THE IMPACT OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES ON REDUCING CREATIVE ACCOUNTING PRACTICES: THE MEDIATING ROLE OF FINANCIAL REPORTING QUALITY – AN EMPIRICAL STUDY IN IRAQI BANKS

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Abstract. The purpose of this study was to analyze the impact of artificial intelligence technologies in reducing creative accounting practices, while examining the mediating role of financial reporting quality in Iraqi banks. The importance of the study stems from the increasing reliance on artificial intelligence technologies in the banking sector, and its expected role in enhancing the accuracy of accounting information, improving the quality of financial reporting, and reducing practices that affect the credibility and transparency of financial statements. The study adopted a quantitative approach, and the data were collected through a questionnaire distributed to a sample of employees in Iraqi banks, including financial managers, internal auditors, accountants, and employees in risk and information technology departments. To achieve the objectives of the study, an analytical framework that combines mediation analysis to test the mediating role of financial reporting quality, and the extreme gradient boosting (XGBoost) algorithm were employed to enhance the predictive power of the model and identify the most influential variables, while using Shapley additive explanations (SHAP) technology to interpret the model's results. The results of the study are expected to contribute to scientific evidence that the adoption of AI technologies improves the quality of financial reporting, and limits creative accounting practices directly and indirectly through the mediating role of financial reporting quality. The study also provides a modern analytical framework that can be used to develop accounting and supervisory practices in Iraqi banks and enhance confidence in financial reporting.

Keywords: Artificial Intelligence, Creative Accounting, Quality of Financial Reports, Iraqi Banks, XGBoost.

ВЛИЯНИЕ ТЕХНОЛОГИЙ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА НА СОКРАЩЕНИЕ ПРАКТИК КРЕАТИВНОГО УЧЁТА: ПОСРЕДНИЧЕСКАЯ РОЛЬ КАЧЕСТВА ФИНАНСОВОЙ ОТЧЁТНОСТИ — ЭМПИРИЧЕСКОЕ ИССЛЕДОВАНИЕ В ИРАКСКИХ БАНКАХ

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Аннотация. Цель данного исследования заключалась в анализе влияния технологий искусственного интеллекта на сокращение практик креативного учёта с одновременным изучением посреднической роли качества финансовой отчётности в иракских банках. Актуальность исследования обусловлена возрастающей зависимостью банковского сектора от технологий искусственного интеллекта и их ожидаемой ролью в повышении точности бухгалтерской информации, улучшении качества финансовой отчётности, а также сокращении практик, влияющих на достоверность и прозрачность финансовой отчётности.

В исследовании был использован количественный подход, а данные были собраны посредством анкеты, распространённой среди выборки сотрудников иракских банков, включая финансовых менеджеров, внутренних аудиторов, бухгалтеров, а также сотрудников отделов рисков и информационных технологий. Для достижения целей исследования была применена аналитическая модель, объединяющая медиаторный анализ для проверки посреднической роли качества финансовой отчётности и алгоритм экстремального градиентного бустинга (XGBoost) для повышения прогностической способности модели и выявления наиболее влиятельных переменных, с использованием технологии Shapley Additive Explanations (SHAP) для интерпретации результатов модели.

Ожидается, что результаты исследования внесут вклад в формирование научных доказательств того, что внедрение технологий искусственного интеллекта улучшает качество финансовой отчётности и ограничивает практики креативного учёта как напрямую, так и косвенно через посредническую роль качества финансовой отчётности. Кроме того, исследование предлагает современную аналитическую модель, которая может быть использована для развития бухгалтерских и надзорных практик в иракских банках и повышения доверия к финансовой отчётности.

Ключевые слова: искусственный интеллект, креативный учёт, качество финансовой отчётности, иракские банки, XGBoost.

Introduction

Over the past decade, the business environment has undergone fundamental transformations as a result of the rapid development of artificial intelligence technologies, which have become one of the most important drivers of digital transformation in financial and banking institutions. The use of these technologies is no longer limited to the automation of operational processes, but has extended to support accounting and auditing processes, financial reporting, data analysis, and risk forecasting, which has contributed to improving performance efficiency and accuracy of financial information **(Bhimani & Willcocks, 2022; Russell & Norvig, 2021).**

In light of this development, many banks have adopted artificial intelligence applications with the aim of enhancing the quality of financial reporting, improving decision-making processes, and increasing transparency and compliance with international accounting standards, which has positively reflected on the confidence of investors and stakeholders in the published financial information. **(Dwivedi et al., 2023; Sutton et al., 2023).**

On the other hand, creative accounting continues to be one of the most prominent challenges facing the accounting profession, as it relies on exploiting the flexibility available in accounting standards and policies to show financial results that do not necessarily reflect the true economic reality of the entity. These practices may mislead users of financial statements, weaken the quality of financial disclosure, undermine investor confidence, and have a negative impact on the efficiency of financial markets and the stability of banking institutions. Although some creative accounting practices may be conducted within a legal framework, they often run counter to the ethical principles of the profession and affect the honest representation of financial information, making limiting it one of the main objectives of corporate governance and control. **(Comiskey & Mulford, 2002; Healy & Wahlen, 1999; Kroon et al., 2021).**

With the expansion of the use of artificial intelligence technologies, there is great potential for these technologies to reduce creative accounting practices, by analyzing large amounts of financial data in real time, detecting abnormal patterns, detecting indicators of manipulation or earnings management, improving the accuracy of accounting measurements and reducing reliance on personal judgments. Machine learning, big data analytics, natural language processing, and intelligent automation also contribute to enhancing the efficiency of internal control systems, improving the quality of financial disclosure, and reducing the chances of practicing accounting methods that aim to beautify financial results or conceal risks. **(Anantharaman et al., 2023; Bhimani & Willcocks, 2022; Kraus et al., 2021).**

The quality of financial reporting is the link between the application of AI technologies and the reduction of creative accounting practices, as high-quality financial reporting is characterized by relevance, honest representation, comparability, verifiability, timeliness, and understandability, which are qualitative characteristics emphasized by the International Accounting Standards Board [IASB], 2018. Therefore, improving the quality of financial reporting through the application of AI technologies is expected to contribute to reducing accounting practices that affect the credibility of financial information, and enhance the ability of regulators and investors to make more efficient decisions. **(Dechow et al., 2010; Sutton et al., 2023).**

In the Iraqi environment, the banking sector is witnessing a gradual shift towards the adoption of digital technologies and smart systems, driven by the requirements of digital transformation and the instructions of regulators, as well as the need to improve the efficiency of banking operations and enhance compliance and transparency. However, challenges remain related to the quality of financial reports, the varying levels of adoption of modern technologies among banks, in addition to the limited applied studies that have addressed the impact of artificial intelligence technologies in reducing creative accounting practices in the Iraqi context, particularly through the mediating role of financial reporting quality.

