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THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING THE DEVELOPMENT OF FINANCE AND INVESTMENT

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Abstract

As the term artificial intelligence has been coined to this day, the debate is still ongoing and the debate is open only about the possibility of getting an artificial intelligence to drive a car and produce intelligent behavior similar to human behavior, with an intelligence that surpasses human capabilities without creating ambition. It has become natural to talk today about industrial awareness, and the tremendous capabilities of artificial intelligence, which may not be known to everyone, cannot be ignored, which is the great ability to control the information system around the world, which gradually becomes under the sole control of artificial intelligence, while demonstrating the benefits and importance of smart systems to enhance the development of investment finance. Therefore, this research aims to study the impact of artificial intelligence to enhance the development of investment finance and identify the areas of artificial intelligence, as well as determine which of these areas are more distinguished in enhancing the development of investment finance, in addition to revealing the level of impact of artificial intelligence in enhancing the development of investment finance and finally shedding light on the importance of artificial intelligence science and the need to pay attention to it and strive to use it and benefit from it as much as possible. Further, it is explained via a literature review since many authors have already concentrated on the smart system and its impact in general towards investments, but not many have done a study for this profession specifically. To collect necessary data, a precise questionnaire was used, a linear sample of 160 questionnaires was collected from few Iraqi banks. A simple linear regression model was conducted to analyze the data. Results are that artificial intelligence plays an important role in the development of the finance and investment as the use of the expert systems can provide and put forward recommendations to assist in the decision-making process, by simulating a human expert's thoughts and used within financial institutions and banks, as well as in the commercial field.

Keywords: *Artificial Intelligence, Finance Development, Investment Development.*

INTRODUCTION

In all types of economy, regardless of the poverty or wealth of developing or developed countries, the importance of investment and the development of affordable wealth to meet different needs is high.

In order to achieve these goals (development and financial stability), especially at the level of the economic institution, it was necessary to find financing methods capable of raising economic efficiency and increasing production capacity through the optimal use of available resources and mobilizing their savings and describing them in a way that brings them the highest benefits and the lowest costs, in addition to trying to adapt to the environment and modern developments witnessed by the world in the technical and technological field. Among the new developments is what is called artificial intelligence, which is considered a major turning point in the world due to the new and modern methods it has brought in operations and management in various fields and sectors, as humans possess a large amount of information and advanced programs that enable

them to achieve the best performance, and artificial intelligence is considered a qualitative leap in the field of technology that moves from traditional management methods for institutions to the use of the latest programs and technologies designed to improve the level of activity of these organizations and develop them, as the financing objectives are closely linked to the objectives of the institution, as the objectives that the latter seeks to achieve through its general strategy, which is divided into sub-strategies, including strategic financing, which aims primarily to achieve profit at the highest levels, as this is essential to achieving the main objectives such as growth and continuity. Financing decisions also aim to maximize the current value of the owners' wealth within the institution, regardless of its legal form (sole proprietorship, partnership, capital company.

That is, to maximize the sale value of the owners' share or net wealth, and this depends on the extent of the optimal use of funds from other sources in addition to good management in re-employing and investing the funds resulting from profits. In order to understand the role of artificial intelligence in enhancing the development of finance and investment in financial institutions, the research was divided into three sections:

The first section: Specifying the general framework of the research that refers to research problem and to its importance and objectives.

The second section: The research seeks to investigate the relationship between the artificial intelligence and finance and investment in the theoretical framework.

The third and final section: This involved giving the practical framework of the research where the explanation of the role of artificial intelligence in boosting the development of finance and investment.

GENERAL FRAMEWORK OF THE RESEARCH:

1-1: The problem of the study:

Today, institutions live in a rapidly changing environment due to the rapid and successive developments in software and electronic computing systems and their software that have surpassed other developments in other sciences with the emergence of new innovations in this field, and similar to other tremendous technological developments, artificial intelligence provides new capabilities - also accompanied by new risks. Perhaps the financial services activity is among the largest sectors benefiting from this technology, which may enable it to protect assets and better predict market conditions. To determine the problem, this is due to trying to reach the level of the role of artificial intelligence on the development of finance and investment, perhaps by analyzing from harms that the finance and investment sector would suffer if such, or if artificial intelligence encouraged theft, fraud or cybercrime or evolved financial crisis which wouldn't be expected to investors now. We identify the strengths and weaknesses of using artificial intelligence to spur development of finance by the following question:

