects and fields, through the computer simulates the intelligence processes that take place within the human mind, so that the computer has the ability to solve complex problems and make quick decisions, in a logical manner and with the thinking of the human mind itself.

AI Objectives and Characteristics

AI goals (Russell et al, 2021)

Artificial intelligence science generally aims to understand the nature of human intelligence through computer programs capable of simulating intelligent human behavior.

There are three main objectives of AI:

- Developing software and machines capable of executing and accomplishing tasks with high responsiveness and capability equivalent to human intelligence.
- Producing machines capable of copying or mimicking human capabilities using high-resolution software.
- Produce systems capable of renewing things within that data and contributing to decision-making and solving complex problems.

Characteristics of Artificial Intelligence:

Artificial intelligence has many characteristics and advantages, although it is before 2020, but it is considered the main pillar on which recent studies have been based, including

Artificial intelligence has many characteristics and advantages, including

- Has the ability to learn (Hana, 2021, p. 574)
- Use of non-digital coding (Hana, 2021, p. 576)
- Thinking and Cognition (Yasmine and Amrouche, 2022, 1157)
- Artificial Neural Network Technology (Hana, 2021, p. 575)
- Provide information for the attribution of administrative decisions. (Lahmar, 2021, p. 99)

Functions, tasks and integration of AI into economic models:

AI Functions and Tasks

Artificial intelligence can be divided into two types of functions or tasks:

(1) Type I: Smart Life Functions: Abdul-Jabbar Hussein Al-Dhafari, 2021-2022)

It means all those tasks that we can do periodically to act and interact in the world, and that includes

- Vision with the ability to understand what we see
- Natural language: The ability to communicate with others in the natural language Arabic, English or other.
- Planning: The ability to plan a series of actions to achieve the desired goals.
- Movement: The ability to move and act with life to carry out life requirements.

Depending on the result of the match, a decision is made, belonging to one of the possible items.

Type II: Expert Jobs and Tasks: (Abdul-Jabbar Hussein Al-Dhafari, 2021-2022)

That is, artificial intelligence is concerned with tasks that some people perform well and that require comprehensive training and can be especially useful to complete these tasks so that there can be a shortage of experts as an example of expert thinking, and examples of expert systems: financial planning.

Integrating AI into Economic Models: Abdulsalam Mohamed Raed, 2021)

The integration process is based on a combination of different production fluctuations, which are regulated by other typical parameters so the impact of AI will have intergenerational effects. Therefore, AI is being designed at a more holistic level where there is no distinction between labor and human capital or low- and high-skilled workers, so AI will replace labor in general, in the context of targeted technical change.

Highly skilled workers will also be used as AI technology researchers. Some economists have also presented a task-based model that reflects the possibility of replacing labor with artificial intelligence and with increased productivity, the model allows the creation of new tasks within

the framework of directed technical exchange, in microeconomics there is no model but the relevant recent studies are adopted. The development of artificial intelligence poses a challenge to the role of humans in the economic system.

Also, by increasing efficiency, enabling new product development, and changing labor demand, AI has the potential to change the economy (CBO, AI, 2024).

Applications of Artificial Intelligence in the Field of Economics

Applications of Artificial Intelligence in Different Economic Sectors:

With the spread of the Internet and the emergence of the Fourth Industrial Revolution) characterized by speed, breadth and impact on systems (Asia Buddy, 2022, p. 574), artificial intelligence has become a great opportunity for many economic sectors in various ways such as industry, automation and production efficiency, in the financial sector it analyzes data and forecasts, improves productivity and provides more accurate and effective services (Damioli, et al. 2024)

The use of artificial intelligence techniques in the finance sector (Haider Abdul Razzaq 2024)

Artificial intelligence is used to analyze big data quickly and accurately, which helps banks and financial institutions in making more effective decisions, from its applications to financial analytics, automated trading, risk management. AI can identify patterns in the market that are beyond human capabilities, enabling investors to make higher profits.

Here are the most common forms of artificial intelligence in the banking industry.

Chatbots: Digital Personal Assistant

The chatbot is an AI-powered tool that aids bank customers through voice and text and allows banks to communicate with their customers faster through quick responses. Chatbots help customers reach the nearest bank branch, ATM, or payment procedures and check account balances.

Robotic Process Automation: Robotic Process Automation

Tasks such as identity verification, order processing, and customer account management using RPA can be performed in the banking sector.

Robotic Process Automation (RPA) is also excellent for automating loan processing, capable of handling data entry and document verification for credit assessments, supporting faster decision-making with higher accuracy. In the case of mortgage quality checks, for KeyBank (RPA) as the use of software or robot programmed to handle

With programmed and labor-intensive tasks. It can allow banks to replace human labor in repeat labor performance as they focus on more complex processes that require human interaction and .decision-making

Artificial Neutral Network

Artificial neural networks have been applied by banks in a variety of ways, for example in the event of a credit default using traditional customer data and foreseeing a mortgage default.

Internet of Things (IOT)

IoT is a network of multiple devices connected via the Internet of Things that interact and share

resources by sending and receiving data. Banks can use IoT to analyze ATM usage installed in specific areas and enhance security, fraud prevention, and risk management. (Cem Dilmegani 2025)

Artificial Applications in the Agricultural, Industrial, and Commercial Sectors:

Use of AI Techniques in the Agriculture Sector (Rajiv Suman et al., 2023)

- Agricultural drones: These drones are able to monitor the growth and production of crops, while identifying damaged weeds and plants. In addition, they can be deployed to analyze the nature of the terrain using cameras and other sensors for precision agriculture.
- Self-driving tractors: they can reduce the workload of farm employees
- Vertical farming: Vertical farming is the term used to describe the growth of crops in a controlled environment, usually without soil or natural light. According to a number of experts, this type of agriculture will help alleviate food shortages around the world, artificial intelligence can be used to help analyze and track them.
- Agricultural robots:

Companies are developing and programming autonomous robots to handle basic agricultural tasks such as harvesting crops in larger quantities and at a faster pace than human workers. and monitor crops and soil Companies are also leveraging computers and deep learning algorithms to process data captured by drones or software-based technology to monitor crop and soil health.

