World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

THE ROLE OF ARTIFICIAL INTELLIGENCE IN ACTIVATING THE GLOBAL STOCK MARKET

Saif Alddin Imad Ahmed
First Author, Lecturer,
Al-Nahrain University, Baghdad, Iraq
Saif-aldeen@nahrainuniv.edu.iq
Taib Othman Abdulrazzaq
Second Author, professor, AL-Hikma University,
Baghdad, Iraq
taib.othman@hiuc.edu.iq
dr.taib1960@gmail.com

Article history:
Received: 20th May 2025
Accepted: 14th June 2025

Abstract:
Artificial intelligence plays a significant role in supporting all fields, including financial aspects, as it plays a significant role in analyzing financial data and making appropriate decisions . The research problem was defined as how artificial intelligence affects the activation of the global stock market. The research is important through understanding the factors that determine the future and development of the global stock market, and how technology and artificial intelligence can integrate to achieve global financial goals. The research is based on the hypothesis that artificial intelligence plays a role in activating global stock market activity. The research is divided into three sections. The first section includes the theoretical framework of artificial intelligence, the second section contains the theoretical framework of global stock markets, and the third section includes artificial intelligence technology in activating global stock markets.

Keywords: Artificial, Intelligence, Stock Market, Financial Market, Activating

1.INTRODUCTION

In the modern era of digital technology, the world is witnessing remarkable development in several fields, including the financial sector. Thanks to the tremendous advances in the field of artificial intelligence, technology has become a vital role in shaping and activating the global stock market. Experimentally, artificial intelligence is applied in various ways in the global stock market, where it is used to improve operational efficiency, reduce risks, and discover new investment opportunities. By analysing big data and complexity, artificial intelligence can help predict market trends, uncover complex patterns, and provide personalized investment recommendations. However, the promising application of artificial intelligence in the stock market is also associated with regulatory and ethical challenges, and requires attention to transparency, security, and accountability.

2. RESEARCH PROBLEM

The problem of the impact of artificial intelligence on the activation of the global stock market is one of the major challenges facing the financial world in the modern era. Artificial intelligence is an emerging technology that has a significant impact on various industries, including the financial sector, but the full effects and the way in which artificial intelligence affects the activation of the global stock market are not yet clear. Hence, determining how artificial intelligence affects the activation of the global stock market is an urgent research problem that requires careful study and comprehensive analysis.

3. IMPORTANCE OF THE RESEARCH

The interest in this topic stems from the importance of understanding how artificial intelligence affects the global financial market, and analysing the mechanisms that activate this market, which contributes to improving its efficiency and increasing investment and competitive opportunities. Given the importance of this topic, this research is an important contribution to understanding the factors that determine the future and development of the global stock market, and how technology and artificial intelligence integrate in achieving global financial goals.

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

4. RESEARCH OBJECTIVE

This research aims to explore and analyse the impact of artificial intelligence on the activation of the global stock market. This topic is pivotal in light of the rapid technological developments and their significant impact on financial markets and investor behaviour.

5. RESEARCH HYPOTHESIS

The research was based on a theory stating that "there is a role for artificial intelligence in activating the activity of the global stock market."

6. RESEARCH STRUCTURE:

The research was divided into three sections. The first section includes the theoretical framework of artificial intelligence, the second section contains the theoretical framework of global stock markets, and the third section includes artificial intelligence technology in activating global stock markets.

THE FIRST SECTION: THE THEORETICAL FRAMEWORK OF ARTIFICIAL INTELLIGENCE

First: The historical background of artificial intelligence:

In the fifties of the last century, artificial intelligence appeared, and this term was used for the first time during the Dartmouth University Conference on Artificial Intelligence in 1956. Since then, innovators and researchers have published 1.6 million publications related to artificial intelligence, and about 340,000 patent applications have been filed related to artificial intelligence[1].