- **What is the level of the role of artificial intelligence in enhancing the development of finance and investment?**

2-1: The importance of the research:

The financing process examines the daily financial needs of the institution and the financing sources in the appropriate quantity and appropriate cost and ensuring that they are spent in the best way, as well as the participation of senior management in its own decisions, including decisions to select and finance investments and regarding their resort to loans, using most of the methods and tools available to them from analysis, forecasts and planning. The importance of this research comes from the following:

1. The urgent need to develop Iraqi institutions, especially from the financial aspect
2. The reason for the great and increasing importance of the application of artificial intelligence inside institutions because of the speed, accuracy, and flexibility of these applications in the work, an ability to detect a large number of risks and to overcome a large amount of complex details, which requires mental focussing and continuous mental presence as well as accurate, quick, and sensitive decisions that are not tolerant of any delay or error.

3-1 Research objectives:

This research aims to analyze and study the impact of big data, artificial intelligence and the Internet of Things in enhancing the development of financing and investment and answering the research questions. The objectives of the study are as follows:

1- Identify the fields of artificial intelligence, as well as determine which of these fields are most distinguished in enhancing the development of investment financing.

2- Reveal the level of impact of artificial intelligence in enhancing the development of investment financing.

3- Presenting a set of proposals for the field under study on the extent of the role that artificial intelligence provides in enhancing the development of investment financing.

4-1: Research hypotheses:

The research is based on a main hypothesis that "there is a statistically significant impact of artificial intelligence in the development of investment financing"

The following sub-hypotheses branch out from it:

H1: There is a statistically significant impact of artificial intelligence in development and financial development.

H2: There is a statistically significant impact of artificial intelligence in the development of financial forecasting.

H3: There is a statistically significant impact of artificial intelligence in investment management.

5-1: Previous studies:

1- The study of (Victorianina Chukwani, 2018) in her research on the impact of artificial intelligence on the performance of accounting operations among accounting firms in southeastern Nigeria, entitled "The impact of artificial intelligence on the performance of accounting operations among accounting firms in southeastern Nigeria"

In this study, it was shown that "Artificial intelligence is changing the way in which the financial institutions work and will now increasingly take over basic functions due to cost savings and operational efficiencies.' If artificial intelligence has one theme there's been an incredible improvement and improvement lately on artificial intelligence with regard to the accounting profession which has changed its focus from the introduction of paper and pencil to the introduction of computers and software but the biggest risk with AI is that people come to the conclusion that they understand it too early. To find the consequence of AI on the effectiveness of accounting process in accounting firms in South Eastern Nigeria".

2- (Bilal Dabouq * and Iyad Zaarour, 2017) in his research entitled "Bayesian Naive Classifier (BNC), a supervised machine learning approach that can improve the detection of earnings manipulation compared to a machine learning approach to detecting earnings manipulation, evaluates and compares the manual auditors' method with a widely used mathematical model (Benish model). The study found that the Benish model outperformed the manual auditors' method. The results also showed a higher classification rate (86.84%) using the Benish model compared to the manual audit method (60.53%). This difference indicates that the manual audit method is less effective in detecting earnings manipulation.

THEORETICAL FRAMEWORK OF THE RESEARCH

2-1: Artificial Intelligence:

2-1-1: Definition of Artificial Intelligence:

Researchers have defined artificial intelligence with several definitions, including the definition of (Othman, 2015), who defined it as one of the branches of computer science that is concerned with studying the creation of computer systems that display certain forms of intelligence, i.e. systems that learn new concepts and tasks, systems that can think and draw useful conclusions about the world in which we live. Systems that understand natural languages and observe and understand visual scenes, and systems that can achieve : work that requires human intelligence) Othman, 2015: 3)(Anbar, 2016: 43) in addition, he described artificial intelligence as a computer application concerned with creating programs for studying and implementing the repetitive activities carried out by humans' and to understand the complex mental processes performed by human thought process and transferring this mental process into equivalent accounting processes so as to increase the computer ability to solve the complex problems".

