

Artificial Intelligence in Islamic Banking and Its Impact on the Banking Performance of Iraqi Banks: Applied Study (for Iraqi Banks)

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Abstract: This research was undertaken to investigate the effect of Artificial Intelligence (AI) technology on the performance of Islamic banks in Iraq. Digital transformation within the banking industry has resulted in an accelerated integration of AI as a significant factor in improving banking performance (or enhancing) through digital transformation. The study employed a descriptive-analytical research design using primary data collected from 50 respondents via a structured survey (questionnaire) that was distributed to employees working in the Iraqi banking system. Of the 50 respondents, 40 were ultimately analyzed using the SPSS statistical program and the AMOS v23 to test the hypotheses regarding AI applications and their impact upon banking performance using a structural modeling approach. The research results indicate that both the growth of AI applications and the training of employees will contribute to enhancing banking performance within the Islamic banks that operate in Iraq. The results of this research have significant implications for banking managers and policymakers who wish to enhance the performance of banks located within the Iraqi banking system.

Keywords: Artificial Intelligence, Islamic Banking, Banking Performance, digital transformation, service quality, Iraq.

Introduction: The banking sector is a key pillar in supporting economic development and financial stability, as it performs vital functions related to mobilizing savings, providing credit, facilitating financial transactions, and supporting investment activities. In recent decades, the global banking industry has undergone profound transformations driven by rapid technological progress and the accelerated pace of digital transformation. Among the most influential technologies shaping modern financial systems is artificial intelligence, which has emerged as a strategic tool capable of enhancing efficiency, improving service quality, and supporting data-driven decision-making within financial institutions.

Artificial intelligence technologies provide banks with advanced analytical capabilities that enable them to process huge amounts of financial data, detect patterns and potential risks, enhance fraud detection mechanisms, and automate many routine banking operations. These capabilities contribute to improving operational performance, reducing operational costs, and providing faster and more personalized banking services to customers. As a result, many banking institutions around the world have increasingly integrated artificial intelligence into their digital transformation strategies in order to enhance competitiveness and respond to the rapidly evolving financial environment.

In the context of Islamic banking, the adoption of artificial intelligence is of particular importance due to the specific nature of Islamic financial transactions, which require strict adherence to the principles of Islamic law and enhanced monitoring of contracts and financial transactions. Artificial intelligence technologies can help Islamic banks improve operational efficiency, strengthen governance mechanisms, and ensure compliance with Sharia regulations while maintaining high levels of transparency and quality of Service.

Despite the increasing global adoption of artificial intelligence in the banking sector, the level of implementation within Iraqi banks—especially Islamic banks—remains relatively limited. This situation is influenced by many challenges, including the limitations of technological infrastructure, limited specialized experience, and uncertainty about the practical impact of artificial intelligence on banking performance. Accordingly, this study aims to study the role of artificial intelligence in improving banking performance in Iraqi Islamic banks by analyzing its impact on financial and operational performance indicators. The results of this research are expected to provide empirical insights that support decision makers in developing effective strategies to adopt artificial intelligence technologies and enhance the competitiveness of the Iraqi banking sector.

1. Research Problem and Elements:

Computers and automation have contributed significantly to accountants becoming more efficient and accurate, but there is no substitute for professional judgement when decisions are made about financial matters. Banks have used automation to increase the speed of their operations, the quality and price of services they provide, but its effect has been seen mainly in their routine activities so far amid growing competition pressure. As a result, banks are now adopting artificial intelligence – which is capable of complicated cognitive functions, in-depth data analysis and decision making. Although there may be some risks attached to the use of AI in accounting and financial planning, its advantages outshine any such apprehensions. The thrust of this research is thus to investigate the place of artificial intelligence in the enhancement of banking services.

1.1. Research questions: Despite the growing interest in artificial intelligence applications in the banking sector, Iraqi banks—especially Islamic banks—still face challenges related to limited technological infrastructure, lack of specialized skills, and uncertainty regarding the effectiveness of AI in improving banking performance. The research problem can therefore be formulated as follows:

What is the role played by artificial intelligence in improving the performance of banking services in Iraqi banks?

The main question is divided into the following sub-questions:

- What is the impact of artificial intelligence on the financial performance of Iraqi Islamic banks?
- To what extent does artificial intelligence contribute to improving operational performance?
- What are the main technical and organizational challenges associated with implementing AI in Iraqi banks?

1.2. Research objectives: The main objective of the study is to determine the role of artificial intelligence in improving the performance of banking services. The main objective includes the following sub-objectives:

- Identify the level of artificial intelligence adoption in Iraqi Islamic banks.
- Measure the impact of artificial intelligence on banking performance (financial and performance).
- Analyzed the challenges associated with implementing AI applications in Iraqi banks.
- Provide practical recommendations to enhance the effective use of AI in the Iraqi banking sector?