Use of AI Techniques in the Trade Sector Ferencz et al., 2022. P:12)

- **Improving productive capacities:** AI has the potential to boost trade through increases in the productivity of those dependent on it. This has significant benefits for trade through exports.
- **Reducing trade costs:** This can arise in part by increasing logistical efficiency
- **Improve warehouse management:** There are many benefits associated with the use of AI in warehouse operations.
- **Trade negotiations:** AI also has the potential to be used to improve the outcome of negotiations on international trade. For example, AI can be used to better analyze each negotiating partner's economic trajectories under different assumptions.

3.2.2: The use of artificial intelligence techniques in the industrial sector (Renad Al-Majd Group for Information Technology, 2024)

- **Improve productivity:** AI is used to improve the productivity of factories through intelligent automation systems that help manage operations more effectively.
- **Product innovation:** AI fosters innovation in new product development. By analyzing trends and forecasts.
- **Data Analysis:** Enables companies to analyze vast amounts of data quickly and accurately. Through techniques such as machine learning and data analysis, organizations can extract valuable insights that help make strategic decisions. These analytics are used to understand customer behavior and improve products and services.
- **Enhance customer experience:** AI significantly improves customer experience,

helping with their loyalty and affiliation to businesses.

- Together, these AI applications are driving manufacturing towards smarter, more adaptable and more sustainable practices. "Such benefits make the power of AI a valuable tool in modern manufacturing.

Artificial Intelligence is Revolutionizing the Construction World: (PMP Master, 2025 Feb)

- By addressing ongoing challenges such as inefficiencies, safety risks, and workforce shortages, there is growing interest in leveraging AI for various applications, including data-driven design and planning, automation, real-time monitoring, as well as working on workers' physical health.

Predictive Models and Economic Decision Support: Egyptian National Competitiveness Council (ENCC), 2025)

The concept of predictive models and their role in decision-making:

Definition: **Predictive models** mean a set of statistical, mathematical and artificial intelligence techniques, which aim to predict the future behavior of certain variables based on historical and current data. For the economy, anticipating changes in growth rates, inflation, interest rates and consumer behavior is central to guiding fiscal and investment policies.

Its vital role in decision-making:

Governments: Rely on predictive models to prioritize monetary and fiscal policy (such as controlling interest rates or formulating economic stimulus plans).

Financial institutions: take advantage of forecasts to assess credit risk, guide investments, and improve overall risk management.

Companies and investors: Predictive models give a clearer picture of market trends, which helps in making effective strategic decisions such as choosing between expansion or merger and acquisition plans

How does AI enhance predictive models?

Machine Learning and Deep Learning

- **Analyze vast amounts of data:** AI-based systems can handle large and diverse data sets, extracting subtle patterns hidden in them.
- **Continuous improvement:** Algorithms learn from past mistakes and constantly update models according to new data, increasing the accuracy of forecasts over time.

Real-Time Forecasting

- Monitor intraday market movements: Instant decisions can be made in the stock or currency market, limiting losses and increasing the chances of capturing winning trades.
- Detect crisis indicators early: such as the possible beginnings of real estate bubbles or high debt ratios, which threaten financial stability.

Foreseeing Future Challenges:

By combining historical information with real-time data, AI systems can predict the features of potential crises, such as:

- Banking crises caused by the failure of financial institutions
- Inflation and exchange rate fluctuations
- Medium- and long-term expectations of a shift in consumer behavior

This proactive analysis helps decision-makers formulate preventive plans or precautionary measures that avoid many losses in the financial and economic sectors.

Opportunities and challenges of artificial intelligence applications in the field of economics:

Opportunities for Artificial Intelligence in Economics

Artificial intelligence provides tremendous opportunities in various economic fields, most notably

Improving efficiency and productivity (Eric Brinjulfsson, 2023)

- Artificial intelligence technologies promise huge gains in productivity and competitiveness for organizations seeking to own these systems to provide better services to customers at a lower cost and in an advanced manner, which helps to make decisions faster and better, thus providing organizations with opportunities to compete and seize opportunities in the internal and external markets and take advantage of the advantages of reducing costs, shortening time and reducing risks.
- **Automation:** AI can automate repetitive tasks, allowing humans to focus on the most creative and strategic tasks.
- **Process optimization:** AI can analyze big data to identify patterns and trends, helping businesses optimize their operations and reduce costs.
- **Increase productivity:** AI can significantly boost productivity, leading to increased production and economic growth. (Efforts, 2025)
- **Supply Chain Management**

  By forecasting demand, optimizing inventory and reducing delivery time

2.1.3 Development of new products and services:

- **Smart products:** such as self-driving cars and smart home appliances.
- **Personalized services:** such as personalized recommendations and targeted marketing experiences.
- **Innovation:** through data analysis and discovery of new ideas.

Improving decision-making:

- **Data analysis:** AI can analyze big data quickly and accurately, helping managers make more informed decisions.
- **Prediction:** AI can predict future trends, helping companies plan ahead and reduce risk.
- **Improved risk management:** AI can identify and assess potential risks, helping companies take action to avoid them.

- AI can have a benefit for stocks that investors ignore in that it can contribute to reducing inflation. This technology has the potential to usher in a new era of labor and productivity gains, according to BlackRock and UBS. (Wall Street 2025)

Challenges of Artificial Intelligence in the Field of Economics (Bennasser Said, 2023)

Despite the enormous potential offered by AI, it faces many challenges in various economic sectors:

The impact of artificial intelligence on the labor market:

- **Job loss:** Automation can replace many jobs that require routine skills, increasing unemployment rates.
- **Changing the nature of jobs:** While some jobs may disappear, new jobs will emerge that require skills in dealing with artificial intelligence and data analysis.
- **The need to rehabilitate workers:** Governments and companies must invest in training programs to rehabilitate workers and equip them with the skills to deal with AI (Kristalina Georgieva, 2024)
- **Economic disparity**:
- **Concentration of wealth: The** adoption of artificial intelligence can increase the concentration of wealth in the hands of large companies that have the resources and capabilities to develop these technologies.
- **The gap between developed and developing countries:** The gap between developed countries that adopt artificial intelligence and developing countries that face difficulties in doing so may widen rapidly.

Technical challenges:

- **Data quality:**

AI systems rely on big data, and inaccurate or incomplete data may lead to unreliable results.