The roots of artificial intelligence research go back to the 1940s with the expansion of the spread and use of computers. At the beginning of the 1950s, interest focused on neural networks. In the 1960s, research activity began to move towards systems based on knowledge representation, which continued to be worked on during the 1970s. At the beginning of the 1980s, a major revolution occurred in the scientific field of artificial intelligence. The history of artificial intelligence can be summarized during the twentieth century.

Teacher / Inovation	year
Foundation of neural network science	**1943**
The term "**Robotics**" was formulated by **Isaac Asimov**	**1945**
Alan Turing introduced the Turing test to assess intelligence and published machine science and intelligence, Claude Shannon published a detailed analysis of the chess .game as a research	**1950**
John McCarthy coined the term artificial intelligence, and the first AI program was offered at Carnegie Mellon University	**1956**
The discovery that computers can understand natural language well enough to solve algebraic word problems correctly	**1964**
,Scientists at the Stanford Research Institute have developed Shakey, a robot capable of movement perception and problem solving	**1969**
A team from the Robotics Society at the University of Edinburgh has built a robot called Freddy that can use vision to identify and assemble models	**1973**
Introducing a computer program that creates original artistic images	**1985**

[1] Amal Fawzy Ahmed Awad (2021). Digital ownership in the age of artificial intelligence: challenges of reality and the future. (Publications of the Arab Democratic Center for Strategic, Political and Economic Studies, editor) Berlin, Germany.

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

Great progress in all areas of artificial intelligence, including: machine learning (case-based reasoning, automated scheduling algorithms for field services, technicians, managers, etc.), natural language extraction (natural language understanding and translation), data mining, web crawler (data, web crawler understanding and translation), virtual reality, and providing games close to real life	**1990**
Deep Blue Chess beats then world chess champion Garry Kasparov	**1997**
nteractive robots are becoming commercially available, MIT shows off Kismet, a robot with an emotional face	**2000**
Honda's ASIMO robot can walk as fast as a human to serve customers in restaurants. And the Blue Brain Initiative in Switzerland, which aims to mimic the human brain in molecular detail	**2005**
Google is building a self-driving car that drives itself without a human driver	**2009**
Apple's Siri and Google Now are smartphone apps that use natural language to answer questions, make recommendations, and perform actions	**2011**
The Future of Life Institute in California organized the Asilomar Conference on Beneficial AI, and one of the outcomes of the conference was the formulation of a number of guidelines for beneficial AI research	**2017**
Alibaba's AI language processing model outperforms seniors on Stanford University reading comprehension test Google Duplex, a service that lets AI representatives have natural conversations by mimicking a human voice, and book appointments over the phone, is announced	**2018**

Source: Musa and Habib Bilal 2019 (38,41)

Second: Artificial Intelligence and Machine Learning

It is a set of technologies that enable machines and systems to learn, understand, act and sense. The AI system cycle is the cyclical process that AI developers are expected to follow to design, build and produce robust and secure systems that deliver business value and insights by adhering to a unified and organized approach to managing the implementation and delivery of AI models. The AI systems administrator is the natural or legal person or legal entity that manages, implements or uses an AI system to achieve a specific goal[2].

Artificial intelligence (AI) is also known as: It is a field that includes various techniques and technologies that aim to create machines that can perform tasks that normally require human intelligence. Machine learning, a subset of AI, includes algorithms that enable computers to learn from and make predictions about data or make decisions based on them. Quantum machine learning is an emerging field that explores the potential of quantum computers to outperform classical computers in machine learning tasks. Deep reinforcement learning combines reinforcement learning and deep learning to solve complex decision-making tasks in various fields.