1.3. Importance of the research:

- Scientific importance (theoretical): In addition to the lack of previous studies linking these two variables, researchers sought to enrich the Arab library with studies on artificial intelligence and its impact on banking service performance in order to clarify the following:

- a) The success of the bank is primarily linked to improving the performance of the banking service.
- b) Any legislative and regulatory reforms will not achieve their desired goals if we ignore the issue of modernization. A global environment characterized by modernization and competitiveness.
- c) Highlighting the importance of artificial intelligence in improving banking service performance.

- Scientific importance (field): The practical importance applied to the banking industry stems from the following points:

- a) Providing a banking information database to understand customers' evaluation and satisfaction with banking service levels, as well as their expectations for the quality of banking service, to help improve competitiveness among banks.
- b) Identifying the most important factors that customers attach high relative importance to, especially when evaluating the quality of these services, in order to understand priorities when needed.
- c) Explaining the importance of artificial intelligence in bringing about fundamental changes in the banking industry (especially banking) and in all fields.

1.4. Research Hypotheses: Based on the research problem and objectives, the study tests the following hypotheses:

- H1: Artificial intelligence has a statistically significant positive impact on the financial performance of Iraqi Islamic banks.
- H2: Artificial intelligence has a statistically significant positive impact on the operational performance of Iraqi Islamic banks.
- H3: There is a statistically significant relationship between the level of AI adoption and overall banking performance in Iraqi Islamic banks

1.5. Research Model: The current study relies on the descriptive analytical approach to clarify artificial intelligence and its importance in improving the performance of banking services by describing and analyzing the research phenomenon. The research methods are based on theoretical research, as the research relies on enriched perception.

Research in various aspects, namely (artificial intelligence, banking services, and the relationship between them) by collecting books, master's and doctoral theses, published scientific research, and references related to Arab and foreign countries. Research topic.

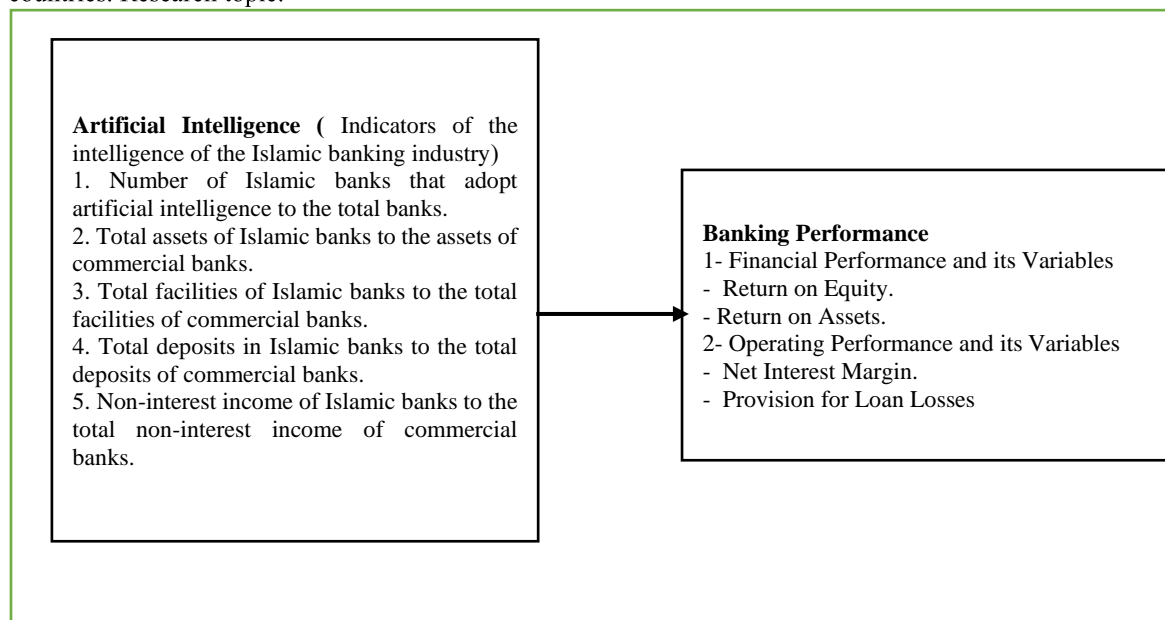


Fig.1. The structure of the hypothetical relationship between the study variables

Source: Prepared by the researchers.

The model was adapted to suit Islamic banks operating in Iraq, and was based on the model [29]

1.6. Research limits: This research adopts a cross-sectional design; the data were collected during the period 2024-2025. The research was conducted on a sample of employees working in Islamic banks operating in Iraq. A total of 50 questionnaires were distributed across several Iraqi Islamic banks, of which more 40 correct responses were analyzed. Therefore, the research represents the Islamic banking sector in Iraq within the specified time frame.