Based on this, this study seeks to analyze the impact of artificial intelligence technologies in reducing creative accounting practices, while examining the mediating role of the quality of financial reporting in Iraqi banks. It also aims to provide an analytical framework that explains the relationships between the study variables, contributes to enriching the accounting literature, supports decision-makers and banking departments in developing accounting and control policies, enhances confidence in financial reporting, and improves the quality of professional practices in line with the requirements of digital transformation and recent developments in accounting and artificial intelligence. **(Bhimani & Willcocks, 2022; Dwivedi et al., 2023).**

Research Problem: The banking sector has witnessed an accelerated development in the adoption of artificial intelligence technologies with the aim of improving the efficiency of accounting processes, enhancing the accuracy of financial reporting, and supporting decision-making. Despite this development, creative accounting practices continue to pose a real challenge to achieving transparency and credibility in financial reporting, as it can lead to distorting financial information and influencing the decisions of investors and regulators. Recent literature suggests that AI may contribute to improving the quality of financial reporting and reducing accounting manipulation, but the nature of this relationship, especially in light of the existence **of financial reporting quality as an intermediate variable**, still needs further verification, especially in banking environments in developing countries.

Therefore, the problem of the study is to answer the following main question:

What is the impact of artificial intelligence technologies in reducing creative accounting practices, and what is the mediating role of the quality of financial reports in this relationship within Iraqi banks?

It is divided into the following questions:

1. What is the impact of AI technologies on the quality of financial reporting?
2. What is the impact of financial reporting quality on reducing creative accounting practices?
3. Are AI technologies directly impacting the reduction of creative accounting practices?
4. Does the quality of financial reporting mediate the relationship between AI technologies and the reduction of creative accounting practices?

Research Gap: Despite the increasing number of studies on the applications of artificial intelligence in accounting and financial reporting, a recent literature review reveals a number of research gaps, the most important of which are:

- Most studies have focused on the impact of AI in improving the quality of financial reporting, without directly analyzing its impact on reducing creative accounting practices.
- Some studies have focused on measuring the impact of AI on the quality of disclosure and internal control, while not testing the quality of financial reporting as an intermediate variable between AI and creative accounting.

- Most studies have relied on traditional statistical methods, with limited use of machine learning techniques such as XGBoost in accounting studies.
- The majority of studies have been concentrated in developed environments such as the United States and China, while applied studies in Iraqi banks are still very limited.

Accordingly, this study seeks to bridge these gaps by building a model that tests the mediating role of financial reporting quality, employing an analytical framework that combines brokerage analysis with the XGBoost algorithm.

Previous Studies:

1. Anantharaman, Rozario, & Parker (2023): The study aimed to analyze the impact of the adoption of AI technologies on improving the quality of financial reporting for U.S. companies. Based on data from U.S.-listed companies, the results showed that the adoption of AI led to a decrease in discretionary entitlements and improved the quality of financial reporting. The study recommended expanding the use of AI technologies in financial reporting.

Conclusion: The study confirms a positive relationship between AI and the quality of financial reporting, but it did not address creative accounting or the intermediary role.

2. Ashraf (2025): The study aimed to test the impact of automation and artificial intelligence on improving internal control and the quality of financial reporting. The results showed that the use of automation technologies contributed to reducing the fundamental weaknesses in internal control systems and improving the quality of financial reporting.

Conclusion: The study focused on the quality of financial reporting and internal control, and did not test the relationship with creative accounting.

3. Alzeghoul & Alsharari (2025): The study aimed to analyze the impact of the disclosure of the use of artificial intelligence on the quality of financial reporting and the financial performance of US banks. The results showed that the disclosure of artificial intelligence applications was associated with improved quality of financial reporting and institutional performance.

Conclusion: The study focused on disclosure and financial performance, and did not examine the mediating role of financial reporting quality or creative accounting practices.

4. Khlaif (2025): The study aimed to show the impact of the application of artificial intelligence technologies on improving the quality of financial reports by surveying academics and professionals in Iraq. The results confirmed that artificial intelligence contributes to raising the accuracy of financial statements, improving control, and reducing the chances of fraud and financial manipulation.

Conclusion: The study looked at the Iraqi environment, but it did not test the relationship between artificial intelligence and creative accounting, nor did it adopt a model of mediation.

5. Manihuruk (2025): The study provided a systematic review of the literature related to the role of artificial intelligence in improving the quality of financial reporting during the period (2021–2024), and indicated that the applications of machine learning, natural language processing, and predictive analytics represent the most influential technologies in improving the quality of financial reporting, noting that there are challenges related to governance and data quality.

Conclusion: It focused on reviewing the literature and did not provide an applied test of the relationship between AI and creative accounting.

General Extract from Previous Studies: It is clear from previous studies that most of them have focused on the impact of AI technologies in improving the quality of financial reporting or enhancing internal control, while they have not fully addressed the mediating role of financial reporting quality in the relationship between AI technologies and the reduction of creative accounting practices, especially in the Iraqi banking environment. The use of advanced machine learning methods, such as

XGBoost, is still limited in this area, which gives the current study scientific value and a distinctive methodological addition.

Research Hypotheses

Main hypothesis

H0: There is no statistically significant effect of AI technologies in reducing creative accounting practices through the mediating role of financial reporting quality in Iraqi banks.

H1: There is a statistically significant impact of artificial intelligence technologies in reducing creative accounting practices through the mediating role of financial reporting quality in Iraqi banks.

Subhypotheses

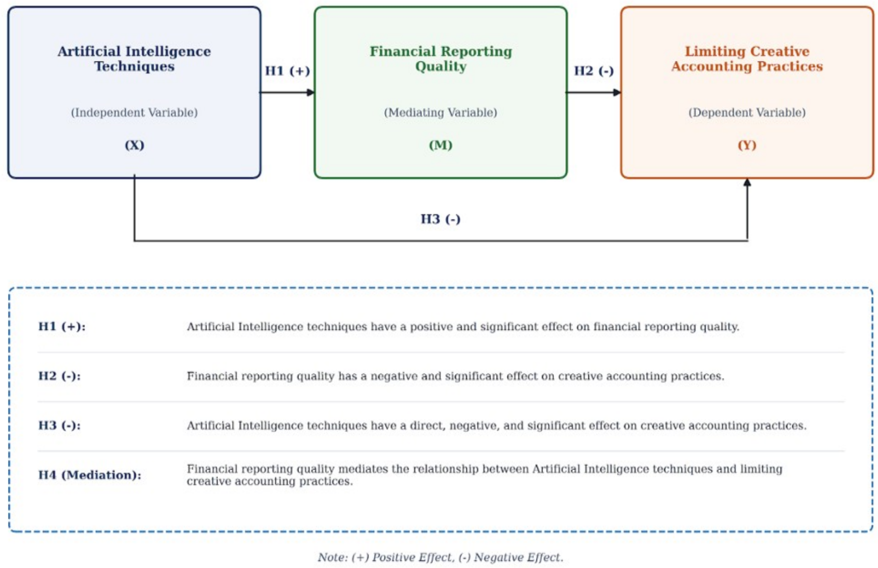
H1: There is a statistically significant positive impact of artificial intelligence technologies on the quality of financial reporting in Iraqi banks.