Third: Goals of Artificial Intelligence

The general goal of artificial intelligence is to introduce an algorithm and create the desired outputs. The following are some other goals:

1. Solving problems: The ability of artificial intelligence to solve problems contributes to making life much easier by developing active algorithms to solve problems that can make logical

[2] (Saudi Data and Artificial Intelligence Authority, 5, 2023)

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

inferences and simulate human thinking, such as the stock market prediction system.
2. Knowledge Representation: It is about representing "what is known" to machines using a set of relationships and concepts. The representation reveals information from the real world that the computer uses to solve complex real-life problems, such as diagnosing a medical condition or interacting with humans in natural language.
3. Planning: We can make future predictions and verify the results of our actions. We use planning through robots in risk management and cybersecurity.
4. Creativity: AI can move through massive amounts of data, consider options and alternatives, and develop creative paths or opportunities for us to move forward. For example, an AI system can provide multiple interior design options for a 3D apartment layout.
5. General Intelligence: AI researchers aim to develop machines with general AI capabilities that combine all the cognitive skills of humans and perform tasks more efficiently than us. It will also help free humans from performing dangerous tasks such as defusing bombs.
6. Machine learning: is the study of computer algorithms that automatically improve through experience. Technically, AI programs process a set of input-output pairs for a specific function and use the results to predict the outcomes of new inputs.
7. Social intelligence: is the study and development of systems that can interpret, process, and simulate human emotion. Using it, computers can read facial expressions, body language, and tones of voice to allow AI systems to interact and communicate socially on a human level.

Fourth: Characteristics and applications of artificial intelligence

Artificial intelligence applications have a set of characteristics that make them an effective investment in several fields, including[3]:

- Some artificial intelligence applications on devices and machines enable them to analyse problems.
- Artificial intelligence applications on devices and machines enable them to recognize sounds and speech and the ability to move objects
- The ability of some AI-enabled devices to understand and analyse inputs to provide outputs that meet the user's needs with high efficiency.
- AI applications enable continuous learning, where the learning process is automatic and self-paced without being subject to monitoring, supervision, or human intervention.
- Their ability to process a huge amount of information.
- You can notice similar types of data and analyse them more effectively than human brains.
- You can find solutions to unfamiliar problems using cognitive ability.

In addition to what was mentioned, some other features and characteristics can be explained, which are represented in using intelligence to solve the problems presented in the absence of complete information[4].

- The ability to think and understand broadly.
- The ability to acquire and apply knowledge.
- The ability to learn and understand from previous experiences and expertise.
- The ability to use old experiences and employ them in modern situations.
- The ability to use trial and error to learn different things.
- The ability to respond quickly to things and circumstances that occur in a new way.
- Ability to deal with difficult and complex cases.
- Ability to deal with ambiguous situations with no information.
- Ability to distinguish the relative importance of elements of the cases presented.
- Ability to visualize, create, understand and perceive visual matters.

Fifth: The risks of artificial intelligence on financial markets

Financial markets are considered one of the most important economic tools in most countries of the world as effective tools for financing and investment, as well as channels for facilitating trade in goods, services, metals and energy. Financial markets have played a major role in the growth of economic activity and

[3] Asmaa El Sayed Mohamed, Karima Mahmoud Mohamed (2020) Artificial Intelligence Applications and the Future of Educational Technology. Cairo, Egypt: Arab Group for Training and Publishing.

[4] Amina Athamnia (2019). Basic Concepts of Artificial Intelligence (Arab Democratic Centre for Strategic, Political and Economic Studies, editor) Berlin, Germany.

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

development witnessed by the world. Financial markets are among the platforms that have contributed to building giant companies that provide products and services that have played a major role in the growth of economic activity. As financial markets continue to play an effective and positive role in developing activity economist countries are interested in stock exchanges and initial public offerings in financial markets. In an attempt to facilitate, amazing technological developments have occurred that enhance investment opportunities in financial markets. It can be noted that investing in financial markets, especially in developed countries such as the United States, has become easier than before, through direct trading and technological platforms that usually allow huge amounts of money to be invested in financial markets. This may explain the current cohesion of the market, despite the expected deterioration of the market due to the continued rise in interest rates[5].