2-1-2:

At the beginning of the 20th century, some scientists at the middle of the century started looking for new methods of construction of intelligent machines, starting from the latest discoveries in neuroscience, new mathematical theories of information, and new discoveries in cybernetics. Automation Most importantly, with the invention of the digital computer, a machine emerged that could simulate the process of human computational thinking, the foundations of the modern field of artificial intelligence research at a campus conference These attendees became leaders in artificial intelligence research at Dartmouth College in the summer of 1956 Founded by Herbert Simon, Allen Newell, and Marvin Lee Minsky Over the decades, the artificial intelligence laboratories at MIT, Carnegie Mellon, and Stanford, they and their students wrote programs that, have amazed most people were computers that solved algebraic problems, proved logical theorems, and spoke English. US Department of Defense generously funded research in the mid 1960's. They made the following predictions.

1. Machines will be able to do within twenty years any work that a human being can do. Herbert Simon: 1965.
2. Marvin Minsky: 1967: Within one generation, the problem of artificial intelligence will be largely solved.

We saw a new renaissance of artificial intelligence in the early 1980s with the commercial "success of expert systems, that are programs of artificial intelligence that transfer the knowledge and the analytical skills of one or more human experts and earned a few years later more than a billion dollars with this programming language." In 1987, the collapse of the artificial intelligence machine market again happened in (Research

Lisp Machine), although this time, for a longer period of time. In the 1990s and early 2000s, the field of artificial intelligence has seen greater success in logistics, data mining, medical diagnosis and many other fields, in addition to the entire technology industry, the most important of which is related to the power of computers today, the increase in precise sub-problems and artificial intelligence. (Raqeeq, 2015, 15)

2-1-3 :Artificial intelligence design methods:

There are two types in the method of artificial intelligence design, which are as follows (Qamora et al., 2018, 8)

First: A central form inspired by the nerves of the human brain (neuromimetism) and in this type of design, the task of the algorithm lies in finding the optimal solution. However, in most cases, the algorithm is obligated to consider all procedures because the number of possible solutions increases exponentially according to the number of elements, which greatly increases the complexity of the self-learning process. This form of artificial intelligence is known as artificial neural networks, especially deep learning networks, which have suffered for many years from the problem of limited automatic computational capabilities due to the incompatibility of electronic development in the design of powerful devices and storage, but the current explosion of big data and the acceleration in creating huge areas of information storage centers have allowed a strong return of this technology recently.

Second: Decentralized form: inspired by nature and biology (bio inspired intelligence)

Including simple living organisms such as ants, where these very simple organisms, without complex brains, can accomplish very complex tasks such as searching, prospecting, manufacturing and building bridges to bring food, as these systems are based on primary entities that have the ability to pursue one or more individual and common goals, such as multi-unit systems (Agent Systems Multi) based on imitating the social intelligence of ant societies in rapid and automatic adaptation as well as the superior ability to self-organize without central rule. Intelligence comes as a result of sharing and interaction between entities and their environment. Figure No. (1) illustrates these types