1.7. Literature review: Many researchers and writers define artificial intelligence as follows: O'Brien defines it as: science and technology that rely on multiple fields of knowledge, such as computer science, mathematics, biology, philosophy, and engineering, with the aim of developing computers to imitate the functions of human intelligence [1] and [2]. According to this definition, artificial intelligence is the various fields of knowledge that interact with programming machines in a technological way that enables them to simulate human thinking. This is how computers become intelligent thinkers, with this definition, we conclude that artificial intelligence is an attempt to make machines think like humans.

Awwad et al. (2024) examined the effectiveness of several artificial intelligence techniques—Support Vector Machines (SVM), Radial Basis Function Neural Networks (RBF-NN), and Multilayer Perceptrons (MLP)—in predicting bank failure using data from 37 Turkish commercial banks. The findings indicated that SVM exhibited the highest predictive accuracy, while MLP showed comparatively weaker performance, with no significant improvement observed for SVM and RBF models. Ekram and Ahmed (2019) investigated the role of artificial intelligence in enhancing banking performance in Algerian banks. The study concluded that adopting modern AI-driven technologies improves service quality, reduces costs and risks, increases revenues, and strengthens competitiveness through diversified banking channels. Kaya et al. (2019) highlighted the role of artificial intelligence in improving efficiency, profitability, and risk management in the banking sector, emphasizing applications such as customer identification, fraud detection, and chatbots as key drivers of digital transformation. Qahairiya (2022) demonstrated the significant contribution of artificial intelligence to enhancing e-shopping experiences, using Amazon as a case study, and confirmed that AI applications have fundamentally transformed service speed, personalization, and customer interaction. Raiter (2021) showed that AI-based customer segmentation enables banks to design more personalized marketing strategies, improve service

efficiency, and transform customer data into actionable insights. Al-Abadi (2022) concluded that artificial intelligence applications in financial institutions play a vital role in promoting financial inclusion by expanding access to banking services for marginalized groups.

The current study benefited from previous research and studies in preparing the theoretical section and defining the terms and concepts of the current study. The current study differs from previous studies in that it focuses on providing and improving the performance of modern banking services through the modern banking system, in addition to the quality of performance of bank employees and the impact of all this on benefits. Acquired. The current study is also the most comprehensive as it relates to modern electronic banking technology (artificial intelligence).

2. The conceptual framework of the research:

2.1. Concept of banking services: Banking services are defined as the financial transactions and services provided by banks to institutions. If the bank deals with individuals, it is called retail banking services, and for investment banks, they are banking services that deal with capital markets. Services provided to companies include providing loans, credit and accounts. [3] Banking services are considered to be the provision of financial advances to individuals through banks, but it can also be defined as accepting financial deposits in exchange for loans or investments owned by individuals. By individuals. For individuals and other entities, the purpose of lending money is to make a material profit.

2.2. Artificial Intelligence: Artificial intelligence consists of two words: intelligence and artificial intelligence, and each word has a meaning, which is the ability to understand new and changing situations or situations. In other words, the key to intelligence is perception, understanding and learning. The word artificial or artificial is related to the verb "to make" or "to create", so the word applies to all... things that arise as a result of activities or actions that occur through the making and formation of things, such as things that differ from what already exists, and are created naturally without human intervention. On this basis, artificial intelligence generally refers to intelligence created or created by humans in machines or computers. This intelligence originally comes from humans and is then given to machines or computers. It is defined in terms of its goal, which is to make machines do things that require intelligence [10, 11, and 12]

Since its inception in 1956, artificial intelligence has been defined as the intelligence demonstrated by machines and programs that simulate human mental abilities and how they work (such as the ability to learn, think and react). It is the ability of the machine to simulate the human mind and its way of working, such as the ability to think, discover and benefit from previous experiences [13]. Artificial intelligence is defined as (computer devices and systems). It is designed to work in a way that can be considered intelligent and includes learning technological patterns that simulate human performance by understanding complex content, engaging in conversations with humans, increasing human cognitive performance, or even replacing these two tasks and thus drawing your own conclusions. [14] Routine and non-routine tasks. As for Ralston, he defined artificial intelligence as: the computer-based solution to the most complex problems by applying processes similar to human reasoning processes [15].

From the previous definition, we can conclude that artificial intelligence is a science based on mathematical rules, devices and programs that are assembled in computers, which in turn perform many tasks and operations that humans can do, but differ in finding complex problems, speed and accuracy. Solutions.