Some might argue that AI today represents a revolution in human life, a development no less important than the developments that happened to humans in the Industrial Revolution. Since then, developments have evolved technology and artificial intelligence are now replacing many jobs and tasks that were previously performed by humans. Some of the tasks and predictions that financial companies used to rely on are now done by experts in research, statistics and forecasting based on difficult and complex methodologies to help financial companies plan for the future in order to achieve high returns. Below are some questions that raise the same concerns that humans have about the extent of the benefits that can be reaped from the results of artificial intelligence.

The bottom line is that AI creates a better reality for humans, but it also raises concerns among some humans, based on results that are generally unclear at this point in time. Therefore, despite its important and influential role in global economic activity, what is important today is that great efforts are made to regulate its ethics so that this development does not have a significant negative impact on financial markets and cause a loss of confidence in them.

Section Two: Global Stock Markets

First: About the nature of global stock markets and their components:

Global stock markets are markets through which companies, governments and individuals can trade securities such as stocks, bonds, currencies and commodities through exchanges and electronic platforms. These markets are of great importance to the global economy because they help companies raise capital, stimulate investment and provide investors with opportunities to earn financial returns. Stock markets vary around the world in terms of size, organization and development. Some are large and developed, such as the New York Stock Exchange, the London Stock Exchange and the Tokyo Stock Exchange, while others are smaller and less developed. These markets are affected by a variety of factors, including political, economic, technological and global events[6].

Buying and selling these securities involves some mystery, both for novice and experienced investors. Investors may be attracted to securities because of the excitement involved in trading securities. Investors may be attracted to the fact that investing in stocks and bonds can make or lose a lot of dollars. Whatever the reason, Investors who are drawn to Wall Street need to understand how the stock market works and how securities are bought and sold.

Securities are sold to the public and how securities trading works. The first section covers the role of securities dealers and secondary markets such as the New York Stock Exchange. This is followed by an explanation of how securities are traded, the role of brokers, order variety, margin trading and cash trading, and the costs of buying and selling.

This market consists of three different mechanisms that are closely interconnected[7]. This is because each of these markets and their internal branches has its own characteristics, features and tools for investment policy. The first of these markets is the money market mechanism, which includes banking services, the savings system, credit settlement, clearing, settlement, foreign exchange and foreign currency. The second is the capital market, which includes investment in projects and investment financing in various sectors of

[5] https://www.alarabiya.net/aswaq/opinions/2023/05/27/%D9%85%D8%AE%D8%A7%D8%B7%D8%B1-%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-%D8%B9%D9%84%D9%89-%D8%A7%D9%84%D8%A3%D8%B3%D9%88%D8%A7%D9%82

[6] Herbert B. Mayo ،Investments An Introduction،© 2014, 2011 South-Western, Cengage Learning ،p 115

[7] Al-Abbas, Hassan Sobhi, Prospects and Main Components of Mechanisms for Establishing Stock Markets, Future Research, 2005, pp. 106 and 107.

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

the economy and development. The third is the stock market mechanism, which deals in stocks and bonds, which can be called the stock exchange mechanism.

Second: Types of global stock markets

It can be divided as follows:

1. Primary Market
   It is an initial public issue of shares or bonds issued on behalf of entities such as joint stock companies or government entities such as treasury bonds, public bonds and private bonds.
2. Secondary Market:
   The trading of the issue, i.e. buying and selling securities on stock exchanges through international brokerage firms, investment banks or agents specialized in brokerage between investors and savers and the stock market, is also a place for practicing brokerage and speculation, and all of this is referred to as market makers.
3. Third Market:
   It is the unregulated market, which consists of securities companies that are not members of an organized market. These brokerage companies actually represent a market for continuous and continuous trading in securities of all sizes, and the dealers in this market are either large investment institutions with good capital or small brokerage firms that have no representation in the organized market.
4. Fourth Market:
   The fourth market refers to large investment institutions and wealthy individuals who buy and sell securities in large orders as an additional strategy to reduce the commissions paid to brokers. The direction of the state's economic policy towards the establishment of stock market structures or (stock exchanges) is an important step in the field of structural reform and economic stability in the paths of the contemporary macroeconomy, and the issue of establishing this type of organized financial market mechanisms involves the creation of a regional environment for domestic and foreign investment in the regional environment for domestic and foreign investment, by establishing and legal framework, administrative and technical institutional framework, and completing the construction of structures and pillars in the infrastructure of the national economy, and the fact that the availability of key elements, including increasing the level of investment and savings among the general public in society[8].