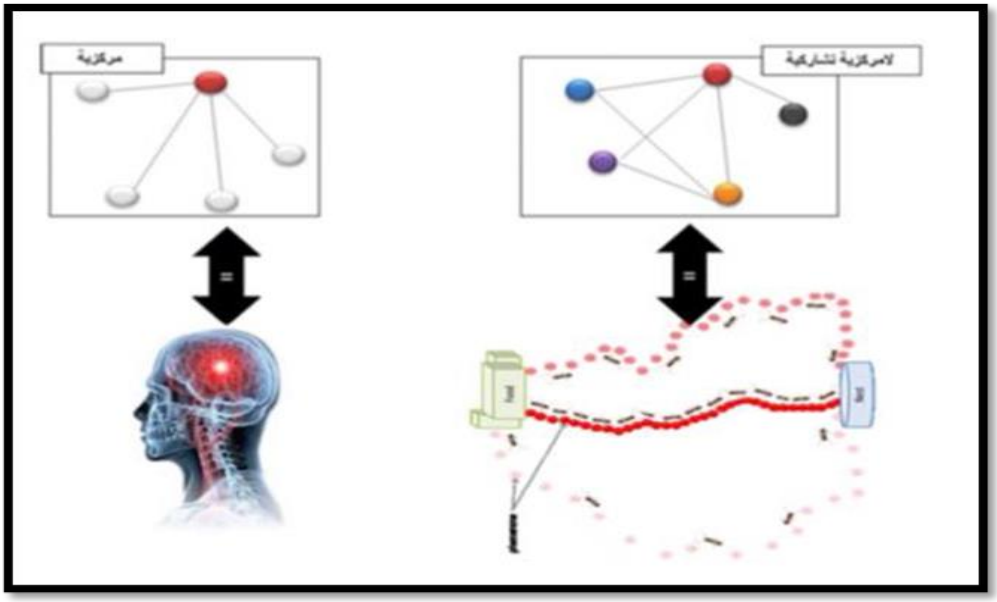

Figure No. (1): illustrates the types of artificial intelligence

2.1-4: Artificial Intelligence VS Human Intelligence:

There are a number of differences between artificial intelligence and human intelligence, and Table (1) shows these differences:

Table (1): Differences between artificial intelligence and human intelligence

Natural intelligence	artificial intelligence
It is characterized by the possibility of being forgotten	It is characterized by permanence
Difficulty disseminating and reproducing knowledge	Ease of reproducing and disseminating knowledge
Difficulty in documentation, which requires re-submission every time	The possibility of documentation very easily and quickly
Basic tasks are executed much more slowly than in artificial intelligence	Carrying out basic tasks more quickly than in normal intelligence
Natural intelligence is characterized by being creative and imbued with the human spirit	Artificial intelligence lacks this characteristic
The ability to acquire human knowledge and the ability to solve problems easily	Artificial intelligence cannot achieve this characteristic except under approved programs for this purpose

Source: (Al-Suwailem, 2000: 26).

2-1-5 Characteristics of artificial intelligence:

Artificial intelligence is characterized by several characteristics, including: (Al-Daas, 2020: 17)

1. Learning and Adaptation

When learning from experience is one of the most prominent characteristics of artificial intelligence (AI). The data is used by AI systems to spot patterns and become better over time. A core branch of AI is machine learning, which cuts out the need for an individual machine to be programmed for each task; the more the machine is exposed to something the more accurate it becomes at it.

2. Problem Solving and Decision Making

To solve complex problems even in incomplete information, AI can. However, it can process large datasets, check out many options and select the most adequate option at hand. This ability to solve problems is very useful in domains such economics, healthcare or logistics where the decisions need to be taken on time supported by data.

3. Reasoning and Logic

Logical reasoning is a capability of the AI systems that can make conclusions based on the given data and rules. When it comes to diagnosing a medical condition or investing in some company, it makes use of structured logic to make sense of given information and apply it to a new situation or something that's still ambiguous.

4. Perception and Interaction

AI can perceive its environment with sensors and recognition systems to interact with it. It can grasp human emotion, language and objects, interprets the visual, auditory and textual data, and allows for smooth human – machine interaction.

5. Innovation and Support

Analysis of data by AI enables creativity as well as innovation by creating new ideas and solutions. Apart from that it helps out in managerial decision making by offering significant insights and predictions helping out in strategic planning and operations.

2-2: The concept of financing and investment development:

Finance is the backbone of the institution and the driving force for all functions and businesses. Without it, the institution's plans remain on paper without implementation, as institutions need to provide the necessary funds in order to equip and manage fixed assets and current assets.

2-2-1 The concept of financing

Finance is all the money that the institution or project obtains from various sources, whether internal or external, in order to meet the costs related to management and exploitation. (Al-Zaghbi, 2007: 77) Or in other words, it is all the necessary amounts that the institution obtains through various means in order to cover its costs. (Razzaq, 2008: 31)

Financing is considered one of the necessary requirements to overcome the increasing challenges facing the institution, such as the intensity of competition and the desire to expand to meet emergency circumstances... It is an essential element for the institution to continue in its system and growth, and therefore no institution or project can achieve its goals or implement its plan without this vital element. (Al-Obeikan, 2012: 16)

Therefore, before undertaking any activity or establishing any project, it is necessary to search for sources of financing, whether these sources are internal or external, provided that they are sufficient, at the appropriate time, at the lowest costs, and used rationally in order to achieve profit with growth.