- **Explainability:**

It can be difficult to understand how complex AI systems make decisions, raising concerns about transparency and accountability.

- **Cost:**

Developing and implementing AI systems can be expensive, potentially limiting their use in some sectors.

Ethical and legal hazards:

- **Privacy:** AI data collection and analysis raises concerns about privacy and protection of personal data.
- **Bias:** AI systems may contain biases that reflect the biases found in the data they are trained on, leading to unfair decisions.
- **Responsibility:** When an AI system makes the wrong decision, it can be difficult to determine who is responsible.

Technical challenges:

- Development cost: Developing AI systems requires huge investments in infrastructure.
- The need for big data: It can be difficult to obtain high-quality data.
- Cybersecurity: Such as cyber-attacks, posing a threat to economic security.

Regulatory Challenges:

- The need for new regulatory frameworks by governments to keep pace with developments.
- Antitrust: Review antitrust laws to address the concentration of power in the hands of large corporations.

Regulatory and legal challenges: Legislation and policies: Legislation and regulatory policies are needed to ensure that AI is used ethically and responsibly.

Action study

Field study analysis results

This part includes the procedures of the field study, which is a description of the population and sample of the study, its characteristics and performance used in collecting data and its contents, conducting stability and honesty tests to ensure its validity, in addition to the statistical methods according to which the data were analyzed, presented, analyzed and tested the study hypotheses, conclusions and recommendations, as follows:

Study Methodology:

This study relies on the descriptive and analytical approach, which combines the quantitative and qualitative description of the studied phenomenon in order to analyze the impact of artificial intelligence applications on the economy, with a focus on the opportunities and challenges associated with it. The descriptive aspect is the collection, classification and interpretation of data to understand the reality of the use of artificial intelligence in different economic sectors, while the analytical aspect depends on the use of statistical methods to test hypotheses and derive relationships between variables**.**

Study Tool

The study relied on the questionnaire as the main tool to collect data from the research sample, as it was designed to measure the impact of AI applications on the economy, focusing on the opportunities and challenges associated with it. The questionnaire was prepared based on a review of previous literature and related studies, to ensure that it covers all important aspects of the study topic. The questionnaire consists of a number of basic axes, where each axis includes a set of questions that measure the variables of the study according to the five-point Likert scale, which ranges from (1: strongly disagree) to (5: strongly agree). Topics include:

The first axis: the impact of artificial intelligence on business efficiency.

The second axis: the risks associated with the adoption of artificial intelligence.

The third axis: the economic opportunities provided by artificial intelligence.

Fourth Theme: Challenges Facing the Adoption of Artificial Intelligence in the Economy.

Fifth Theme: Proposed policies to make optimal use of artificial intelligence.

Population and Sample of the Study:

The study population consists of workers in various economic sectors, including finance, trade, industry, and agriculture, as well as academics and researchers interested in the applications of artificial intelligence in economics. The study sample was randomly selected from among these individuals to ensure a diverse representation of different perspectives on the impact of AI on the economy. The sample consisted of 102 participants, where the questionnaire was distributed electronically to collect and analyze data using appropriate statistical methods. The sample represents a wide range of Experts and practitioners, allowing scientifically significant conclusions to be drawn about the opportunities and challenges associated with the adoption of AI in the economy.

Demographic Characteristics of the Study Sample:

In this paragraph, the demographic characteristics of the study sample will be highlighted, with the aim of providing a comprehensive description of the basic characteristics of the individuals included in the study. These characteristics include variables such as gender, age, years of experience, educational level, job status, and sector. The analysis of these characteristics helps in understanding the nature of the sample and the extent to which it represents the target population, which enhances the reliability of the results and the possibility of generalization. The following table shows the characteristics of the study sample

Percentage %	Iteration	Categories	Sample characteristics
28.4	29	male	1/ Type
71.6	73	Female	
26.5	27	less than 30 years old	2/ Age
22.5	23	years 40-30	
28.4	29	years 50-40	
22.5	23	years and above 50	
17.6	18	Associate Diploma / Intermediate Diploma	3/ Educational level
39.2	40	Bachelor	
20.6	21	Master	
22.5	23	Doctorate	
30.4	31	Less than 5 years	4/ Years of experience
4.9	5	years 10-5	
64.7	66	years and above 10	
5.9	6	manager	5 / career center
14.7	15	Head of Department/Department Coordinator	

39.2	40	employee	
4.9	5	Technical	
34.3	35	Other	
86.3	88	governmental	6/ Sector
13.7	14	special	

Table (1) Characteristics of the Study Sample (Demographic Data)

Source: Prepared by the researcher from the results of the field study 2025

It is clear from Table (1) above that the majority of the study sample members are females, where their percentage reached (71.6%), while the percentage of males in the sample reached (28.4%), and we find that the majority of the sample members are from the university and post-university educational level (bachelor's, master's, doctorate) by (82.4%), while the sample members of the educational level (associate diploma / intermediate diploma) reached (17.6)%. It is also noted that the majority of the sample members range from years of experience between (10 years and over) where their percentage reached (64.7%) It is also found that the vast majority of the government sector, where their percentage reached (86.3), while the percentage of respondents from the private sector reached (13.7)%.

Test of honesty and reliability of the study tool:

One of the basic qualities that should also be available in the data collection tool before starting to use it is the stability feature, which refers to the degree to which the scale is free of errors, especially random errors, and the importance of measuring the degree of stability and honesty of the scale lies in the need to obtain correct results and to ensure the validity of the study tool, both honesty and stability tests were used, as follows:

Authenticity of the study tool:

In measuring the validity of the study tool, the study relied on:

Test the validity of the scale content:

Validity test: The validity of the questionnaire was confirmed through virtual honesty (Face Validity), as it was presented to a group of experts and specialists in economics and artificial intelligence to review the clarity of the questions and their suitability to the subject of the study.

4.6.1.2Validity of internal consistency:

Internal Consistency Validity was also used by analyzing the correlation of each statement with the axis to which it belongs, ensuring that each axis measures its target concept accurately, and the following is a table showing the test results.