Third: The importance of stock markets and their mechanism of action:

Global stock markets play an important role in the global economy. Here are some reasons why they are important:

1. Capital channelling: Stock markets allow companies to raise the capital needed to implement their investment projects by issuing stocks and bonds. This capital can be used to invest in infrastructure, research and development, and increase productivity.
2. Risk distribution: Stock markets allow investors to distribute investment risks by forming a diversified portfolio of securities. This can reduce potential fluctuations in the net value of the portfolio.
3. Asset pricing: Securities prices in global capital markets reflect market expectations about the performance of companies and economies. These prices help direct resources to their most productive uses.
4. Interaction between economies: Global stock markets allow the free flow of capital across national borders, leading to global economic integration. This can support global economic growth by increasing the efficiency of capital allocation.
5. Wealth Creation: Stock markets allow investors to earn returns on investments by buying and selling securities. This can help individuals and organizations build wealth over the long term.

In conclusion, global stock markets play a pivotal role in supporting global economic growth by channelling capital, distributing risk, determining asset prices, interacting with economies, and creating wealth.

The returns of the stock market are the mechanism[9] that mediates the process of financing investment and reinvestment in the local savings sector, local and foreign investment, and the financing structure of institutions in order to provide their needs for sufficient funds to re-expand production and renew their growth movement at the level of the market economy. (Therefore, global stock markets are usually described as an organized artificial machine that links the savings and investment sectors, and refinances medium- and long-term investments through specialized devices in banking financial mediation or brokers) and its mission

[8] (Union of Arab Banks, Lebanon, p. 22 (1988))

[9] www.Alriadh-np.com

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

is to trade and sell tradable financial instruments such as stocks, bonds, financial, commercial and commodity contracts.

Stock markets are the mechanism through which capital flows and is used in the field of investment, reflecting the degree of development of the overall economy and growth in the production, service and development sectors. In light of this concept, the issue of establishing and developing stock markets gains great importance in light of the countries' aspirations to deepen openness to the market economy, and therefore this requirement should be given special importance in structural reform programs and it should be noted that this matter represents a priority.

Fourth: The most important global stock markets

Historically, stock markets were places where buyers and sellers met to conduct business related to the buying and selling of goods. Today, global stock markets are more commonly thought of as markets where financial instruments such as bonds and stocks are bought and sold.

Initially, stock markets were physical buildings where traders traded face-to-face with other traders, shouting out buy and sell orders and communicating their bids and offers to each other. However, with new developments in technology, most of the world's stock exchanges have moved to electronic trading, and traders now have better access to various markets around the world[10].

1. The largest and most important markets in the world: The total value of the world's major stock exchanges currently stands at around $95 trillion. However, more than 93% of this value is divided between three continents: North America, Asia, and Europe. Here are 12 of the largest and most important global stock markets in the world that you should know as a trader:
   1- New York Stock Exchange
   2- NASDAQ Market
   3- Shanghai Stock Exchange
   4- Euronext Market
   5- Tokyo Stock Exchange
   6- Hong Kong Stock Exchange
   7- Shenzhen Stock Exchange
   8- London Stock Exchange Bombay Stock Exchange
   9- Toronto Stock Exchange
   10- Saudi Stock Exchange
   11- Frankfurt Stock Exchange

• New York Stock Exchange (NYSE)

It is the largest and most important stock exchange in the world. It is famous for its opening bell at 9:30 a.m., which is broadcast and watched by prominent businessmen and celebrities. This global exchange, known as "The Big Board," was founded in 1817, but did not begin operating under the name New York Stock Exchange until 1963. The New York Stock Exchange is headquartered at 11 Wall Street in Manhattan, New York City, and the building was recognized as a national landmark in 1978.