2-2-2: Types of financing:

First: Internal financing of investments

Internal financing can be defined as the ability of the institution to finance itself, whether through funds generated from the institution's current operations, or through funds obtained from its own sources, i.e. those it places at its disposal upon establishment, where the most important internal sources of investments can be listed as follows (Adoun, 2000: 23)

A- Owned funds: They are a source of internal financing, which the partners or the individual brought and are placed at the disposal of the institution permanently or temporarily, and they are owned by a natural person and therefore bear the character of owned funds and are the first financing step in the institution, so they bear the number one in the national accounting plan, and are divided into :

1) **Collective funds:** These are amounts that the non-A partners brought in at the beginning of the transaction. If you want to get more information about what you want, you will be able to save money on your home.
2) **Individual funds:** These are the funds that an individual places in the newly established institution and are placed at the disposal of the legal person permanently. This is the case of individual institutions, i.e. the funds allocated by the individual trader from his own funds, whether upon establishment or upon raising the capital of the institution, with the aim of distinguishing between the funds of the natural person and the funds of the legal person (the institution).
3) **Shareholders' bonuses:** These are formed when the institution issues new shares for subscription, so that it offers them at a price or market value higher than the value of the shares it previously purchased.
4) **Reserves:** These are considered funds collected by the institution, as they represent the positive results of previous years that remained at the disposal of the institution temporarily (Abdul Aziz, 2000: 43)

5) **Subsidies**: These are all funds that the institution obtains in order to meet the various costs, whether related to investment or exploitation. These subsidies come from a party that has a guardianship with the institution or a non-guardian party. These subsidies are generally directed to finance investments.
6) **Revaluation differences**: Given the existence of inflation, investments must be revalued based on market prices. This increase can be used to finance the investment, as it is considered a source of internal financing.
7) **Depreciation**: It is the decrease in the accounting value of an asset resulting from its use, time, technological development, or other effects. Accordingly, we say that it is a means of internal financing.

In the event that the internal elements are insufficient to finance investments, or in the event that there is an alternative opportunity, the institution resorts to internal financing sources, namely loans, which we will discuss in the following section, God willing.

Second: External financing of investments

External financing can be defined as the various funds that the institution obtains from external sources to cover its costs and obligations, in the event of a deficit in internal resources, or in the event that the use of external resources is less expensive.

A- Debts:

It is the sum of debts related to the institution's activity, starting with debts on investments and various inventories, in addition to suppliers, payment papers, etc.

B- For loans directed to finance investment activities:

These are the operations that institutions undertake for long periods to obtain either production and its equipment or real estate such as industrial, commercial and administrative buildings. Accordingly, investment is a current expenditure from which a greater return is expected in the future. This expenditure is usually one-time, while the returns are intermittent and flow over the years of the investment, which are classified as follows:

1) Classic loan operations to finance investment: (Al-Issawi, 2001: 35)

They are represented by medium-term loans and long-term loans and are divided into:

- Medium-term loans: Directed to finance investments whose useful life does not exceed seven years, such as machines, means of transportation, etc.
- Long-term loans: Directed to finance investments whose useful life exceeds seven years and can extend to twenty years, such as lands and buildings.

2) Leasing credit:

This is a newly renewed idea that came to alleviate the burdens of the institution when it invests for the first time, which is the bank renting or leasing machines and equipment, or any other material assets that the lessee chooses for a specific period in exchange for paying installments called the rental price.

2-2-3: The relationship between artificial intelligence and finance and investment

Consequently, artificial intelligence in the field of finance and the role of artificial intelligence systems in the

development process of the finance sector, solving finance sector problems and the making of finance transactions more successful and smoother, are provided with new and innovative ideas to companies and commercial institutions through artificial intelligence in finance. Artificial intelligence provides many advantages in finance and investments that make it one of the most prominent trends used in various industries and commercial sectors, as companies supported by artificial intelligence and smart machine technology can meet critical financial needs and face many other challenges, through the roles of artificial intelligence in finance: (Denis, 2012: 3)

1- Financial development and growth:

One of the most important factors affecting the development of commercial institutions related to the financial and the financing department as well as following up with the most important trends in the future of accountancy is machine learning and the ability to cope with large information sets by artificial intelligence.

This is what makes advanced artificial intelligence systems an effective process for achieving financial development and growth, enhancing the accounting aspects of banks and commercial institutions, and applying effective technical solutions related to them.

2- Financial Forecasting

Today, artificial intelligence forecasting is one of the most important reasons that help make the right decision in the financing operations of leading companies, and help them use technology appropriately and rely on smart applications that contribute to the development of the institution's financing operations clearly.