Morale level	Correlation coefficient	axles
0.000	0.85	The impact of artificial intelligence on business .efficiency
0.005	0.73	.Risks associated with AI adoption
0.000	0.84	Economic opportunities provided by artificial .intelligence
0.002	0.78	Challenges to AI adoption in the economy

0.000	0.82	Proposed policies to make the best use of AI

Table (2): Correlation Coefficient For The Study Axes With The Total

Source: Prepared by the researcher from the field study 2025

It is clear from Table (2) that all the axes of the study have a positive and statistically significant correlation at the level of significance (0.05) with the total total of the axis to which they belong. Thus, all dimensions of the instrument measure what it was developed to measure.

Stability of Resolution:

The questionnaire's stability was measured using Cronbach's alpha coefficient, which is one of the most common methods for assessing the internal consistency of a tool. The results showed that all the main axes of the questionnaire achieved a Cronbach alpha coefficient above 0.7, which is the scientifically accepted limit, indicating a high level of stability and internal consistency in the participants' answers**.**

Cronbach's alpha coefficients	Number of paragraphs	Variables
0.89	4	The impact of artificial intelligence on business .efficiency
0.77	4	.Risks associated with AI adoption
0.80	4	Economic opportunities provided by artificial .intelligence
0.76	4	Challenges to AI adoption in the economy
0.87	4	Proposed policies to make the best use of AI
0.85	20	Total

Table (3) Cronbach Alpha Coefficients

Source: Prepared by the researcher from the results of the field study 2025

Methods of Statistical Analysis Used in the Study:

To analyze the data and test the hypotheses, the Social Sciences Statistical Package Program (SPSS-27) was used through the use of the following statistical tools:

Conducting a reliability test for the questionnaire questions using the following: A / Virtual Truthfulness Test. (b) Tests of Honesty and Reliability:

Descriptive statistics methods: In order to describe the characteristics of the statements of the study variables through the use of each of the b / arithmetic mean to measure the average response of the study sample members to the variables statements to determine the level of response. C / standard deviation, which is a measure that reflects the extent of variation in the answers of the study sample members to the statements.

Regression Analysis: The regression analysis model is used to test the study hypotheses through the use of the following statistical indicators:

Correlation coefficient (R): It is a statistical indicator used to determine the type and degree of relationship between variables, and the closer its value to the correct one, the stronger the relationship, and the closer its value to zero, the weaker the relationship between the variables.

Coefficient of determination (R2): It is an indicator used to identify the ability of the model to explain the relationship between variables, the closer its value to the correct one, this indicates the quality of reconciling the relationship between the independent variables and the dependent variable and thus increases the explanatory power of the independent variables and vice versa, the closer its value to zero, this indicates the lack of quality of reconciling the relationship between the independent variables and the dependent variable.

Presentation and Analysis of Study Data

The study aims from the analysis of basic data to provide "descriptive" statistics for the statements of the study variables that reflect the degree of response to the units studied by estimating the arithmetic mean and standard deviation and arranging the statements according to relative importance as follows:

The Impact of AI on Economic Sectors

Order	Degree of response	Standard deviation	Arithmetic mean	Ferry	M
2	High	0.84	3.93	Artificial intelligence improves performance in the financial sector	1
3	High	0.102	3.88	AI is making a significant positive impact in the trade sector	2
4	High	0.86	3.86	Artificial intelligence contributes to raising the efficiency of industrial processes	3
1	High	0.79	3.95	AI positively impacts the agricultural sector by improving productivity	4
	High	0.65	3.91	Total phrases	

Table (4) Descriptive Statistical Analysis of the Statements of the Impact of Artificial Intelligence on Economic Sectors

Source: Prepared by the researcher from the results of the study data for the field 2025

It is clear from Table (4) that the average responses of the study sample on the axis of the impact of artificial intelligence on the economic sectors range between (3.95, 3.86) and a high level of response, which indicates that the participants largely agree that artificial intelligence contributes to improving business efficiency and productivity, and the table also shows the low dispersion (ranging between 0.86,0.012) in the responses of the study sample on all statements, This means that most respondents agree and that there is relative stability of views on the impact of AI on efficiency.The descriptive analysis shows that the phrase **"**AI positively impacts the agricultural sector by improving productivity" ranked first in terms of relative importance with an arithmetic average (3.95).While in last place is the phrase (artificial intelligence contributes to raising the efficiency of industrial processes) with an arithmetic average of (3.86).

Potential risks of AI doption in the Economy

Order	Degree of response	Standard deviation	Arithmetic mean	Ferry	M
4	Medium	1.08	3.39	Data shortage is a major challenge in AI adoption in developing countries	1
3	High	1.12	3.50	Digital disparity makes AI adoption more difficult in economic sectors	2
1	High	1.06	3.58	Cybersecurity issues are an obstacle to the use of artificial intelligence in the economy	3
2	High	1.02	3.52	Unclear laws and regulations limit AI adoption in developing countries	4
	High	1.07	3.51	Total phrases	

Table (5) Descriptive Statistical Analysis of the Statements of the Potential Risk Axis of the Adoption of Artificial Intelligence In the Economy

Source: Prepared by the researcher from the results of the study data for the field 2025

It is clear from Table (5) that the average responses of the study sample members on the axis of potential risks of adopting artificial intelligence in the economy range between (3.58, 3.39) and a high level of response, which indicates that the participants agree to a large extent on the potential risks of adopting artificial intelligence in the economy. relatively high (ranging from 1.03 to 1.18), reflecting differences in views among participants, with some seeing the risk more serious than others. Descriptive analysis shows that the phrase "cybersecurity issues represent an obstacle to the use of AI in the economy" ranked first in terms of relative importance with an arithmetic average of (3.58). While in last place is the phrase (lack of data is a major challenge in adopting artificial intelligence in developing countries) with an arithmetic average of (3.39).