• NASDAQ Market (NASDAQ)

National Association of Securities Dealers (NASDAQ): The second largest and most important stock exchange in the world by market capitalization; the NASDAQ market is located in New York, in the world-famous Times Square. Founded in 1971 by the National Association of Securities Dealers (NASD), NASDAQ was the first stock exchange of its time.

It was not the traditional "open bid" method - NASDAQ was dedicated to ending the confusion through computers and telephones, instead of the traditional "open bid" method where traders shout out buy and sell orders in the trading center. This made NASDAQ the world's first global electronic market, and it now specializes in listing only technology companies in the US market.

Section Three: Artificial Intelligence Technology in Activating Global Stock Markets

First: Artificial Intelligence Applications in Activating Global Stock Markets:

Artificial intelligence (AI) has the potential to transform global stock markets in several important ways[11]:

1. Real-time data analysis: Because AI can process large amounts of data at high speed, it can analyse market trends, news, and other factors that affect stock prices in real time. This allows investors to make more informed decisions faster.
2. Predictive modelling: Machine learning algorithms can identify patterns in historical data and predict future stock price performance. These predictions

10 https://admiralmarkets.com/ar/education/articles/shares/boursat-alaswaq-alalamiya

11 https://business.uokerbala.edu.iq/wp/archives/27841

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

are not fool proof, but they can provide valuable insights into investment strategies.

3. Automated Trading: AI-powered trading systems can automatically execute trades based on pre-defined rules and signals from market data. This allows them to react quickly to market changes and remove emotional bias from trading decisions.
4. Risk Management: AI can help investors manage risk by identifying potential threats to their portfolios and suggesting diversification strategies. It can also monitor market conditions and adjust holdings accordingly.
5. Market Monitoring: Regulators use AI to detect signs of market manipulation and fraud, helping to maintain integrity and trust in the securities markets.

Positive and negative impact on the market:

The increasing use of AI in the stock market has several effects

1. Increased volatility: Automated trading systems can react instantly to market events, which can exacerbate price volatility.
2. Reducing human errors: AI can reduce human errors resulting from fatigue, emotions, and simple mathematical errors.
3. Levelling the playing field: Advanced AI tools that were previously only available to large institutional investors are now available to individual investors, making the market more democratic.
4. Focus on long-term strategies: With AI making trading decisions in real-time, investors can focus on long-term strategic planning. AI is revitalizing global stock markets by enabling real-time data analysis, predictive modelling, automated trading, and improved risk management. While AI is not without its challenges, there is no doubt that AI is reshaping the way stock markets operate and creating new opportunities.

Second: The impact of artificial intelligence in data analysis Global stock markets

During data theory insights, information analytics provide actionable information to companies. It is the probability of another outcome. These elements are used to estimate future trends. Taking predictive analytics also[12]

You will learn more (ML) and algorithms, business rules, and computer modelling techniques for some farmers and tools used in predictive analytics. The inputs for these details come from a variety of data sources, including historical data, transaction data, real-time data waves, and big data. Companies and organizations that already use descriptive analytics tools and solutions also benefit from applying predictive and descriptive analytics solutions. They benefit from these solutions better because they have data management that can run their own predictions and algorithms[13].

There are analytical solutions that can impact these issues using statistical and technical factors, which ultimately help in making strategic and fact-based decisions. As a result, analytics has become an integral part of Business Intelligence (BI) in various industries used. Questions have been raised regarding security and data privacy. Due to the lack of confidentiality of the collected data due to the information that cannot be digested.