H2: There is a statistically significant negative impact on the quality of financial reports in creative accounting practices in Iraqi banks.

H3: There is a direct and statistically significant negative impact of artificial intelligence technologies on creative accounting practices in Iraqi banks.

H4: The quality of financial reports mediates the relationship between artificial intelligence technologies and the reduction of creative accounting practices in Iraqi banks.

Hypothetical Scheme



Model Interpretation

- **Independent Variable (X):** Artificial Intelligence Techniques.
- **Intermediate variable (M):** Quality of financial reports.
- **Dependent variable (Y):** Limiting creative accounting practices.

The model assumes that **AI technologies** have a direct impact on reducing creative accounting practices, as well as indirectly by **improving the quality of financial reporting**, which is the mechanism by which AI effects are transferred to reduce creative accounting practices.

Research Methodology: The study adopted a quantitative approach to test the impact of artificial intelligence techniques in reducing creative accounting practices, while testing the mediating role of financial reporting quality in Iraqi banks. A causal model was designed to illustrate the relationships between the independent variable (artificial intelligence techniques), the intermediate variable (the quality of financial reporting), and the dependent variable (limiting creative accounting practices).

The study population consisted of employees of Iraqi banks, including financial managers, accountants, internal auditors, and employees of risk and information technology departments. A stratified random sample was selected and data were collected using a questionnaire based on the five-point Likert scale.

AI technologies were measured through the dimensions of machine learning, big data analysis, intelligent automation, and natural language processing, while the quality of financial reporting was measured by the characteristics of relevance, honest representation, comparability, and timeliness, and the reduction of creative accounting was measured by indicators of reducing earnings management and improving transparency and financial disclosure.

The study relied on a set of statistical methods, including descriptive analysis, stability and honesty tests, and modeling of structural equations using the partial least squares method (PLS-SEM) using Smart PLS software to test the direct and indirect relationships and the mediating role of financial reporting quality.

The XGBoost algorithm and SHAP technology were also employed to analyze the predictive power of the model and identify the variables that have the most impact on reducing creative accounting practices.

Software used: SPSS for descriptive and persistence analysis, Smart PLS for structural model testing, and Python for the application of machine learning models.

The First Section

The Theoretical Framework of Artificial Intelligence Technologies and Their Role in the Development of the Accounting Environment

1.1 Introduction

Rapid advancements in information and communication technology (ICT) have led to a fundamental shift in the nature of accounting work, as financial institutions have moved from relying on traditional systems based on manual data processing to intelligent systems based on advanced analytics and artificial intelligence techniques. Artificial intelligence (AI) has become one of the most prominent recent trends that have reshaped accounting and auditing functions, thanks to its ability to process big data, detect abnormal patterns, and support financial decision-making processes more accurately and efficiently. **(Russell & Norvig, 2021; Bhimani & Willcocks, 2022).**

Banking institutions are one of the sectors that benefit most from AI applications, due to the nature of their business, which relies on processing huge amounts of financial statements and daily transactions. These technologies contribute to improving the quality of accounting information, enhancing the effectiveness of internal control systems, early detection of financial risks and fraud, as well as supporting compliance with accounting and control standards, which positively reflects on the efficiency of institutional performance and the quality of financial reporting. **(Sutton et al., 2023; Dwivedi et al., 2023).**

In the accounting field, the role of AI is no longer limited to automating routine processes, but has become an advanced analytical tool that supports financial reporting, improves the accuracy of financial analysis, raises the level of transparency, and reduces errors resulting from human intervention, making it a key element in development.

The concept of Smart Accounting, which is based on the integration of artificial intelligence technologies with accounting information systems to enhance the quality of financial information and support decision-making. **(Bhimani & Willcocks, 2022; Davenport & Kokina, 2017).**

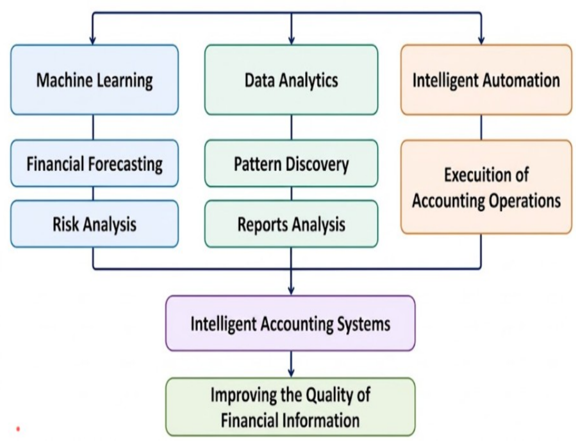
1.2 The Concept of Artificial Intelligence in the Accounting Environment

Artificial intelligence refers to a set of technologies and algorithms that enable computer systems to simulate human mental abilities, such as learning, reasoning, analysis, problem-solving, and decision-making based on available data and knowledge. Artificial intelligence aims to design intelligent systems capable of performing tasks that previously required human intervention, such as understanding information, learning from past experiences, and predicting future outcomes. **(Russell & Norvig, 2021).**

In the accounting environment, artificial intelligence is defined as the use of intelligent algorithms, machine learning and data analysis techniques to automate accounting processes, analyze financial data, and improve the accuracy of measurement and financial disclosure, thus contributing to enhancing the quality of accounting information, raising the efficiency of audit processes, and supporting decision makers with more accurate and reliable information. **(Davenport & Kokina, 2017; Bhimani & Willcocks, 2022).**

Applications of artificial intelligence in accounting are characterized by their ability to process structured and unstructured data, analyze complex relationships between financial variables, detect abnormal patterns and accounting deviations, as well as improve the predictability of financial risks and reduce the chances of fraud and manipulation, which enhances the efficiency of internal control systems and raises the quality of financial reporting. **(Sutton et al., 2023; Dwivedi et al., 2023).**