Contribution of AI to Business Efficiency and Productivity

Order	Degree of response	Standard deviation	Arithmetic mean	Ferry	M
1	High	0.80	4.08	Artificial intelligence improves business efficiency and increases productivity	1
2	High	0.86	3.99	AI helps companies make more accurate and effective decisions	2
4	High	0.82	3.93	Artificial intelligence contributes to the development of new products and services that promote economic growth	3
3	High	0.83	3.96	Artificial intelligence creates new jobs in the economy	4
	High	0.84	4.00	Total phrases	

Table (6) Descriptive Statistical Analysis of the Phrases of the Axis of the Contribution of Artificial Intelligence To Business Efficiency and Productivity

Source: Prepared by the researcher from the results of the study data for the field 2025

It is clear from Table (6) that the average responses of the study sample on the axis of the contribution of artificial intelligence to business efficiency and productivity range between (4.08, 3.93) and a high level of response, which indicates that the participants agree to a large degree, which indicates that the participants expect significant benefits from artificial intelligence at the level of the economy and the table also shows the relatively low standard deviation (ranging between 0.86 0.80), showing that most participants largely agree on these opportunities, with slight differences in individual assessments. Descriptive analysis shows that the phrase "AI contributes to improving business efficiency and increasing productivity" ranked first in terms of relative importance with an arithmetic average (4.08). While in last place is the phrase (artificial intelligence contributes to the development of new products and services that promote economic growth) with an arithmetic mean (3.93).

Challenges of AI in the Economy

Order	Degree of response	Standard deviation	Arithmetic mean	Ferry	M
2	Very high	0.79	4.28	Increased reliance on AI leads to loss of traditional jobs	1
1	Very high	0.71	4.33	Artificial intelligence contributes to increasing economic disparities between countries and companies	2
4	High	0.85	4.09	The challenge of privacy breach is a barrier to AI applications	3
3	High	0.82	4.11	,AI algorithms suffer from bias issues .which influence economic decisions	4
	Very high	0.79	4.20	Total phrases	

Table (7) Descriptive Statistical Analysis of the Phrases of the Axis of Artificial Intelligence Challenges in the Economy

Source: Prepared by the researcher from the results of the study data for the field 2025

It is clear from Table (7) that the average responses of the study sample on the axis of artificial intelligence challenges in the economy range between (4.33, 4.09) and with a very high level of response, which indicates that the participants agree to a very high degree on the existence of challenges to artificial intelligence in the economy, and the table also shows the relatively low standard deviation (ranging between 0.85, 0.71), which indicates that most participants agree to the degree of Significant on these challenges facing artificial intelligence in the economy. Descriptive analysis shows that the phrase "artificial intelligence contributes to increasing economic disparities between countries and companies" ranked first in terms of relative importance with an arithmetic average (4.33). While in last place is the phrase (the challenge of privacy breach is an obstacle to artificial intelligence applications) with an arithmetic average of (4.09).

Policies Required to Maximize the Benefits of AI and Reduce Its Risks

Order	Degree of response	Standard deviation	Arithmetic mean	Ferry	M
3	High	0.89	3.70	Governments must allocate budgets to support AI research	1
4	High	0.94	3.56	Building a strong infrastructure is one of the key factors for the development of artificial intelligence in the economy	2
2	High	0.78	3.77	Clear legislation must be put in place to regulate the use of artificial intelligence in economic sectors	3
1	High	0.81	3.80	Startup support policies contribute to AI innovation	4
	High	0.86	3.71	Total phrases	

Table (8) Descriptive Statistical Analysis of Policy Statements Required to Maximize the Benefits of Artificial Intelligence and Reduce Its Risks

Source: Prepared by the researcher from the results of the study data for the field 2025

It is clear from Table (8) that the average responses of the study sample on the axis of policies required to maximize the benefits of artificial intelligence and reduce its risks range between (3.80, 3.56) and with a high level of response, which indicates that the participants agree to a high degree on the role of the policies required to maximize the benefits of artificial intelligence and reduce its risks, and the table also shows the relatively low standard deviation (ranging between 0.94, 0.78), which shows that. Descriptive analysis shows that the phrase "Startup support policies contribute to promoting innovation in AI" ranked first in terms of relative importance with an arithmetic mean (3.80). While in last place is the phrase (building a strong infrastructure is one of the key factors for the development of artificial intelligence in the economy) with an arithmetic average of (3.56).

Discussion of Hypotheses

H1 1.9.4: There is a statistically significant positive impact of AI applications on business efficiency and increased productivity.

This hypothesis proceeds from the assumption that the use of artificial intelligence technologies, such as big data analysis, machine learning, and intelligent automation, contributes to improving the performance of organizations by reducing operational costs, increasing the speed and accuracy of operations, and enhancing competitiveness. To validate this hypothesis, linear regression analysis will be used to assess the relationship between the level of AI adoption (as an independent variable) and business efficiency in various economic sectors **(as a dependent variable).** The following are the results of the estimate

P-Value(sig)	T value	Feature values	Analysis indicators
0.003	11.242	2.59	) Equation constanta(
0.001	15.468	1.18	) Regression coefficientb(

0.91	Correlation coefficientR
0.83	Coefficient of determination)R2(
39.27	F value
0.000	Morale level

Table (9) Results of Regression Analysis of the Relationship between AI Adoption and Business Efficiency

Source: Prepared by the researcher from the results of field data 2025

It is clear from Table (9):

There is a strong direct correlation between the adoption of the use of artificial intelligence techniques such as big data analysis, machine learning, intelligent automation and business efficiency in various economic sectors, and this is evidenced by the value of the correlation coefficient (R), where the value of the correlation coefficient (0.91) The value of the regression coefficient (b) (1.18) andthe high regression coefficient indicates that investing in artificial intelligence is an effective strategy to improve institutional performance and enhance competitiveness, and this means that each increase by one unit in the adoption of artificial intelligence leads to an increase (1.18) units in business efficiency, which reflects a strong positive impact, as the coefficient of determination indicates that (83%) of changes in business efficiency can be explained by the level of AI adoption, reflecting the explanatory power of the model. However, there are 17 unexplained changes, suggesting other factors such as enterprise size, industrial sector, level of investment in technology, and digital infrastructure.

It is also clear from the results of the analysis that there is a statistically significant relationship between the adoption of the use of artificial intelligence techniques and business efficiency in different economic sectors according to the test (t) and the test (F) at a significant level (5%) where the value of (t) for the regression coefficient (b) (15.468) with a level of significance (0.001) and the value of F (39.27) with a level of significance (0.001) and these values are less than the level of morale 1%.These findings are in line with previous studies that found that AI-driven organizations achieve higher growth rates and operational efficiency compared to those that have not yet adopted these technologies.