As a result of the development of the novel coronavirus (COVID-19) to the market, but the market is gaining sudden momentum with its emergence. During this period, the increasing reliance on technologies such as cloud computing and artificial intelligence has begun to provide many opportunities for companies to digitally transform and expand across the region. The impact of artificial intelligence on global stock markets comes through generative artificial intelligence in financial services, artificial intelligence and improving investment returns, and artificial intelligence risks. In particular, since artificial intelligence algorithms can analyse market data and various other factors and make trading decisions within tenths of a second, these algorithms can take advantage of market inefficiencies, exploit short-term price differences and manage risks more efficiently. As a result, algorithmic trading using artificial

[12]https://www.parlmany.com/News/2/530223/%D8%AA%D8%A3%D8%AB%D9%8A%D8%B1-%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%89-%D8%B9%D9%84%D9%89-%D8%A3%D8%B3%D9%88%D8%A7%D9%82-%D8%A7%D9%84%D9%85%D8%A7%D9%84-8-%D8%B7%D8%B1%D9%82-%D9%88%D9%81%D9%88%D8%A7%D8%A6%D8%AF-%D9%84%D8%AA%D8%AD%D8%B3%D9%8A%D9%86

[13] https://www.mordorintelligence.com/ar/industry-reports/predictive-and-prescriptive-analytics-market

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

intelligence has gained popularity among institutional investors, allowing them to make data-driven decisions

Third: The impact of artificial intelligence in predicting stock prices

The study indicates that artificial intelligence algorithms can automatically execute trades based on pre-defined rules, which reduces the time and effort required by humans. The study explains that artificial intelligence can analyse market data and develop trading algorithms that determine when to buy and sell stocks. Artificial intelligence can analyse historical data and predict future market movements[14].

It helps traders make informed decisions, and perhaps one of the most prominent of these benefits is accuracy. Artificial intelligence can help provide more accurate predictions about the closing price, opening price, and other financial data. This can lead to better decisions and more successful trades.

1. Experience some companies using AI and machine learning to predict stock prices

Many investment firms are successfully applying machine learning algorithms to their daily stock trading activities. Here are three examples from the field.

1- Two sigma Company

This New York City-based investment firm uses AI and machine learning techniques in its strategies, which include high-frequency trading (HFT). This approach to trading involves analysing quantitative and qualitative data from multiple markets, helping the firm make profitable trades faster than its competitors[15].

2- Rebellion Research Company

Since 2007, Rebellion Research has been offering its clients AI-powered investment strategies. One of them, called Global Equities, involves using machine learning algorithms to adapt to ever-changing market conditions[16].

3- Bridgewater Associates Company

Bridgewater Associates, an American asset management company, has been using various forms of artificial intelligence to make market predictions and improve traders' productivity for several years. In 2022, the company launched its new AI-based algorithm called "Know First" to analyse current market events daily and generate forecasts for more than 7,000 of the company's assets[17].

4- AltIndex Company

This platform focuses on stocks listed on US markets, and uses machine learning to process and analyse social data to provide investment recommendations based on emotions and sentiments spread across the internet[18].

Fourth: Mathematical model of the relationship between artificial intelligence and global stock markets

In order to predict stock prices using artificial intelligence, a predictive model must be built to know the nature of the relationship between artificial intelligence (the independent variable) and the dependent variable (global stock markets). The model is in the following mathematical form:

$$Y = a + bx$$

Where:

- Y = the dependent variable (predicted) stock markets
- x = the independent variable (predictor) artificial intelligence
- a = which is the regression constant
- b = which is the regression coefficient (slope of the regression line)

Using the least squares method, a, b can be expressed by values

[14]https://almalnews.com/%d8%a7%d9%84%d8%a8%d9%88%d8%b1%d8%b5%d8%a9-%d8%a7%d9%84%d9%85%d8%b5%d8%b1%d9%8a%d8%a9-%d8%aa%d8%b4%d8%a7%d8%b1%d9%83-%d9%81%d9%8a-%d8%a7%d9%84%d9%85%d8%a4%d8%aa%d9%85%d8%b1-%d8%a7%d9%84%d8%b3%d9%86/

[15] [oai_citation:1,How Machine Learning Helps Predict Stock Prices | Built In](https://builtin.com/machine-learning/machine-learning-stock-prediction).