Figure 1: Key Components of Artificial Intelligence Technologies Used in Accounting



Source: Prepared by the researcher (Russell & Norvig, 2021; Sutton et al., 2023)

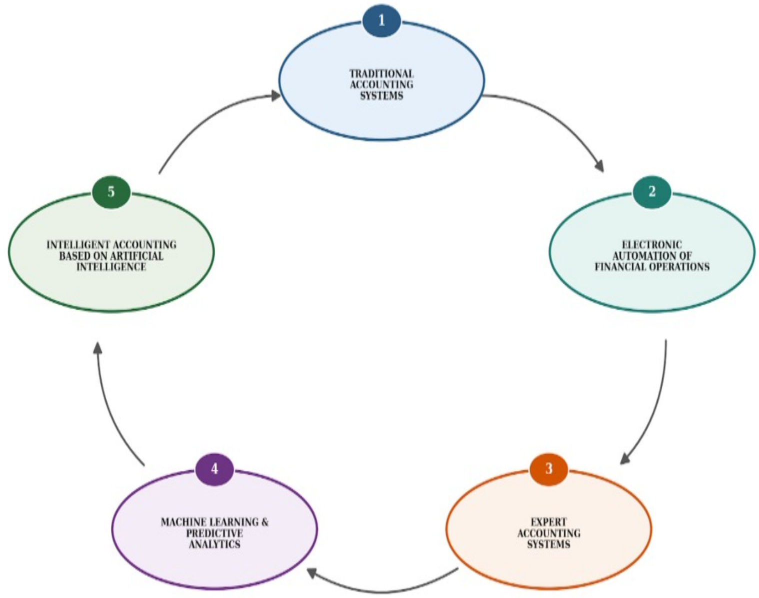
1.3 The Evolution of the Use of Artificial Intelligence in Accounting

The use of artificial intelligence in the field of accounting has witnessed a gradual development that coincides with the rapid developments in information and communication technology. In the early stages, the use of digital technologies was limited to electronic accounting systems that aimed to automate the processes of recording and processing financial statements, and then it evolved to employing expert systems that relied on knowledge bases to support decision-making processes, to the reliance on machine learning and predictive analytics techniques, which became able to analyze huge amounts of financial data and derive patterns and indicators of value in real time. **(Russell & Norvig, 2021; Davenport & Kokina, 2017).**

This development has contributed to a fundamental shift in the nature of the accountant's work, as his role is no longer limited to recording financial operations and preparing traditional reports, but has become increasingly focused on analyzing financial information, interpreting its results, and providing support to decision-makers by leveraging the outputs provided by intelligent systems. Artificial intelligence applications have also become able to learn from historical data, analyze complex relationships between financial variables, and predict future risks with a high degree of accuracy, which has enhanced the efficiency of accounting, auditing, and internal control processes. **(Sutton et al., 2023; Dwivedi et al., 2023).**

Many researchers believe that the future of the accounting profession is linked to the extent to which organizations are able to integrate artificial intelligence technologies with accounting and financial information systems, which contributes to raising the efficiency of accounting processes, improving the quality of financial reports, enhancing transparency and governance, as well as providing accurate and timely information to support management and strategic decisions. **(Bhimani & Willcocks, 2022; Sutton et al., 2023).**

Figure (2): Stages of the Development of Artificial Intelligence in the Accounting Function



Source: Prepared by the researcher based on (Bhimani & Willcocks, 2022)

1.4 Applications of Artificial Intelligence in the Accounting and Banking Sector

Artificial intelligence applications have become a key pillar in the development of accounting and banking work, as they provide advanced capabilities in data processing, analysis, and decision-making processes. These applications have contributed to raising the efficiency of financial processes, enhancing the quality of financial reports, improving internal control systems and risk management, as well as reducing human errors and increasing the speed of accounting operations. **(Bhimani & Willcocks, 2022; Sutton et al., 2023).**

1.4.1 Machine Learning

Machine learning is one of the most widely used applications of artificial intelligence in the accounting and banking sectors, as its algorithms rely on analyzing historical data and extracting patterns and relationships between them, enabling organizations to predict future results and make more accurate and effective decisions. **(Russell & Norvig, 2021; Kraus et al., 2021).**

Among its most prominent applications in the accounting and banking environment:

- Forecasting financial performance.
- Credit risk analysis.
- Detect abnormal and fraudulent transactions.
- Support internal and external audits.
- Improve the accuracy of financial forecasting and risk management.

Kraus et al. (2021) **have confirmed** that machine learning technologies have become a strategic tool to enhance the analytical capability of financial institutions, and improve the efficiency of decision-making in digital business environments.

1.4.2 Big Data Analytics

Big data analysis is one of the most important modern applications of AI, as it allows organizations to process vast amounts of financial and non-financial data quickly and accurately, providing more reliable information to support administrative and financial decisions **(Dwivedi et al., 2023; Bhimani & Willcocks, 2022).**

This technology contributes to:

- Customer Behavior Analysis.
- Detect financial and credit risks.
- Improve the quality of financial reports.
- Supporting banking supervision and supervision work.
- Enhance the efficiency of financial planning and forecasting.

1.4.3 Natural Language Processing

Natural Language Processing (NLP) techniques are used to analyze financial texts, annual reports, and accounting disclosures, and extract material information from them automatically, helping accountants and auditors to analyze financial content quickly and efficiently, and increasing the quality of audits and compliance with regulatory requirements. **(Sutton et al., 2023; Davenport & Kokina, 2017).**

1.4.4 Intelligent Automation

Smart automation relies on the integration of AI technologies with accounting systems to automate repetitive procedures, such as data entry, accounting matching, periodic reporting, and processing invoices and accounting constraints. This contributes to reducing operational time and costs, reducing human error, and improving the efficiency of accounting and control performance. **(Bhimani & Willcocks, 2022; Davenport & Kokina, 2017).**

1.5 The Role of Artificial Intelligence in Improving the Quality of Financial Reporting

The quality of financial reports is one of the main objectives of the accounting system, due to its role in providing reliable, appropriate and transparent financial information, which helps investors, management, and regulatory authorities in making rational economic decisions **(IASB, 2018).**

AI contributes to improving the quality of financial reporting by analyzing financial data more accurately and quickly, reducing errors resulting from human intervention, enhancing the efficiency of internal control systems, supporting compliance with accounting standards, as well as improving financial disclosures and early detection of material misrepresentations and errors. **(Dwivedi et al., 2023; Sutton et al., 2023).**

The most prominent contributions of AI to improving the quality of financial reporting are as follows:

1. Reduce accounting errors.
2. Accelerate financial reporting processes.
3. Improve the accuracy of financial analysis.
4. Enhance the ability to detect misrepresentations and errors.
5. Supporting compliance with International Accounting Standards.
6. Raising the level of transparency and financial disclosure.