These results strongly support the first hypothesis (H1), confirming that the adoption of artificial intelligence contributes significantly to improving business efficiency.

H2.2.9.4: AI-related challenges, such as job losses and bias in algorithms, reduce the effectiveness of AI in improving business efficiency.

This hypothesis proceeds from the assumption that while AI has significant benefits in improving productivity and enhancing business efficiency, there are associated challenges that may reduce its effectiveness. These challenges include job losses due to automation, bias in algorithms, and difficulty integrating with traditional systems, which can lead to internal resistance and a negative impact on organizational performance. To validate this hypothesis, linear regression analysis will be used to assess the relationship between challenges related toArtificial intelligence (as an independent variable) and business efficiency in various economic sectors **(as a dependent variable),** the following are the results of the estimation

P-Value(sig)	T value	Feature values	Analysis indicators
0.005	9.124	7.82	) Equation constanta(
0.007	7.245	-0.93	) Regression coefficientb(
		0.86	Correlation coefficientR
		0.74	Coefficient of determination)R2(
		26.18	F value
		0.007	Morale level

Table (10) Results of Regression Analysis of the Relationship between AI Adoption Challenges and Business Efficiency

Source: Prepared by the researcher from the results of field data 2025

It is clear from Table (10):

The existence of a strong correlation between the challenges related to the application of artificial intelligence techniques such as job loss, bias in algorithms and business efficiency in various economic sectors, and this is evidenced by the value of the correlation coefficient (R), where the value of the correlation coefficient was (0.86) and the value of the regression coefficient (b) (-0.93) and this negative signal of the coefficient confirms the inverse relationship between challenges and business efficiency, which is in line with the hypothesis that challenges reduce the effectiveness of artificial intelligence. This means that every one-unit increase in the level of impact of challenges leads to a decrease in business efficiency by (0.93) units. The coefficient of determination (R2) also indicates that about (74%) of changes in business efficiency can be explained by challenges associated with artificial intelligence, indicating a significant impact of these factors, and that there is (25%) of changes in business efficiency are unexplained, suggesting other factors, such as strategic management, level of digital maturity, and investment in employee development, that may affect this relationship.

It is also clear from the results of the analysis that there is a statistically significant relationship between the challenges related to the application of artificial intelligence techniques and business efficiency in different economic sectors according to the test (t) and test (F) at a significant level (5%), where the value of (t) for the regression coefficient (b) (7.245) with a significant significance level (0.007) and the value of F (26.18) with a significant level of (0.007) and these values are less than the level of significance 1%. These findings are consistent with previous studies that have found that job losses and overreliance on opaque algorithms lead to internal resistance within organizations, reducing the effectiveness of AI applications, and that bias in algorithms can lead to unfair or inaccurate decisions, negatively impacting organizational performance.

These results support the second hypothesis (H2), where it has been shown that the challenges associated with AI reduce its effectiveness in improving business efficiency.

H3 3.9.4: Potential risks, such as lack of data and digital disparities, negatively affect business efficiency.

This hypothesis proceeds from the assumption that as organizations increasingly rely on AI and digital technologies, data quality and accessibility have become critical factors in improving

business efficiency. However, data shortages, poor data quality, and digital disparities between organizations and regions may undermine AI's effectiveness and limit its ability to improve organizational performance. To validate this hypothesis, linear regression analysis will be used to assess the relationship between Potential risks of artificial intelligence (as an independent variable) and business efficiency in various economic sectors **(as a dependent variable),** and the following are the results of the estimate:

P-Value(sig)	T value	Feature values	Analysis indicators
0.0001	13.865	8.132	) Equation constanta(
0.0011	10.643	-0.87	) Regression coefficientb(
		0.84	Correlation coefficientR
		0.72	Coefficient of determination)R2(
		25.87	F value
		0.0011	Morale level

Table (11) Results of Regression Analysis of the Relationship Between Potential Risks in the Application of Artificial Intelligence And Business Efficiency

Source: Prepared by the researcher from the results of field data 2025

Table 11 shows:

The existence of a strong correlation between the risks related to the application of artificial intelligence techniques and business efficiency in various economic sectors, and this is evidenced by the value of the correlation coefficient (R), where the value of the correlation coefficient was (0.84) and the value of the regression coefficient (b) (-0.87) and this negative signal of the coefficient confirms the inverse relationship between digital risks and business efficiency, which supports the hypothesis that digital risks limit the effectiveness of the adoption of modern technologies in improving institutional performance, and this means Each one-unit increase in the level of digital risk leads to a decrease in business efficiency by (0.875) units, which confirms the negative impact of these challenges. The coefficient of determination (R2) also indicates that about (72%) of changes in business efficiency can be explained by challenges associated with artificial intelligence, which indicates a significant impact of these factors, and that there is a 28)%) of changes in business efficiency are unexplained, suggesting other factors, such as digital management, investment in cybersecurity, and the organization's readiness for digital transformation, that may affect this relationship.

It is also clear from the results of the analysis that there is a statistically significant relationship between the potential risks of applying artificial intelligence techniques and business efficiency in different economic sectors according to the test (t) and test (F) at a significant level of (5%), where the value of (t) for the regression coefficient (b) (10.643) with a significant significance level (0.0011) and the value of F (25.87) with a significant level of (0.007) and these values are less than the level of significance 1%. These findings are consistent with research that confirms that data shortages and digital inequality limit organizations' ability to take full advantage of AI, leading to inaccurate decisions and inefficient performance. In sectors with weak digital infrastructure, data shortages often lead to bias in analytical models, reducing the accuracy of

forecasts and decision-making.

These results support the third hypothesis (H3), where it is found that the risks associated with data shortages and digital inequality negatively affect business efficiency.

H4.4.9.4: AI-friendly policies and risk reduction improve business efficiency.