[16] [oai_citation:2,How Machine Learning Helps Predict Stock Prices | Built In](https://builtin.com/machine-learning/machine-learning-stock-prediction).

[17] [oai_citation:3,How Machine Learning Helps Predict Stock Prices | Built In](https://builtin.com/machine-learning/machine-learning-stock-prediction)

[18] [oai_citation:4,10 Best AI Stock Picking Websites for May 2024](https://www.techopedia.com/investing/best-ai-stock-picker

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

The strength of the relationship between the variables is expressed in values between 1.1- through the correlation coefficient

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 47, June, 2025
ISSN: 2749-3628,

REFERENCES

1. Amal Fawzy Ahmed Awad (2021). Digital ownership in the age of artificial intelligence: challenges of reality and the future. (Publications of the Arab Democratic Center for Strategic, Political and Economic Studies, editor) Berlin, Germany.
2. Asmaa El-Sayed Mohamed, and Karima Mahmoud Mohamed (2020) Applications of artificial intelligence and the future of educational technology. Cairo, Egypt: Arab Group for Training and Publishing
3. Amina Othmaniya (2019). Basic concepts of artificial intelligence (Arab Democratic Center for Strategic, Political and Economic Studies, editor) Berlin, Germany.
4. https://www.alarabiya.net/aswaq/opinions/2023/05/27/%D9%85%D8%AE%D8%A7%D8%B7%D8%B1-%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-%D8%B9%D9%84%D9%89-%D8%A7%D9%84%D8%A3%D8%B3%D9%88%D8%A7%D9%82
5. Herbert B. Mayo ،Investments An Introduction،© 2014, 2011 South-Western, Cengage Learning ،p 115
6. (www.Alriadh-np.com)
7. https://admiralmarkets.com/ar/education/articles/shares/boursat-alaswaq-alalamiya
8. (aitihad almasarif alearabiati, lubnan, s 22 (1988)) 9. aleabaas , hasan subhi , alafaq walmuqawimat alrayiysiat lalyat 'iinsha' aswaq alawraq almaliat buhuth mustaqbaliat ,2005 was 106 w 107
9. https://business.uokerbala.edu.iq/wp/archives/27841
10. https://www.parlmany.com/News/2/530223/%D8%AA%D8%A3%D8%AB%D9%8A%D8%B1-%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%89-%D8%B9%D9%84%D9%89-%D8%A3%D8%B3%D9%88%D8%A7%D9%82-%D8%A7%D9%84%D9%85%D8%A7%D9%84-8-%D8%B7%D8%B1%D9%82-%D9%88%D9%81%D9%88%D8%A7%D8%A6%D8%AF-%D9%84%D8%AA%D8%AD%D8%B3%D9%8A%D9%86
11. https://almalnews.com/%d8%a7%d9%84%d8%a8%d9%88%d8%b1%d8%b5%d8%a9%d8%a7%d9%84%d9%85%d8%b5%d8%b1%d9%8a%d8%a9%d8%aa%d8%b4%d8%a7%d8%b1%d9%83%d9%81%d9%a8%d8%a7%d9%84%d9%85%d8%a4%d8%aa%d9%85%d8%b1%d8%a7%d9%84%d8%b3%d9%86/
12. https://www.mordorintelligence.com/ar/industry-reports/predictive-and-prescriptive-analytics-market
13. [oai_citation:1,How Machine Learning Helps Predict Stock Prices | Built In](https://builtin.com/machine-learning/machine-learning-stock-prediction).
14. [oai_citation:2,How Machine Learning Helps Predict Stock Prices | Built In](https://builtin.com/machine-learning/machine-learning-stock-prediction).
15. [oai_citation:3,How Machine Learning Helps Predict Stock Prices | Built In](https://builtin.com/machine-learning/machine-learning-stock-prediction)
16. [oai_citation:4,10 Best AI Stock Picking Websites for May 2024](https://www.techopedia.com/investing/best-ai-stock-picker