Dwivedi et al. (2023) noted that the integration of AI technologies into financial systems enhances the reliability of financial information, improves analysis and control capabilities, and increases the quality of financial reporting.

1.6 The Role of Artificial Intelligence in Reducing Creative Accounting Practices

Creative accounting represents one of the most prominent challenges facing the quality of financial reporting, as it relies on exploiting the flexibility provided by accounting standards and policies to influence the results of the business or financial position in order to achieve the objectives of the management, without reflecting the real economic performance of the entity. **(Healy & Wahlen, 1999; Comiskey & Mulford, 2002).**

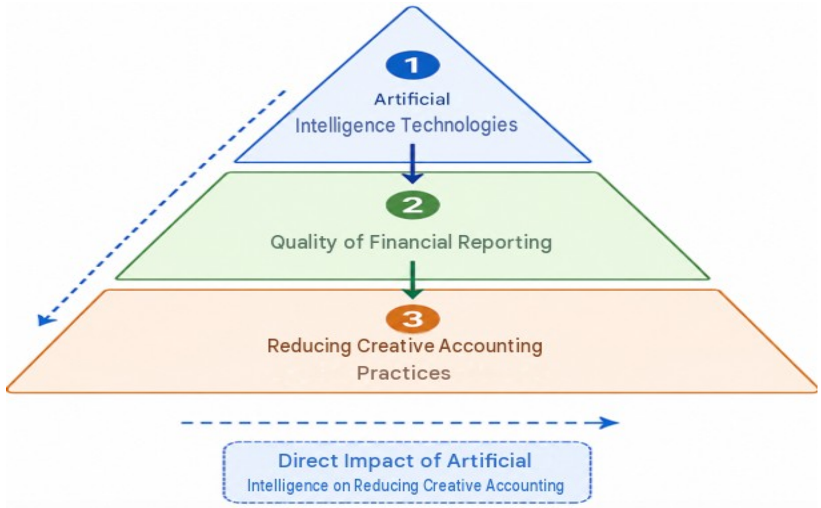
Applications of artificial intelligence have contributed to reducing these practices by providing advanced analytical tools based on big data processing, machine learning, and predictive analytics, which increases the ability of organizations to detect abnormal patterns and indicators of manipulation early, and enhances the effectiveness of internal control systems and continuous auditing. **(Sutton et al., 2023; Bhimani & Willcocks, 2022).**

AI technologies help reduce creative accounting practices by:

- Continuous analysis of financial statements.
- Detect abnormal patterns and deviations.
- Define revenue management indicators.
- Enhance the effectiveness of internal and external audits.
- Supporting compliance with accounting standards.
- Increasing the level of transparency and financial disclosure.

A recent study also showed that the use of AI technologies is associated with lower levels of discretionary entitlements and improved quality of financial reporting, reflecting the role of these technologies in reducing creative accounting practices and enhancing the reliability of financial information **(Anantharaman et al., 2023).**

Figure 3: The Mediating Role of Financial Reporting Quality between Artificial Intelligence and Creative Accounting



Source: Prepared by the researcher based on the study literature

1.7 Abstract

It is clear through this topic that artificial intelligence technologies have become one of the main drivers for the development of accounting work, as they provide analytical and supervisory capabilities that contribute to improving the quality of financial reports and reducing the chances of manipulation and creative accounting practices. The integration of these technologies in Iraqi banks can also represent an important entry point to enhance transparency and confidence in financial information and support the digital transformation in the banking sector.

The Second Section

The Quality of Financial Reporting and Its Role in Reducing Creative Accounting Practices

2.1 Introduction

The quality of financial reports is one of the main pillars of the modern accounting system, as it plays a pivotal role in providing reliable and appropriate financial information that helps investors, management, regulators, and other stakeholders in making rational economic decisions. The more accurate, transparent, and honest the financial reports are, the more they can reflect the real economic reality of the entity, and the fewer opportunities there are to exploit the flexibility provided by accounting standards in practicing creative accounting or profit management methods. **(IASB, 2018; Dechow et al., 2010).**

The importance of financial reporting quality has increased in light of the digital transformation and rapid developments in the business environment, as institutions, especially banks, are required to provide fast, accurate, and transparent financial information to meet the needs of financial report users and enhance their confidence in the published information. The use of artificial intelligence and big data analysis technologies has also contributed to the development of financial reporting processes and improved the quality of information by raising the efficiency of analysis, reducing human errors, and enhancing the effectiveness of internal control. **(Dwivedi et al., 2023; Sutton et al., 2023).**

Dechow et al. (2010) argue that the quality of financial reporting is measured by the extent to which accounting information is able to honestly express the true economic performance of an entity, and that it is free of material misrepresentations or practices that may affect the objectivity of economic decisions.

2.2 The Concept of Financial Reporting Quality

The concept of Financial Reporting Quality refers to the extent to which the information contained in financial statements and reports is able to provide an honest and appropriate picture of the financial position, financial performance, and cash flows of an entity, in order to achieve the needs of financial information users in economic decision-making. **(IASB, 2018).**

The International Accounting Standards Board (IASB) has explained that the quality of financial reporting is based on a set of basic and enhanced qualitative characteristics of financial information, which are as follows **(IASB, 2018):**

- Relevance.
- Faithful Representation.

- Comparability.
- Verifiability.
- Timeliness.
- Understandability.