This hypothesis is based on the assumption that policies that support AI by fostering innovation – improving the quality of decisions, increasing productivity, and reducing the technical and ethical challenges associated with AI adoption – contribute to improving business efficiency. To validate this hypothesis, linear regression analysis will be used to assess the relationship between AI-supporting policies (as an independent variable) and business efficiency across economic **sectors. (as a dependent variable),** the following are the results of the estimation

P-Value(sig)	T value	Feature values	Analysis indicators
0.0013	11.654	12.86	) Equation constanta(
0.0021	8.412	1.78	) Regression coefficientb(
		0.88	Correlation coefficientR
		0.79	Coefficient of determination)R2(
		37.876	F value
		0.0021	Morale level

Table (12) Regression Analysis Results of the Relationship between AI Supportive Policies and Business Efficiency

Source: Prepared by the researcher from the results of field data 2025

Table (12) shows:

The existence of a strong correlation between policies supporting artificial intelligence and business efficiency, and this is evidenced by the value of the correlation coefficient (R), where the value of the correlation coefficient was (0.88) and the value of the regression coefficient (b) (1.78) and this positive value confirms the positive relationship between the policies supporting the application of artificial intelligence in improving business efficiency in different economic sectors, and this means that when the index of policies supporting artificial intelligence is increased by one point, the efficiency of Business increases by (1.78) units on average, and the coefficient of determination (R2) indicates that about (79%) of changes in business efficiency can be explained by policies supporting artificial intelligence, which indicates a significant impact of these factors, and that there are (21%) of changes in business efficiency unexplained, indicating the presence of other factors.

It is also clear from the results of the analysis that there is a statistically significant relationship between the policies supporting the application of artificial intelligence techniques and business efficiency in different economic sectors according to the test (t) and the test (F) at a significant level (5%), where the value of (t) for the regression coefficient (b) (8.412) with a level of significance (0.0021) and the value of F (37.876) with a level of significance (0.0021) and these values are less than the level of significance 1%. These findings are largely consistent with previous studies that confirm that having AI-supportive policies reduces risk and enhances

business efficiency.

These results support the third hypothesis (H4), where it has been shown that policies that support AI and reduce its risks contribute to improving business efficiency.

Findings and Recommendations:

Results

1/ Participants affirm that artificial intelligence contributes significantly to improving production efficiency in various economic sectors.

2/ Although the potential risks are recognized, the benefits of AI outweigh the challenges for most participants.

3/ The results of the statistical analysis confirm the existence of a strong positive impact of artificial intelligence on business efficiency.

4/ The results showed that organizations that use artificial intelligence have significantly higher productivity compared to institutions that do not use it.

5/ The challenges associated with AI have been shown to reduce its effectiveness in improving business efficiency.

6/ Most respondents agree with a very high level of response that artificial intelligence contributes to increasing economic disparities between countries and companies

7/ Risks associated with data shortages and digital disparities have been shown to negatively impact business efficiency

8/ Most respondents largely agree on the policies required to maximize the benefits of AI and reduce its risks

9/ There is a strong positive relationship between policies supporting artificial intelligence and business efficiency.

Recommendations

1/ Increase investment in artificial intelligence to improve operational performance in organizations

2/ Develop strategies to reduce job losses, such as retraining and vocational rehabilitation programs

3/ Enhance transparency in algorithms to avoid bias and improve confidence in AI applications

4/ Investing in a flexible technological infrastructure that reduces the difficulties of integration between traditional systems and artificial intelligence

5/ Improving data management: The need to adopt policies for collecting and analyzing data with high quality to ensure the accuracy of administrative decisions.

6/ Reducing the digital divide: Implementing investments in digital infrastructure to enable companies in less developed regions to access modern technology.

7/ Enhancing cybersecurity: Reducing the risks associated with data shortages by enhancing cybersecurity and ensuring the protection of sensitive data.

8/ Establish clear legal frameworks that stimulate the adoption of AI and protect against its risks, especially in areas such as privacy.

9/ Providing financial incentives for companies that invest in artificial intelligence, such as tax exemptions and research grants.

10/ Inclusion of specialized curricula in universities and institutes on the applications of artificial intelligence in business.

References

Horodyski, P. (2023, August). Applicants' perception of artificial intelligence in the recruitment process. Computers in Human Behavior Reports, 11(August), 1-8. doi:
https://doi.org/10.1016/j.chbr.2023.100303

-Harvard University, Knowledge, Technology and Complexity in Economic Growth, without a date, available at: https://rcc.harvard.edu/knowledge-technology-and-complexity-economicgrowth viewed on 29 Apr 2022.

Dr. Amani Ahmed Mokhtar, Lecturer of Economics, Faculty of Politics and Economics, Suez University, an article entitled The Impact of Artificial Intelligence on the Economies of Countries-21/1/2024
https://www.idsc.gov.eg/Article/details/8984

Nowzad Abdulrahman M. Salih, Abdulrahman Al-Hiti- Abdulrahman Alhiti
P7, Issue 20, November 1, 2023
https://lubab.aljazeera.net/wp-content/uploads/2023/11/%D8%A7%D9%84%D8%B0%D9%83%D8%A7%D8%A1-%D8%A7%D9%84%D8%A7%D8%B5%D8%B7%D9%86%D8%A7%D8%B9%D9%8A-%D9%85%D8%A4%D8%B4%D8%B1%D8%A7%D8%AA%D9%87-%D8%A7%D9%84%D8%A7%D9%82%D8%AA%D8%B5%D8%A7%D8%AF%D9%8A%D8%A9-%D9%88%D8%A3%D8%AB%D8%B1%D9%87-%D8%B9%D9%84%D9%89-%D8%A3%D8%B3%D9%88%D8%A7%D9%82-%D8%A7%D9%84%D8%B9%D9%85%D9%84.pdf

Dr. Amani Ahmed Mokhtar, Lecturer of Economics, Faculty of Politics and Economics, Suez University, an article entitled The Impact of Artificial Intelligence on the Economies of Countries-21/1/2024
https://www.idsc.gov.eg/Article/details/8984

Dr. Zamouki Salem, Dr. Murzuq Fatiha Habali. Artificial intelligence and its economic repercussions on the world, Heritage Magazine, Issue 04, p. 39,
https://asjp.cerist.dz/en/downArticle/323/13/4/238970

Russell, Stuart J. Norvig, Peter. (Artificial Intelligence: A Modern Approach (4th ed.). Hoboken: Pearson ISBN 978-0134610993 LCCN 20190474
http://lib.ysu.am/disciplines_bk/efdd4d1d4c2087fe1cbe03d9ced67f34.pdf