Each advanced artificial intelligence has the ability to predict financial changes around the global economy and local institutions' accounts, monitor investment performance, and predict future results as well, which aims to achieve better change within the company and make the necessary adjustments based on the given artificial intelligence data.

3- Using modern systems

Artificial intelligence systems used in central finance, for example, when using the blockchain system that ensures speed and transparency in financial transactions, help create the required tasks, manage them, and deal with them with greater transparency and effectiveness. As the system supported by artificial intelligence is able to assess the many financing risks in any industry to obtain a clearer vision, and this is done by managing both data and artificial intelligence within modern applications that are classified as the revolution of the future.

4- Investment Management:

Investment has a large share when using artificial intelligence in financing within financial trading companies in the global market as well, as the great impact of artificial intelligence in investment has a role in managing electronic information related to trading, estimating cash flows, and improving customer services. For example, using artificial intelligence in real estate helps manage analyses, save efforts, and make sound decisions for successful financing, in addition to benefiting from it in reducing costs, managing subscriptions, and obtaining the most appropriate opportunities for profitable investment.

Practical Framework:

3-1: Statistical Description of Research Variables:

This paragraph dealt with presenting the most important results reached by the researcher through the

questionnaire form and analyzing them regarding the The research variables were decided in accordance with the research questions and objectives, and as follows were the results:

Second: Descriptive statistics results for the independent variable (artificial intelligence):

The research variables were arranged in order of questions specific to each variable, and using statistical indicators (arithmetical means, standard deviation, ranks, and level of importance of the main variable 'artificial intelligence' and its sub-variables, according to the responses of the research sample members) through Table No. (3).

Table (3): Shows the arithmetic means, standard deviations, relative importance, and ranking of the dimensions of artificial intelligence

Importance level	Rank	Standard deviation	mean	Dimension	Sequence
Elevated	1	0.911	4,56	The ability to discover and apply knowledge	1
Elevated	2	0.764	4,41	Ability to use trial and error to explore controversial issues	2
Middle	3	0.885	3,12	Ability to provide information to support administrative decisions	3
Middle	4	0.543	3.01	Ability to respond quickly to new situations and .circumstances	4
Middle	-	0.775	3.77	Total	

Source: Prepared by the researcher based on the results of the SPSS program. v26

This explores the evaluation of various key dimensions of AI capabilities, about which it is found that some of the dimensions are of varying importance and effectiveness in terms of aiding support organizational functions. 'The ability to discover and apply knowledge' was ranked as the highest ranked dimension with a mean of 4.56 (on a scale of 1 to 5, where 5 is strongly agree and to 1 is strongly disagree) and standard deviation of 0.911 which suggests large sympathy amongst the respondents and signifies its high importance. Second to that is "The ability to use trial and error to explore controversial issues" with a mean of 4.41 and a lower standard deviation of 0.764; this too suggests a consistent knowledge of its importance. Both of these dimensions are critical for AI systems to learn, adapt and provide creative solutions in uncertain or changing conditions where full data or definite answers do not exist.

The dimensions "Ability to provide information to support administrative decisions" and 'Ability to respond quickly to new situations and circumstances' got products of the moderate mean scores of 3.12 and 3.01 respectively. These are the third and fourth importance level; they are under Middle. However, they are considered not as crucial as knowledge discovery and trial and error abilities. On an overall average across all dimensions, it is 3.77 with a standard deviation of 0.775 and so is a moderate level of importance of such characteristics in the AI systems. As such, while all these aspects are important, some appear as more important in execution to leverage for their more strategic impact and adaptations in stature.

Second: Results of descriptive statistics for the dependent variable (finance and investments:

Measuring the level of importance of the dependent variable finance and investments according to the arithmetic mean:

The research variables were arranged and classified according to the questions specific to each variable, and using statistical indicators (arithmetic means, standard deviations, ranks, and level of importance of the dependent variable finance and investments according to the responses of the research sample members) in Table No. (4).