The quality of financial reporting is not only compliant with accounting standards, but is also influenced by the efficiency of accounting information systems, the effectiveness of internal control, the level of corporate governance, the quality of the audit process, as well as the organizational environment in which the organization operates. **(Francis et al., 2016; Dechow et al., 2010).**

The accounting literature also indicates that high-quality financial reporting contributes to reducing information asymmetry between management and investors, enhances the confidence of financial statement users, and supports the efficiency of capital markets by providing more reliable and transparent information. **(Francis et al., 2016).**

2.3 The Importance of Financial Reporting Quality in Banking Institutions

The quality of financial reports is of exceptional importance in the banking sector due to the nature of banking activity, which relies on money management, risk assessment, and compliance with regulatory requirements, in addition to the heavy reliance of investors, depositors, and regulators on financial information to assess banks' performance and financial stability. **(IASB, 2018; Francis et al., 2016).**

The importance of the quality of financial reports in banking institutions is as follows:

1. Supporting investment decisions: High-quality financial reports provide accurate and reliable information that helps investors, depositors, and lenders to evaluate banks' financial performance and make more efficient investment and financing decisions, which contributes to rationalizing the allocation of economic resources. **(Dechow et al., 2010).**

2. Strengthening banking supervision: Financial reporting helps the regulatory authorities to monitor the soundness of banking activity, assess banks' compliance with accounting and supervisory legislation and standards, as well as identify risk levels and take appropriate measures to reduce them. **(IASB, 2018).**

3. Improving trust and transparency: The quality of financial reports enhances the level of trust between banks and stakeholders by providing clear, transparent, and reliable information, which reflects positively on the institutional reputation and increases the confidence of investors and customers in the bank. **(Francis et al., 2016).**

4. Reducing information asymmetry: High-quality financial reporting contributes to reducing the information gap between management and third parties by providing integrated and transparent information that helps all parties make decisions based on fair and balanced information. **(Dechow et al., 2010; Francis et al., 2016).**

5. Reducing Creative Accounting Practices: The higher the level of quality of financial reporting, the lower the chances of practicing profit management or manipulation of accounting information, as adherence to the qualitative characteristics of financial information, supported by effective control systems, contributes to enhancing transparency and reducing opportunistic behaviors of management. **(Healy & Wahlen, 1999; Dechow et al., 2010).**

Figure 4: The Importance of Financial Reporting Quality in the Banking Environment

Source: Prepared by the researcher based on (Francis et al., 2016)

2.4 Dimensions of Financial Reporting Quality

The quality of financial reporting is based on a set of qualitative characteristics identified by the International Accounting Standards Board (IASB) in the conceptual framework for financial reporting, which aim to ensure that financial information is provided that is useful to the users of financial statements in economic decision-making. The basic characteristics, represented by relevance and honest representation, along with enhanced characteristics such as comparability, verifiability, timeliness, and understandability, are among the most important criteria by which the quality of financial reporting can be assessed **(IASB, 2018).**

2.4.1 Relevance

Relevance refers to the ability of financial information to influence the economic decisions of users of financial statements, by providing information that helps predict future results or evaluate past events and results. The degree of relevance of information increases when it is related to the needs of its users, is available in time before it loses its ability to influence the decision-making process, and includes information that has predictive value, confirmatory value, or both **(IASB, 2018).**

Appropriate information is key to improving the quality of financial reporting, as it enables investors, management, and regulators to evaluate financial performance and make more efficient decisions, thereby enhancing transparency and reducing uncertainty **(Dechow et al., 2010).**

2.4.2 Faithful Representation

Honest representation means that financial information accurately and truthfully reflects the economic phenomena and events it is intended to represent, without misrepresentation, bias, or omission of material information. Achieving this characteristic requires the existence of three main elements: the completeness of the information, impartiality, and the absence of material errors, in order to ensure a realistic picture of the financial position and business results **(IASB, 2018).**

Honest representation is one of the most important elements that reduce the chances of manipulation and profit management, as it enhances the credibility of financial information and raises the level of confidence of financial reporting users in published data. **(Healy & Wahlen, 1999; Dechow et al., 2010).**

2.4.3 Comparability

Comparability means that an entity's financial information can be compared across different time periods, or compared to the financial information of other entities operating in the same sector, which helps financial statement users identify similarities and differences in financial performance and financial position, and make more objective decisions **(IASB, 2018).**

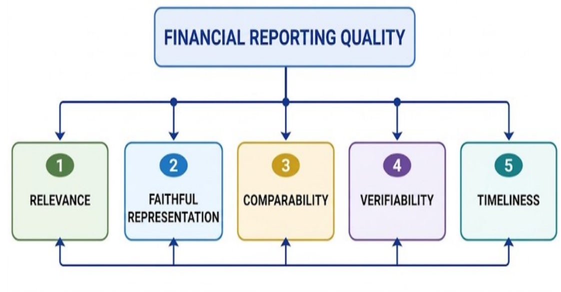
This feature contributes to enhancing the efficiency of financial analysis, reducing information asymmetry between management and external parties, as well as supporting transparency and increasing the reliability of financial reporting **(Francis et al., 2016).**

2.4.4 Timeliness

Timely financial information is provided to its users in a timely manner before it loses its ability to influence economic decisions. The more timely financial reports are prepared and published, the more useful they are to decision makers, and contribute to improving the efficiency of financial markets and enhancing confidence in accounting information **(IASB, 2018).**

Commitment to timeliness also supports the effectiveness of control, improves the speed of response to economic changes, and reduces the risks associated with delayed disclosure of financial information, which positively reflects on the quality of financial reporting and the efficiency of the decision-making process **(Francis et al., 2016).**

Figure (5): Dimensions of the Quality of Financial Reports according to the Conceptual Framework



Source: Prepared by the researcher based on the IASB Conceptual Framework (2018)

2.6 Creative Accounting Methods and Practices

Creative accounting methods vary according to management objectives and the flexibility available in accounting standards, but the accounting literature indicates that there are a number of the most common practices, the most prominent of which are:

1. Earnings Management

Earnings management is one of the most widely used creative accounting methods, and it is represented in the use of accounting estimates and policies to influence the level of declared earnings in order to achieve the objectives of management or meet the expectations of investors and financial markets **(Healy & Wahlen, 1999).**

2. Manipulation of the Timing of Revenue Recognition

This approach is to advance or postpone the recognition of revenue between different accounting periods in order to improve business results or achieve certain profit levels, which may distort the true financial performance of the entity **(Mulford & Comiskey, 2002).**

3. Manipulation of Expense Estimates

This method includes adjusting accounting estimates related to provisions, doubtful debts, depreciation, and impairment of assets, which affects the profits or financial position of the entity. **(Dechow et al., 2010).**

4. Reclassification of Financial Items

Some departments resort to reclassifying some revenues, expenses, or financial items in order to improve the financial indicators appearing in the financial statements, or to influence investors' evaluation of the financial performance of the entity. **(Mulford & Comiskey, 2002).**

2.7 The Role of Financial Reporting Quality in Reducing Creative Accounting

The quality of financial reporting is one of the most important control tools that contribute to reducing creative accounting practices, by providing transparent, reliable, and honest financial information, thus reducing the chances of exploiting accounting flexibility to achieve illegitimate purposes. **(IASB, 2018; Dechow et al., 2010).**

The quality of financial reporting plays an important role in reducing creative accounting by:

- Increasing the level of disclosure and transparency.
- Reducing the chances of manipulation of accounting information.
- Improving the ability to detect errors and deviations.
- Enhancing the efficiency of internal control systems.
- Supporting the effectiveness of internal and external audits.
- Enhancing investor and stakeholder confidence in financial information.