Rizk Mohamed Hana, (2021) Artificial Intelligence Systems and the Future of Education, Journal of Studies in University Education (52), p. 74.
https://deu.journals.ekb.eg/article_224996.html

Rizk Mohamed Hana, (2021) Artificial Intelligence Systems and the Future of Education, Journal of Studies in University Education, p. 576.
https://deu.journals.ekb.eg/article_224996.html

Belassal bint Nabi Yasmine and Hussein Amrouche, 2022, Artificial intelligence and its role in achieving sustainable development, Journal of Economic Legal Studies, 05 (01) p. 1157
https://asjp.cerist.dz/en/article/191618

Rizk Mohamed Hana, (2021) Artificial Intelligence Systems and the Future of Education, Journal of

Studies in University Education, p. 575
https://deu.journals.ekb.eg/article_224996.html
Haiba Lahmar, The Shift to Artificial Intelligence between Fears and Aspirations, The Emirati Experience as a Model, Journal of Economics and Development, Vol. 09, No. 02, p. 99.
https://asjp.cerist.dz/en/article/180842
Abdul-Jabbar Al-Dhafari, Artificial Intelligence, Artificial Intelligence Jobs and Tasks: 2020-2022
https://oercommons.org/courseware/lesson/93266/student/?section=1
Abduljabbar Al Dhafari, Artificial Intelligence 2020-2022
https://oercommons.org/courseware/lesson/93266/student/?section=1
Dr. Abdel Salam Mohamed Raed, Developments in the Economic Use of Artificial Intelligence, Legal and Economic Journal, Issue 77, pp. 900-905
https://mjle.journals.ekb.eg/article_199779.html
Congressional Budget Office Artificial Intelligence and Its Potential Effects on the Economy and the Federal Budget, 2024
https://www.cbo.gov/publication/61147
Asia Buddy, 2022, The Fourth Industrial Revolution, (Valley University, ed.), Journal of Economics and Sustainable Development - 5 (2), 574
https://asjp.cerist.dz/en/article/200188
Damioli ،وآخرونElsevier, Technological Forecasting & Social Change, 2024
https://www.sciencedirect.com/science/article/pii/S0040162524000453

Haidar Abdul Razzaq Abdul Karim Anid, The Intersection of Technology and Finance: Understanding Artificial Intelligence as a Global Economic Driver, Journal of Financial, Accounting and Management Studies, 2024, Volume 11, Issue 01.
https://asjp.cerist.dz/en/PresentationRevue/479
Cem Dilmegani ،Top 4 use cases of generative AL in Banking 2025
https://research.aimultiple.com/generative-ai-in-banking/
Rajiv Suman et al., Understanding the Potential Applications of Artificial Intelligence in the Agriculture Sector, Advanced Agrochemistry, 2023
https://doi.org/10.1016/j.aac.2022.10.001
Ferencz Janos, López González Javier, Oliván García Irene, 2022, Artificial Intelligence and international trade some preliminary implications, Editions OCDE, France. P 12.
https://www.oecd.org/en/publications/artificial-intelligence-and-international-trade_13212d3e-en.html
Renad Al Majd Group for Information Technology, 2024

https://www.rmg-sa.com/%D8%AA%D8%B7%D8%A8%D9%8A%D9%82%D8%A7%D8%AA-%D8%A7%D9%84%D8%B0%D9%83%D8%A7%D8%A1-%D8%A7%D9%84%D8%A7%D8%B5%D8%B7%D9%86%D8%A7%D8%B9%D9%8A-%D9%81%D9%8A-%D8%A7%D9%84%D8%B5%D9%86%D8%A7%D8%B9%D8%A9/
PMP Master2025 ، Feb
https://www.pmpmaster.com/blog/124/Artificial-Intelligence-Revolutionizes-Construction
Egyptian National Competitiveness Council (ENCC), 2025
https://encc-eg.org/pressroom/press.aspx?id=270
Eric Prinjolfsson, 2023, Artificial Intelligence, pp. 22-25
https://www.imf.org/-/media/Files/Publications/Fandd/Article/2023/December/20-25-Brynjolfsson-final.ashx

The impact of AI on the labor market: opportunities, challenges and policy to adapt to the future. 2025.
https://www.aljhood.com/public/blog/103
Wall Street Predictions on Artificial Intelligence and its Shares in 2025
%D8%A7%D9%84%D8%A7%D8%B5%D8%B7%D9%86%D8%A7%D8%B9%D9%8A-%D9%88%D8%A3%D8%B3%D9%87%D9%85%D9%87-%D8%AE%D9%84%D8%A7%D9%84-2025.-%D9%81%D9%85%D8%A7-%D9%87%D9%8A%D8%9F
Bin Nasser Said, Artificial Intelligence and the Digital Economy: Opportunities and Challenges, University of Tulsman, 2023, pp. 38-40.
https://asjp.cerist.dz/en/article/241433
- Kristalina Georgieva Artificial intelligence will transform the global economy, so let's make sure it benefits humanity
https://www.imf.org/ar/Blogs/Articles/2024/01/14/ai-will-transform-the-global-economy-lets-make-sure-it-benefits-humanity.
Precision Agriculture Blog, Applications of Artificial Intelligence in Precision Agriculture - Geopard Agriculture
https://geopard.tech/blog/applications-of-artificial-intelligence-for-precision-agriculture/
Walid Shehata et al., Volume 26, Second Issue 2025, The Impact of Artificial Intelligence Applications on Entrepreneurship Strategies by Application to Small and Medium Enterprises in the Industrial Sector in Alexandria Governorate, Journal of Financial and Commercial Research, Volume 26 - Issue Two - April 2025.
https://jsst.journals.ekb.eg/article_396921.html
Mohamed Wahba et al., The impact of artificial intelligence applications on entrepreneurship strategies by applying to small and medium enterprises in the industrial sector in Alexandria Governorate
https://jsst.journals.ekb.eg/article_396921.html
Automation Anywhere (RPA)
https://www.automationanywhere.com/ae/rpa/robotic-process-automation
Ben Nasser Said, University of Tulsman, (2024), Artificial Intelligence and the Digital Economy - Opportunities and Challenges, Maghreb Arab Magazine
https://asjp.cerist.dz/en/article/241433