2.3. Characteristics of Artificial Intelligence: Artificial intelligence has many features and advantages, including: [16] and [17].

- Artificial intelligence enables machines and devices to apply logical reasoning in planning, problem analysis, and decision-making, even in situations characterized by incomplete information, by relying on previous experiences and learned knowledge.
- AI systems possess advanced capabilities in recognizing speech, sounds, images, and moving objects, allowing them to understand inputs accurately and generate outputs that effectively meet users' needs.
- Artificial intelligence supports continuous and autonomous learning, as learning processes are self-driven and adaptive without the need for constant human supervision.
- AI technologies can process and analyze vast amounts of data efficiently, identify hidden patterns, and perform complex analytical tasks with greater speed and accuracy than the human brain.
- Artificial intelligence demonstrates high flexibility in responding to new and complex situations, as it can adapt through trial and error, improve performance over time, and handle sophisticated and dynamic problems.

2.4. Types of Artificial Intelligence: Many researchers and specialists in the field of artificial intelligence have pointed out that there are many classifications and types of this technology, based on the functional capabilities or level of intelligence that the machine can achieve. [18, 19, 20]

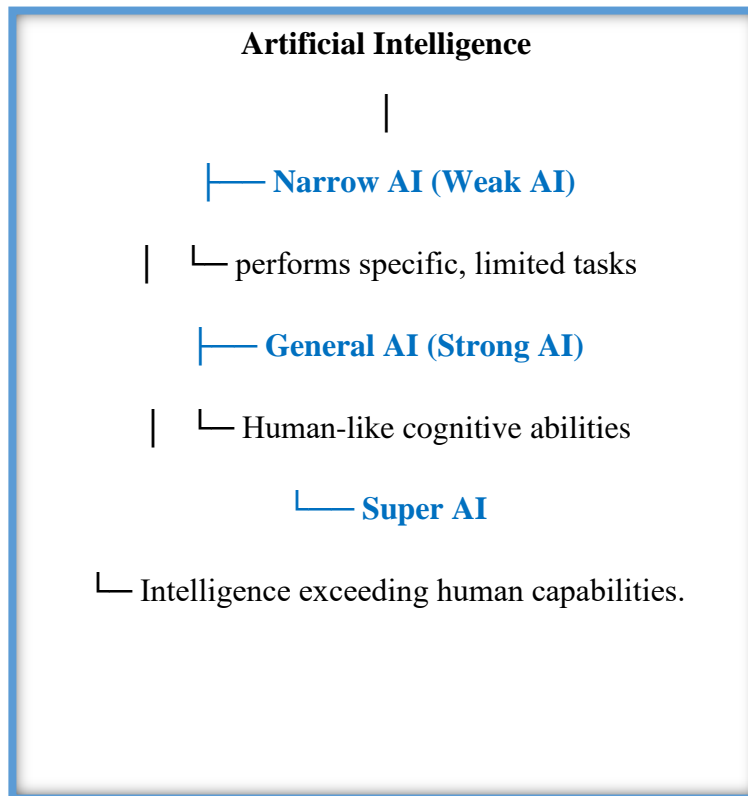


Fig. 2. Types of Artificial Intelligence

Source: Prepared by the researchers.

Figure (1) illustrates the main types of artificial intelligence based on their level of cognitive capability. Narrow Artificial Intelligence represents the most widely used form today, as it is designed to perform specific and well-defined tasks such as chatbots and voice-response systems. General Artificial Intelligence refers to systems that aim to replicate human-like thinking, learning, and decision-making abilities, enabling machines to plan and act autonomously, as seen in advanced applications such as self-driving vehicles. In contrast, Super Artificial Intelligence represents a theoretical stage in which machine intelligence surpasses human intelligence in all domains. Although this type remains hypothetical and has not yet been realized, it continues to attract significant attention in academic and technological discussions.

2.5. Advantages of banking services using artificial intelligence programs:

The use of artificial intelligence programs in banking services offers a wide range of transformational advantages that benefit banks and their customers alike [21,22,23] pointed to these advantages as follows:

- There is no time limit (shortening time): This is due to its ability to reach a wide customer base at any time and throughout the week, regardless of location or time, which provides convenience to customers in addition to the confidentiality of transactions, thus increasing customer confidence.
- Ease of communication: This is done through the use of electronic means such as telephone, fax and the Internet in addition to knowing the banking services provided electronically.
- Providing new integrated banking services that include:
 - a) Issuing electronic newsletters to promote banking services

- b) Providing customers with a way to check their balance with the bank
- c) Providing customers with a means to pay their bills electronically
- d) Managing customers' financial portfolios
- e) Transferring money electronically between customer accounts.
- Reducing costs: One of the most important features of the bank's artificial intelligence project is providing electronic services at a low cost compared to providing traditional services, as the cost of providing traditional services is at least six times higher than providing services through modern electronic channels
- Completing banking transactions quickly: Customers can easily contact the bank and enjoy a one-minute service with good performance and efficiency without having to go to the bank to request it in person.
- Speed of updating: This is done by continuously updating the information collected from customers and the interactions that take place between customers and the bank, thus increasing the efficiency and effectiveness of the database to meet its required requirements.