Table (4): shows the arithmetic means, standard deviations, and relative importance ranking of finance and investments

Importance level	Rank	Standard deviation	mean	Dimension	Sequence
Elevated	3	0.94	3.9	Development and financial development	1
Elevated	4	0.91	3.68	Financial prediction	2
Elevated	1	0.64	4.22	Use of modern systems	3
Elevated	2	0.65	4.16	Investment Management	4
Elevated	–	0.76	3.99	Total	

With respect to financial related dimensions, significant role of artificial intelligence (AI) in improving different parts of financial operations and making decision making is emphasized. Among the four key dimensions studied, the highest ranking has been "Use of modern systems" with a mean of 4.22 and the least Standard Deviation (0.64) which indicates high agreement on its high level of importance. However, this also implies that organizations place great value in the ability of AI to combine advanced technologies to automate processes in order to achieve higher accuracy and operational efficiencies. The next listed 'Investment Management' meaning that AI is also known due to its capability to provide an optimal investment strategy, manage risk and plan many years ahead when it comes to our financials.

Other aspects of critical scores are "Development and financial development" as well as "Financial prediction" with mean scores of 3.9 and 3.68 respectively. Despite being ranked third and fourth, these still hold importance at the 'Elevated' level, indicating that AI's influence in economic growth and forecasting is very valued. With a total mean score of 3.99 and SD of 0.76, it can be concluded that all evaluated dimensions are considered highly important in all dimensions by respondents. This trend indicates a growing trend among financial institutions and firms in leveraging of AI in not just reducing the costs of operations but also in utilizing AI as a means of gathering strategic intelligence and aiding decision making in the future.

3-2: The third section: Testing research hypotheses

The axis on its turn deals with the impact relations between an independent variable—artificial intelligence (AI), and a dependent variable—the finance and investment development. The investigation of this hypothesis is placed within the scope of a more comprehensive analytical model intended to test a general hypothesis, namely that there exists a statistically significant influence relationship between transformational leadership and organizational creativity. The first hypothesis used for this situation is the primary hypothesis, but

provides the overarching theoretical framework, and thus now the focus is on understanding how AI as a transformative tool affects financial growth and investment optimization directly.

In achieving this, the study specifies and tests four sub hypotheses which deal with individual aspects in the relationship between the AI capabilities and the financial development outcomes. The simple linear regression model will be the main analytical tool used to assess the strength and direction of the influence. The model enables the estimation of the impact of each component of the AI sub-variables, ranging from data analysis to automation, predictive modelling and decision support, on the sub-variables of the dependent variable financial forecasting, investment management, development planning, and risk assessment. This is analyzed on sub-levels and aggregate levels to provide a holistic understanding of the synergistic dynamics between AI implementation and financial innovation and, finally, guide more strategic decision making in the dynamic economic landscape.

The main hypothesis of the research: (There is a statistically significant influence of artificial intelligence on the development of finance and investment) and four sub-hypotheses branched out from this hypothesis, as shown in Table (5)

Table (5): shows the impact of artificial intelligence on the development of finance and investment

Decision	Significance	Calculated F Value	Coefficient of Determination R^2	Beta Coefficient β	Constant Term (a)	Dimensions of Finance and Investment
There is an effect	.642	3.981	.015	.128	1.775	Development and Financial Development
There is an effect	.012	15.994*	.714	.661	.756	Financial Forecasting
There is an effect	.095	4.508	.305	.349	2.949	Investment Management

With an analysis of the artificial intelligence and its relationship with the different areas of the finance and investment, it has varying degrees from high to little influence. Similarly, for Development and Financial development; the constant term is 1.775, the beta coefficient 0.128 having low R^2 value of 0.015 that supports little explanatory power suggesting the nature of low influence; however, the calculated F value of 3.981 of up to significant (1 – 0.642) 0.358 level shows also that there is a minimal effect. The highest R^2 of 0.714 and an F value of 15.994 imply that the first model has a strong effect and is statistically significant; specifically, Financial Forecasting shows the strongest relationship with a beta coefficient of 0.661. The constant term for Investment Management is 2.949, the beta coefficient is 0.349, and the R^2 is 0.305, which is moderate. An effect is also proved by the F value of 4.508 and the significance level of 0.095. Finally, regardless which of the three dimensions we look at, AI has a measurable effect on the sector.