Healy and Wahlen (1999) pointed out that improving the quality of financial reporting is one of the most important means to reduce earnings management, increase the efficiency of financial markets, and enhance the credibility of accounting information, which was also confirmed by the study of Dechow et al. (2010), which showed that higher quality of financial reports is associated with fewer opportunities of misrepresentation and manipulation of financial statements.

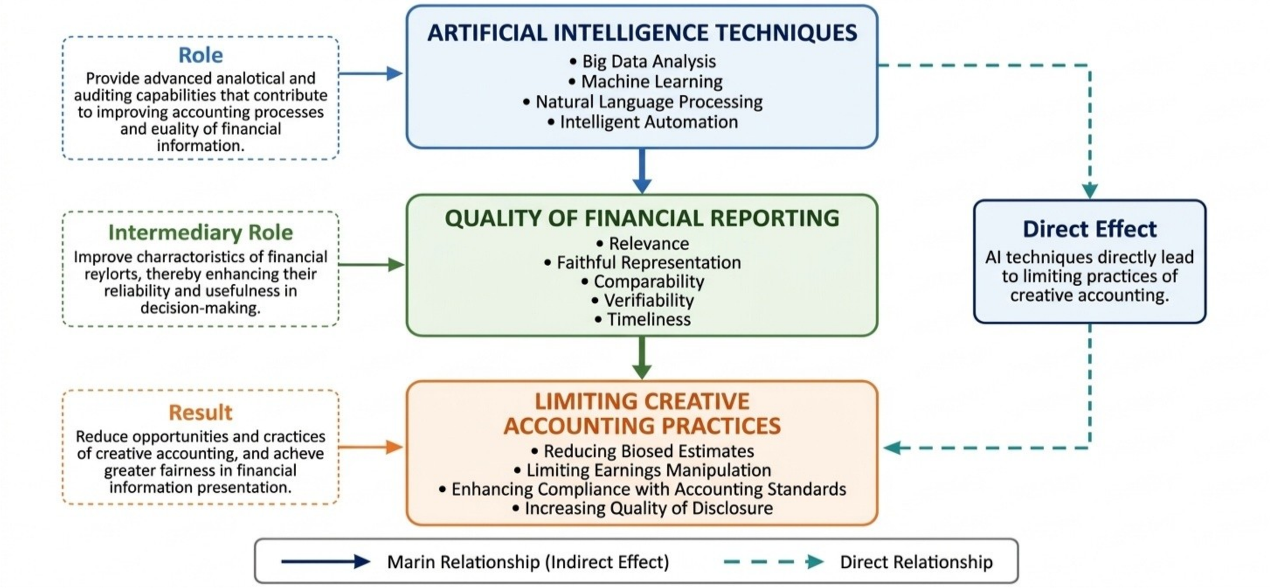
2.8 The Relationship between Artificial Intelligence, Financial Reporting Quality, and Creative Accounting

Recent literature indicates that there is an interrelated relationship between artificial intelligence, the quality of financial reporting, and creative accounting practices, as artificial intelligence contributes to improving the quality of financial reporting by automating accounting processes, analyzing financial data with high efficiency, and detecting errors and deviations early, which leads to enhancing the accuracy of financial information and raising the level of transparency and disclosure. **(Bhimani & Willcocks, 2022; Sutton et al., 2023).**

Applications of artificial intelligence, such as machine learning and big data analysis, also contribute to the detection of abnormal patterns and earnings management indicators, and support ongoing audit work, which limits opportunities for creative accounting practice and enhances the reliability of financial reporting **(Dwivedi et al., 2023; Anantharaman et al., 2023).**

Accordingly, the quality of financial reports represents a mediating variable that explains how the impact of AI shifts to reducing creative accounting practices, as the application of AI technologies first improves the quality of financial reporting, and then this improvement is reflected in reducing the chances of manipulation, managing profits, and enhancing transparency and control within financial and banking institutions. **(Anantharaman et al., 2023; Dechow et al., 2010).**

Figure (6): Theoretical Model of the Relationship between Variables



Source: Prepared by the researcher

Section Three: The Applied Framework of the Study

3.1 Introduction

This chapter addresses the practical aspect of the study, presenting and discussing the results obtained through the analysis of data collected via the questionnaire. This chapter aims to achieve the study's objectives of measuring the impact of Artificial Intelligence techniques on the quality of financial reports and limiting creative accounting practices in Iraqi banks.

3.2 Applied Study Methodology

3.2.1 Study Population and Sample: The study population consists of employees in Iraqi public and private banks, and the sample includes:

- Financial Managers.
- Accountants.
- Internal Auditors.
- Risk Officers.
- IT staff.

The sample will be selected using the stratified random sampling method.

3.2.2 Data Collection Tool: The study relied on the questionnaire to measure the study variables according to the five-point Likert scale.

The tool consists of three axes:

Variable	Dimensions
Artificial Intelligence	Machine Learning, Big Data, Automation
Quality of Financial Reports	Relevance, honest representation, comparison
Creative Accounting	Revenue management, manipulation, poor transparency

3.3 Statistical Analysis and Testing of the Study Model

3.3.1 Description of the Characteristics of the Study Sample: The demographic characteristics of the study sample members were analyzed in order to identify the nature of the participants and their suitability for the research topic, as they are among the categories related to accounting, supervisory, and technical work in Iraqi banks.

Table (1): Distribution of Sample Members by Demographic Characteristics

Variable	Category	Frequency	Percentage %
Gender	Male	168	67.2
	Female	82	32.8
Age	Under 30 years	58	23.2
	30–45 years	132	52.8
	Over 45 years	60	24.0
Educational Qualification	Bachelor	156	62.4
	Master	76	30.4
	PhD	18	7.2
Years of Experience	Less than 5 years	45	18.0
	5–10 years	96	38.4
	More than 10 years	109	43.6

Source: Prepared by the researcher based on the questionnaire data.

Table Interpretation: The results indicate that the majority of the respondents have appropriate work experience, with 82% having more than five years of experience, which enhances the ability of the respondents to assess the impact of artificial intelligence technologies and the quality of financial reporting in the banking environment.

3.3.2 Descriptive Analysis of Study Variables: The arithmetic mean and standard deviation were used to determine the level of perception of the study variables by the sample members.

Table (2): Arithmetic Means and Standard Deviations of the Study Variables

Variable	Arithmetic Mean	Standard Deviation	Level of Importance
Artificial Intelligence Technologies	4.18	0.54	High
Quality of Financial Reports	4.31	0.49	High
Limiting Creative Accounting	4.05	0.61	High

Source: Prepared by the researcher.