2.6. The contribution of artificial intelligence technology in the banking field:

Artificial intelligence technology in banking can help in several ways, the most important of which are [24, 25, and 26]

- Managing credit card accounts (providing recommendations to reject or cancel cardholder credit requests - evaluating membership requests to estimate the qualifications of the credit card applicant)
- Combating money laundering: Using artificial intelligence systems, continuous innovation and improvement in the field of combating money laundering by adopting more flexible, accurate and fast systems, steps to prevent the appearance of funds derived from illegal or unethical sources as if they were earned illegally. Amnesty International.
- Chatbots act as customer service agents with advanced features to efficiently handle customer inquiries sent through electronic platforms.
- The banking industry uses data analysis technology to detect fraud, which is the FICO-Fahcon fraud assessment system, and relies on neural networks to deploy advanced artificial intelligence systems based on deep correlation.
- Create a divorce report, collect large amounts of data and highlight key points in paragraphs.
- Review and evaluate loan applications submitted to banks.

2.7. The importance of artificial intelligence in banking

The importance of artificial intelligence in bringing about fundamental changes in the banking industry is as follows [27] and [28].

- Improving the efficiency and accuracy of future predictions: Artificial intelligence technologies create a more predictable and less risky business environment by using a complex set of algorithms that allow them to process large and diverse amounts of data, thus playing a major role in creating a more predictable and less risky business environment for projects, this feature helps them identify available opportunities and potential future risks that require immediate decisions.

Currently, banks are using AI-based systems to help make lending and credit decisions in a more informed, secure and profitable manner, and to review customer transactions and banking transactions to determine whether an individual or company is creditworthy.

- Reducing labor costs: The use of machines is beneficial for businesses as they reduce their overall operating costs, which helps them gain a competitive advantage in the market. By introducing AI applications in the front-end bank, costs will be reduced. As banks look to leverage AI, front-office interfaces will facilitate the process of identifying and verifying these customers, working with live employees via chatbots and voice assistants, and deepening customer relationships within the bank. The central office's job is to detect and prevent fraudulent payments and improve anti-money laundering operations. AI applications are expected to reduce banks' overall costs by \$447 (billion by 2023).

Furthermore, with AI, management makes decisions based on facts, not just predictions, as these systems work from day one without any planning or disruption. With machine learning, flaws in the market and processes can be found, and management corrections can be made to markets and production to improve efficiency and reduce additional costs arising from inefficiencies.

- Research the needs and expectations of current and potential customers:

AI technology plays a major role in creating high value for user or consumer data, enabling enterprises to quickly adapt to customer needs and preferences, thus increasing their loyalty and thus increasing the organization's market share and revenue. Using chatbots, data and information can be analyzed and understood in customer relationship management

applications, so that their applications manage customer information more efficiently and provide customers with specific information about products. Use chatbots to educate customers about additional services and offers that can help solve payment problems.

3. Methodology:

This study is based on a quantitative cross-sectional design, as well as a structured questionnaire, to study the impact of artificial intelligence on banking performance. The descriptive-analytical approach was also used to analyze the relationships between variables using SPs and Amos software. The choice of this method is suitable for studying the causal relationships between the adoption of artificial intelligence and performance indicators in the context of Islamic banking.

3.1. Sample and research tool

The research sample consists of the number of financial and auditing employees of the banks research sample, and was determined by the stratified random sample method from the research community, and the questionnaire was distributed to (50) employees, (44) questionnaires were retrieved from them, and (4) questionnaires were excluded for not meeting the required conditions, thus the number of questionnaires subject to the research is (40) questionnaires. Thus, the total number of questionnaires that will be analyzed becomes (40) questionnaires at a rate of (80%) of the total distributed questionnaires. the sample provides sufficient representation to test the proposed hypotheses using regression and correlation analysis, The following table shows the descriptive analysis of the research sample.

Table 1. Descriptive analysis

Sample distribution		by frequency	Percentage
Gender	Male	22	55%
	Female	18	45%
Academic qualification	Preparatory	4	10%
	Diploma	6	15%
	Bachelor's	28	70%
	Master's	2	5%
	PhD	0	0
Nature of work	Financial	30	75%
	Auditing	10	25%
Number of years of experience	Less than 5 years	12	30%
	5-10 years	14	35%
	10-20 years	12	30%
	More than 20 years	2	5%
Job type	Employee	20	50%
	Section Manager	8	20%
	Section Manager	6	15%
	Assistant Manager	4	10%
	Manager	2	5%

Source: Compiled by the authors.