*** Table (F) value at level 0.05 = (3.89)**

1- Analysis of artificial intelligence in development and financial development:

From Table (5), the calculated F value is 3.981 which is greater than the critical F value table of 3.89 held at 0.05 significance level and hence, the model is statistically significant. But the p value of 0.642 insinuates that the relationship is not strongly significant in traditional sense. The constant term (a) was reported to be

1.775, which is stating that even if AI value is zero, development and financial development is still present at a level of 1.775 units. This implies a general level of financial advancement independent of AI. The coefficient is 0.128; that is, for every one unit increase in AI level, it is expected that the level of development and financial development will increase 0.128 units for all else being the same.

The coefficient of determination (R^2) of 0.015 in terms of explanatory power of artificial intelligence to explain variance in financial development and growth level was 1.5%. It means that there was a relatively weak predictive contribution and so the need for further influencing factors to be examined in a more complete model.

2- Analysis of the impact of artificial intelligence on financial forecasting:

From Table (5) it appears that the calculated F-value is 15.994 which is much bigger than the F-table critical value of 3.89 at the 0.05 significance level. In addition, the statistical significance of this result is validated by the p-value associated, 0.012. Therefore, it implies that Artificial Intelligence (AI) has a strong and meaningful impact on the dependent variable i.e. financial forecasting. In essence, changes in the way that the implementation or sophistication of AI technologies are carried out can directly and significantly affect the prediction of an organisation's financial outcomes.

The constant value (a) is reported from the same table as 0.756, that is to say when there is no AI implementation measurable (AI = 0), there is still baseline level of the financial forecasting occurring at 0.756 units. Moreover, the beta coefficient (β) of 0.661 proves that as the one unit of AI utilization increases, 0.661 of units can be expected, all things being equal, to increase in financial forecasting accuracy or effectiveness. It (The coefficient of determination: R^2, and has a value of 0.714 as 71.4% of variance of financial forecasting can be explained due to changes in AI). Financial predictions in a dynamic business environment are made more precise and reliable with the help of AI and this is a substantial proportion.

3- Analysis of the impact of artificial intelligence in investment management:

As can be seen in Table (5), the calculated value of F is 4.508 greater than the tabulated value of F; i.e.. 3.89 at the 0.05 significance level and also has a p-value of 0.095. In spite of the slight advantage of the significance level over the standard threshold of 0.05, this level signifies a considerable impact of artificial intelligence (AI) on the second variable, which is investment management. The hypothesis is supported with this result where the leveraging and development of AI leads to better investment decision making and operational efficiency.

From the table, when it says from the given table, we can say that constant term (a) is 2.949, even if there is no use of AI (i.e., AI=0), there is a baseline level of investment management capability of 2.949 units. Beta coefficient (β) is 0.349; a one unit increase in investment management performance is predicted which is 0.349 units due to a one unit increase in ai, holding other variables constant. The R^2 or coefficient of determination comes out to be 0.305, signifying that 30.5 percent of the investment management's variance was in relation to AI.

This is a moderate level of explanation and is quite important in relation between the two variables. Consequently, all three sub-hypotheses yielded a statistically significant or moderate impact of AI on the development of financial and investment, thereby it is fair to accept the main hypothesis that AI has a statistically significant impact on the development of finance and investment.

CONCLUSIONS

1- The role of artificial intelligence (AI) gives financial institutions great importance, as companies seek to benefit from its capabilities to develop financing and investments.

2- The increasing use of artificial intelligence to automate processes, provide insights, and improve the decision-making process enables companies to gain financial knowledge and predictions that help them make successful financing and investment decisions.

3- Artificial intelligence helps develop financing and investment, as the use of expert systems can simulate the thinking of a human expert, and provide and put forward recommendations to assist in the decision-making process, as they can be used in financial institutions and banks, and in the commercial field as well.

RECOMMENDATIONS

1- The necessity of using artificial intelligence and introducing it into the work of financial institutions, as it can be used in several fields, such as using it in stock exchanges to predict stock and bond prices in global financial markets, and it can also be used to study the risk of granting loans by banks and financial institutions, in addition to the algorithms that some institutions use to manage their inventories, especially multinational companies that find it difficult to count the number of products across their various branches, and other artificial intelligence application technologies.

2- The necessity of delving into other research on the role of artificial intelligence in healthcare for private companies, due to its great impact on the organization through searching for modern methods that enable them to create progress and job opportunities that other private companies need, with their strategy, with their strategy developed with innovative methods and in line with the nature of the development taking place in financing and investment.

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