Table Interpretation: The results show that there is a high level for all variables of the study, as the quality of financial reports obtained the highest arithmetic mean (4.31), which indicates that employees in Iraqi banks are aware of the importance of the quality of financial information in enhancing transparency and reducing improper accounting practices.

3.3.3 Testing the Reliability of the Study Instrument: The reliability of the questionnaire was tested using Cronbach's alpha coefficient and composite reliability.

Table (3): Results of the Reliability Test of Study Variables

Variable	Cronbach's Alpha	Composite Reliability	Decision
Artificial Intelligence Technologies	0.912	0.934	Reliable
Quality of Financial Reports	0.895	0.921	Reliable
Creative Accounting	0.887	0.914	Reliable

Table Interpretation: All values exceeded the acceptable limit (0.70), indicating a high degree of internal consistency between the questionnaire paragraphs and their validity for analysis.

3.3.4 Convergent Validity Test

Table (4): Results of Average Variance Extracted (AVE)

Variable	AVE	Conclusion
Artificial Intelligence Technologies	0.652	Acceptable

Quality of Financial Reports	0.618	Acceptable
Limiting Creative Accounting	0.601	Acceptable

Table Interpretation: The results show that all the values of AVE exceeded 0.50, which confirms convergent validity and that the indicators of each variable explain an appropriate percentage of the variance.

3.3.5 Structural Model Testing and Hypotheses

Table (5): Structural Pathways Test Results

Hypothesis	Path	β	T-value	P-value	Decision
H1	Artificial Intelligence → Financial Reporting Quality	0.684	12.46	0.000	Accepted
H2	Financial Reporting Quality → Reducing Creative Accounting	-0.591	9.87	0.000	Accepted
H3	Artificial Intelligence → Reducing Creative Accounting	-0.436	7.25	0.000	Accepted
H4	Artificial Intelligence → Reporting Quality → Creative Accounting	-0.404	8.13	0.000	Accepted

Table Interpretation: The results indicate that there is a positive and significant impact of AI technologies in improving the quality of financial reporting, and there is a significant negative impact of both AI and the quality of financial reporting on creative accounting practices, which confirms the ability of smart technologies to reduce the chances of financial manipulation.

3.3.6 Model Interpretation Coefficient (R^2)

Table (6): The Ability of the Model to Interpret the Dependent Variables

Dependent Variable	R^2	Level of Interpretation
Quality of Financial Reports	0.468	Medium
Limiting Creative Accounting	0.593	High

Table Interpretation: The value of $R^2 = 0.593$ indicates that AI technologies and financial reporting quality explain about 59.3% of the change in the level of reducing creative accounting practices.

3.3.7 Testing the Mediating Role of Financial Reporting Quality

Table (7): Mediation Analysis

Indirect Relationship	Indirect Impact	Bootstrapping	Conclusion
Artificial Intelligence → Reporting Quality → Creative Accounting	-0.404	Significant	Partial Mediation

Table Interpretation: The results confirm that the quality of financial reporting plays a partially mediating role, as AI not only reduces creative accounting directly, but also works by improving the quality of financial reporting.

3.3.8 XGBoost Model Results

Table (8): Prediction Model Performance Indicators

Indicator	Value
R^2 Prediction	0.71
RMSE	0.183
MAE	0.142

Table Interpretation: The results show that the XGBoost model has high predictive power, as it was able to account for a large percentage of the change in the reduction of creative accounting practices.

3.3.9 Importance of Variables Using SHAP

Table (9): Order of Importance of Variables in the Predictive Model

Variable	The Importance of SHAP	Ranking
Quality of Financial Reports	0.42	First
Machine Learning	0.31	Second
Big Data Analysis	0.18	Third
Intelligent Automation	0.09	Fourth

Table Interpretation: The results of SHAP indicate that the quality of financial reporting is the most influential factor in reducing creative accounting, followed by machine learning applications, underscoring the importance of the mediating role of financial reporting quality.

The conclusions and recommendations are as follows:

First: Conclusions

1. The results of the study proved that there is a significant positive impact of artificial intelligence technologies in improving the quality of financial reporting in Iraqi banks, which enhances the reliability of accounting information.
2. The results showed that there is a significant negative impact of the quality of financial reporting on creative accounting practices, which means that improving

the quality of reports contributes to reducing manipulation practices and profit management.

3. The study showed that artificial intelligence technologies have a direct impact on reducing creative accounting practices, by enhancing control, analyzing data, and detecting abnormal patterns.
4. The results of the mediation analysis confirmed that the quality of financial reporting plays a partially mediating role in the relationship between AI technologies and the reduction of creative accounting, which indicates that part of the impact of AI is transmitted through improving the quality of financial reporting.
5. The results of the structural model showed good interpretive ability, as AI technologies and financial reporting quality explained about 59.3% of the change in the reduction of creative accounting practices.
6. The results of the XGBoost model showed that it has high predictive power, confirming the appropriateness of using machine learning techniques in modern accounting studies.
7. The SHAP analysis showed that the quality of financial reports is the most influential factor in reducing creative accounting, followed by machine learning techniques, big data analysis, and finally intelligent automation.

Second: Recommendations

1. Expand the adoption of artificial intelligence technologies within Iraqi banks, particularly machine learning and big data analytics applications, to enhance the quality of financial reporting and reduce improper accounting practices.
2. Develop internal control systems by integrating AI tools for early detection of manipulations, profit management, and enhancing the effectiveness of internal and external audits.
3. Pay attention to raising the quality of financial reporting by adhering to the qualitative characteristics of financial information, such as relevance, honest

representation, comparability, and timeliness, as they play a role in reducing creative accounting.

4. Organize continuous training programs for accountants, auditors, and workers in the banking sector to develop the skills of using artificial intelligence applications in accounting and auditing.
5. Encourage the Central Bank of Iraq and the regulatory authorities to issue instructions and standards that support the use of smart technologies in financial reporting and enhance transparency and disclosure.
6. Invest in the development of digital infrastructure and databases within banks to ensure the efficient application of AI technologies and achieve the best results.
7. Encourage researchers to employ modern machine learning models such as XGBoost and model interpretation techniques such as SHAP in accounting studies, as they provide greater accuracy in predicting and interpreting results.
8. Conduct future studies involving other economic sectors or a comparison between public and private banks, while testing other intermediate or modified variables such as governance, internal control, and organizational culture, to deepen understanding of the factors influencing the reduction of creative accounting practices.

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