Table (1) shows that males represent 55% of the study sample, compared to 45% females, indicating relatively balanced gender representation. The majority of respondents hold a bachelor’s degree (70%), followed by diploma holders (15%), which reflects an academically qualified sample. In terms of job nature, 75% work in financial functions, while 25% are in auditing. Regarding experience, most respondents fall within the 5–10 years category (35%), followed by those with less than 5 years and 10–20 years (30% each), indicating adequate professional exposure. Employees constitute 50% of the sample, suggesting that responses largely reflect operational-level perspectives.

3.2. Data analysis and hypothesis testing:

Validity and reliability of the questionnaire: In order to calculate the internal consistency of the questionnaire paragraphs, it was tested on a survey sample of (15) individuals by calculating the correlation coefficient for each axis (between each paragraph and the total scores of the axis to which that paragraph belongs), and the test showed that the correlation coefficients are significant at a significance level of (0.05) and that the value of the (r) table is equal to (0.421), and thus the paragraphs of the first questionnaire are considered valid for what they were designed to measure. The Split-Half Coefficient method was also used for the first and second questionnaires by calculating the Pearson correlation coefficient for the ranks between the odd-ranked questions and the even-ranked questions for each axis and then correcting the correlation coefficient using Spearman's correlation coefficient for correction, and the results of the stability factor showed that it was large for all axes of the questionnaire with an average of (0.822), and the results of the analysis of the paragraphs of the second questionnaire indicated that it is stable and valid for application because the value of the stability coefficient reached (0.854). Table 2 shows the results of the reliability coefficient for the first questionnaire items.

Table 2. Reliability coefficient of the questionnaire

NO	Axis	Paragraphs	Pearson's correlation coefficient	Spearman's correlation coefficient
1	First	X1-X9	0.684	0.843
2	Second	X10-X15	0.827	0.944
3	Third	X16-X19	0.788	0.918
4	Fourth	X20-X32	0.739	0.883
5	Fifth	X33-X36	0.980	0.898
	Total dimensions	Total paragraphs	0.878	0.921

Source: Prepared by the authors based on the analysis of the questionnaire data.

Table (2) Table (2) reliability coefficients exceeded the acceptable threshold of 0.70, indicating strong internal consistency of the measurement instrument. These values exceed acceptable thresholds, confirming strong construct validity and internal consistency of the questionnaire. Furthermore, content validity was ensured through reviewing relevant literature and consulting academic experts in banking and artificial intelligence before finalizing the questionnaire.

4. Results and Discussion

The research relied on a set of statistical methods to achieve its objectives and test its hypotheses in the analysis, including the weighted arithmetic mean, standard deviation, and relative weights, as well as Spearman's rank correlation coefficient, Pearson's correlation coefficient, simple linear regression model, coefficient of determination, and T-test. The data were processed statistically using the ready-made statistical program (SPSS).

4.1. Descriptive Results: The descriptive statistics indicate high mean values across the dimensions measuring AI adoption, reflecting a positive perception among respondents regarding digital maturity, AI strategy, and managerial support. The overall means exceeded the neutral threshold, suggesting readiness and acceptance of AI applications within the surveyed banks.

4.2. Hypotheses Testing: Pearson correlation and simple linear regression analyses reveal statistically significant positive relationships between AI adoption and banking performance dimensions at the 0.05 significance level. The results support H1 and H2, confirming that AI adoption positively affects both financial performance (e.g., efficiency and cost rationalization) and operational performance (e.g., service quality and speed). Moreover, the findings support H3, indicating a significant association between overall AI adoption and overall banking performance.

First Axis: Digital maturity and rapid implementation of artificial intelligence technology in banks.

Table3. Digital maturity and rapid implementation of artificial intelligence technology in banks.

Paragraphs	X1	X2	X3	X4	X5	X6	X7	X8	X9	Average
Arithmetic mean	3.807	4.027	4.115	4.203	4.511	4.379	4.181	3.785	4.038	4.116
Standard deviation	1.014	0.981	0.893	0.842	0.784	0.927	0.898	0.766	0.852	0.884
Relative weight	10.276	10.870	11.108	11.345	12.177	11.821	11.286	10.217	10.900	100

Source: Prepared by the researchers based on the outputs of SPSS.

The arithmetic means range between 3.785 and 4.511, with an overall mean of 4.116, indicating a high level of agreement among respondents. The standard deviations are relatively low (average 0.884), reflecting homogeneity of responses. Paragraph X5 achieved the highest mean (4.511), indicating its perceived importance.

Second Axis: The bank's artificial intelligence strategy, and its impact on financial performance

Providing clear and understandable information on how to use the artificial intelligence strategy in a clear and coherent manner

Table 4. The bank's artificial intelligence strategy, and its impact on financial performance

Paragraphs	X10	X11	X12	X13	X14	X15	Average
Arithmetic mean	4.269	4.577	3.565	3.444	3.587	3.719	3.860
Standard deviation	0.792	0.649	0.517	0.396	0.561	0.770	0.614
Relative weight	18.432	19.762	15.392	14.869	15.487	16.057	100

Source: Prepared by the researchers based on the outputs of SPSS.

Results show an overall mean of 3.860, indicating a high perceived impact of this dimension. Paragraph X11 recorded the highest mean (4.577), while X13 showed the lowest (3.444), suggesting variation in respondents' evaluations.

Third Axis: Technical challenges to managing the artificial intelligence program in the bank:

It means the obstacles related to the technology used in managing the artificial intelligence program, as these challenges constitute an obstacle to applying artificial intelligence standards in the bank.

Table 5. Technical challenges to managing the artificial intelligence program in the bank

Paragraphs	X16	X17	X18	X19	Average
Arithmetic mean	4.643	3.752	4.225	4.049	4.167
Standard deviation	0.715	0.605	0.864	0.920	0.776
Relative weight	27.855	22.508	25.347	24.29	100

Source: Prepared by the researchers based on the outputs of SPSS.

Table (5) reveals an overall mean of 4.167, indicating strong agreement. Paragraph X16 recorded the highest mean (4.643), emphasizing its significant role within this dimension.

Fourth Axis: The bank's commitment to applying the artificial intelligence mechanism in the bank

Indicates the steps and procedures taken to enhance the application of artificial intelligence standards in the bank.

Table 6. The bank's commitment to applying the artificial intelligence mechanism in the bank

Paragraphs	X20	X21	X22	X23	X24	X25	X26	X27	X28	X29	X30	X31	X32	Average
Arithmetic mean	4.75	3.7621	4.38	4.81	3.36	4.63	3.7	3.99	3.9	4.048	4.14	0.882	4.555	3.919
Standard deviation	0.9	0.9218	0.64	0.84	0.86	1.07	0.9	0.94	0.9	0.989	0.9	0.898	0.991	0.907
Relative weight	9.33	7.3844	8.59	9.44	6.59	9.09	7.3	7.84	7.7	7.946	8.12	1.732	8.941	100

Source: Prepared by the researchers based on the outputs of SPSS.

The overall mean of this dimension reached 3.919, reflecting a positive evaluation. Paragraphs X20 and X23 achieved the highest means (4.75 and 4.81 respectively), while X31 recorded the lowest mean (0.882), indicating weaker agreement for that item.

Fifth Axis: Bank management to lead the artificial intelligence strategy

Table 7. Bank management to lead the artificial intelligence strategy

Paragraphs	X33	X34	X35	X36	Average
Arithmetic mean	5.270	5.325	4.115	5.380	5.022
Standard deviation	0.784	0.413	1.026	0.347	0.643
Relative weight	26.232	26.506	20.482	26.780	100

Source: Prepared by the researchers based on the outputs of SPSS.

This dimension achieved the highest overall mean (5.022), demonstrating very strong agreement. Paragraph X36 recorded the highest mean (5.380), highlighting its critical importance from respondents' perspectives. Analysis of differences in the research sample answers (description of the research sample) It is noted from Table 8 for the average answers of the research sample to the questions of the questionnaire axes the following:

Table 8. Descriptive statistics for the research sample

Sample distribution	Statement	Repetition	Average	Standard deviation	test F	test T	Standard deviation differences
by gender	Male	22	3.691	1.638	2.004	3.623	7.647
	Female	18	4.115	1.060			
educational qualification	Preparatory	4	3.642	0.888	6.27	3.11	4.32
	Diploma	6	3.199	0.948			
	Bachelor	28	4.218	0.716			
	Masters	1	4.026	1.039			
	PhD	0	-	-			
Nature of work	Finance	30	3.691	1.638	1.916	2.914	8.157
	Auditing	10	4.115	1.060			
Number of years of experience	Less than 5 years	12	4.184	0.712	4.55	8.03	4.443
	5-10 years	14	3.992	1.026			
	10-20 years	12	4.246	0.937			
	More than 20 years	2	3.009	1.433			
The sector to which the invested company belongs	Section Manager	20	3.653	0.888	4.045	7.139	3.952
	Section Manager	8	3.199	0.948			
	Assistant Manager	6	4.228	0.716			
	Manager	4	4.036	1.039			
	Employee	2	4.288	0.948			

Source: Prepared by the researchers based on the outputs of SPSS.

Table (8) shows statistically significant differences in perceptions according to educational qualification, years of experience, and job position, as indicated by calculated F and T values exceeding tabulated values. These results suggest that demographic factors influence respondents' perceptions of artificial intelligence and banking performance.

5. Discussion

The results of the study show that there is a statistically significant positive relationship between the adoption of artificial intelligence technologies and improving banking performance in Iraqi Islamic banks, both at the level of financial performance and operational performance. These results confirm that artificial intelligence applications are no longer just supporting technical tools, but have become a strategic influential factor in enhancing operational efficiency, rationalizing costs, and improving the quality of banking services.

These results are consistent with the findings of many previous studies that have confirmed the role of artificial intelligence in raising the level of efficiency, profitability and Risk Management in banking institutions. Studies have indicated that the use of intelligent analysis systems, machine learning, and digital applications contribute to improving the accuracy of decision-making, speeding up banking procedures, and reducing human errors. The current study adds

to this scientific literature by providing practical evidence from the Iraqi banking environment, which is still witnessing stages of gradual digital transformation, especially in the Islamic banking sector. The results also showed that banking management plays a pivotal role in the success of AI adoption, as the level of corporate commitment and support of senior management is associated with high levels of performance. This confirms that digital transformation depends not only on the availability of technology, but also requires a strategic vision, investment in human capital, and continuous development of digital skills of workers. On the other hand, the results highlighted the existence of technical and organizational challenges that may hinder the effective application of artificial intelligence, which requires a sophisticated digital infrastructure, clear regulatory frameworks, and coordination between banks and regulators. In the Iraqi context specifically, the limited digital infrastructure and the disparity in the readiness of banks are two influential factors in the speed of adoption of these technologies.

With regard to the privacy of Islamic banks, the use of artificial intelligence can contribute to enhancing compliance with the provisions of Islamic Sharia by automating Sharia audits, analyzing contracts and financial transactions to ensure their compliance with Fiqh regulations, and reducing the likelihood of human error in the application of Islamic finance formulas. Smart systems can also support transparency and disclosure, enhancing customer confidence and strengthening corporate governance.

The results of the current study are consistent with the previous literature that confirmed the pivotal role of artificial intelligence in improving banking performance. The results of the analysis showed that the computational averages for the dimensions of artificial intelligence adoption exceeded (4.00), where the overall average for the digital maturity axis reached (4.116), and for the technical challenges axis (4.167), while the management leadership axis for the artificial intelligence strategy recorded the highest average of (5.022), reflecting a high awareness of the importance of these technologies. Correlation and regression tests also proved a statistically significant positive correlation at the level of (0.05) between the adoption of artificial intelligence and the improvement of financial and operational performance, which is consistent with the findings of the Kaya et al. study (2019) on enhancing efficiency and profitability, the Ekram wahmed study (2019) on improving service quality and reducing costs, as well as Rahman et al. (2023) who confirmed the direct impact of artificial intelligence on organizational performance. The current study is characterized by the addition of an applied guide from the environment of Iraqi Islamic banks, which expands the scope of scientific literature in an emerging economic context and a gradual digital transformation.

Accordingly, the study confirms that artificial intelligence represents a strategic tool to enhance the competitiveness of Iraqi Islamic banks, provided that it is adopted within an integrated framework that combines technical development, legitimate commitment, regulatory support, and human capacity building. These results represent a scientific and practical addition that contributes to guiding decision makers towards adopting sustainable digital policies that support the banking transformation in Iraq.

6. Conclusions and Recommendations

The study findings indicate that the adoption of artificial intelligence significantly enhances operational efficiency in banks by automating routine processes and enabling leadership to focus on strategic rather than operational tasks, thereby supporting growth and expansion objectives. Artificial intelligence also contributes to improving strategic decision-making through the provision of accurate data and advanced analytical insights, which allow bank leaders to respond more effectively to market dynamics and evolving customer needs. Furthermore, AI applications strengthen forecasting and risk management capabilities by employing predictive models that identify potential risks and support proactive crisis management. The results also demonstrate that artificial intelligence stimulates strategic innovation by enabling banks to develop new products and services aligned with changing market demands. In addition, AI-driven systems facilitate rapid and effective customer interaction through self-service platforms and automated responses, enhancing customer satisfaction and loyalty.

Based on these findings, the study recommends developing interactive dashboards that provide real-time analytical insights for decision-makers, strengthening cooperation with specialized AI firms to design tailored solutions, establishing dedicated digital risk management units, adopting advanced monitoring and early-warning systems, enhancing digital infrastructure, and implementing continuous training programs to ensure effective and sustainable use of artificial intelligence technologies.

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