

-RESEARCH ARTICLE-

## THE EFFECT OF RISK-BASED CONTINUOUS AUDITING ON REDUCING FRAUD IN COMPANIES LISTED ON THE IRAQI STOCK EXCHANGE

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### —Abstract—

Objective: Given that many factors in identifying fraud are consistent with the audit methods used by the auditor, using an efficient and effective audit method such as risk-based auditing can be a big step in identifying fraud in auditing. Therefore, the purpose of this article is to examine the effect of risk-based continuous auditing on reducing fraud. Research Methodology: The statistical population of this study includes financial experts and consultants, as well as professors in economics and finance who have at least 10 years of experience in the fiscal year 2024. Due to the limitation of the statistical population, the subjects were studied using a random-access method, and the questionnaire collected after removing corrupted copies or containing incomplete

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answers, 133 copies were included in the analysis. Findings: The results of the research questions showed that the tools used in continuous auditing, cooperation with external institutions for continuous auditing, managers' goals for continuous audit reports, and the type of industry reduce the possibility of fraud. Also, the amount of adjustment in continuous audit reports, the objectives of the internal audit unit, and the number of members of the internal audit committee do not affect the reduction of fraud. In general, the results indicate that risk-based continuous auditing reduces fraud.

**Keywords:** Audit, Risk-Based Audit, Fraud, Continuous Audit

## INTRODUCTION

In the new generation of auditing, the risk-based audit process is the dominant approach to combating corruption and the center of gravity of the financial statement audit process. This type of audit implements high-risk areas in the assessment and, more importantly, continuous assessment (Amran et al., 2023; Messier, 2014). Risk-based auditing is defined as a process that has important steps such as identifying, classifying, and measuring risks and determining their weight (Zainal Abidin, 2017). Auditors assess the client's internal control system and, considering the reliability of the system, design and perform tests of details (Christensen, 2022). Since performing tests of details is extensive and costly, auditors have modelled risk-based auditing to establish a balance between the efficiency and effectiveness of the system and thereby determine the number of tests of details that are necessary for an audit (Blokdiijk, 2004). The starting point for the risk-based audit approach is to determine the overall level of risk that the auditor is prepared to accept when expressing an audit opinion on the financial statements. The risk-based audit approach is designed to avoid over-auditing in low-risk areas and under-auditing in high-risk areas (Owolabi et al., 2021).

Risk-based auditing is more advanced and efficient than traditional methods, namely system- and process-based auditing, in a way that allows for optimal use of limited audit resources, reducing audit-related costs (Auld & Renckens, 2021). Today, all common auditing standards in the world emphasize strategic audit management and its planning based on the audit risk model (Allen et al., 2006). An effective risk-based audit program, by observing the organization's risks through the prism of strategic objectives, overcomes all the limitations and allows the auditor to have a more targeted and efficient audit (Susilo, 2023). Also, this audit program, by relating the organization's risks to the organization's business objectives, will enable the development of more accurate, faster, and clearer risk reduction plans. Given that many factors in fraud detection are consistent with the audit methods used by the auditor, therefore, using an efficient and effective audit method such as risk-based auditing can be a big step in recognizing fraud in independent auditing (Wang et al., 2025).

Combating corruption requires risk-based auditing due to its detrimental impact on the financial performance and reputation of the company. In addition, the risk of corruption

is a specific type of risk that cannot be reduced or accepted but must be eliminated or avoided. For this purpose, risk-based auditing is the only acceptable method to combat fraud, as it tracks all business transactions on a daily basis (Antonio, 2022). Despite this fact, the relationship between risk-based auditing and fraud in the country of Iraq has not been fully studied. Hence, the aim of the present study is to study the effect of continuous risk-based auditing on fraud reduction.

## **THEORETICAL PRINCIPLES AND HYPOTHESIS DEVELOPMENT**

The latest estimates suggest that the cost of corruption across the EU is between €179 and €950 billion of GDP per year (Parliament, 2018). Almost 20% of organisations worldwide report having received at least one request for a bribe during a regulatory or service transaction (Baughn et al., 2010). Corruption has devastating consequences. Organisations lose approximately 5% of their annual revenues to fraud, and corruption also undermines trust among stakeholders (Examiners, 2018). However, companies are unwilling or unable to take effective and proactive measures against corruption. The majority of corruption-related losses are still detected through passive methods such as law enforcement notifications, confessions or accidents (Examiners, 2018).

Possibly, if the monitoring system is strong and, with early and frequent communication to the auditee that the system is effective in detecting fraud, continuous auditing actually acts as a fraud deterrent (Gonzalez & Hoffman, 2018). Traditionally, audits of data and internal controls are conducted based on specific cycles and time periods. Often audits are conducted too late, even months after the activity has occurred, and these reviews are also conducted based on a sample of data. This will not reflect the real situation and the assessment will be made too late, affecting business losses and loss of stakeholder trust (Antonio, 2022). Continuous auditing is a method that enables auditors to conduct audits in real time and comprehensively from sample data to the community.

Continuous auditing is an ongoing assessment of risk and control, enabled by technology and facilitated by an auditing paradigm that shifts from periodic assessment based on a sample of transactions to ongoing assessment based on a larger proportion of transactions. Continuous auditing is a widespread electronic audit process that allows auditors to provide some degree of assurance on information, either at the time of disclosure or shortly thereafter. Continuous auditing involves control, monitoring, and evaluation activities that are primarily implemented with information technology. Continuous auditing is used to initiate audit program activities and increase internal audit coverage and develop an organization's risk-based knowledge management as data is collected, analyzed, and reported (Josh Shilts & CFF, 2017).

Continuous auditing also ensures that policies, procedures, and standard operating procedures are operating effectively and assesses management's responsibility for assessing the effectiveness of controls. Identifying control objectives and statements and establishing automated inspections are important activities, especially on activities

that are identified during the audit process as not conforming to the standard (Flowerday et al., 2006).

Continuous auditing provides several benefits to an organization, and such audits are becoming increasingly important in the profession. Frequent use of timely data and analysis increases audit quality and the accuracy of internal controls, and reduces the company's compliance risk (Kuhn Jr & Sutton, 2010). Behavioral effects may also occur because managers' decisions may change when they know they are being monitored (Brown et al., 2007). Continuous auditing also provides greater visibility to businesses, creating greater transparency for managers, investors, and other stakeholders (Cardoni et al., 2020). Some authors even state that companies that mandate continuous auditing often achieve a rapid return on their investment (Nazarova et al., 2020). Overall, continuous auditing provides an opportunity to create value by saving funds that are subject to potential misuse, improving the company's reputation and reducing legal costs, as well as improving the efficiency and effectiveness of audit and compliance functions.

However, there are several reasons why a monitoring system may be weak. Under a weak monitoring system, continuous auditing can exacerbate any fraud, as the auditee, learning about the weaknesses of the systems, may be emboldened to commit more fraud (Gonzalez & Hoffman, 2018).

Continuous auditing has been proposed as a powerful deterrent technique in fraud detection (Cardoni et al., 2020; Eulerich et al., 2020; Gonzalez & Hoffman, 2018). However, there is a potential unintended consequence. When continuous auditing is combined with timely notifications to auditees about exceptions to control rules, information about the system's capability is revealed. Thus, if a system has poor fraud detection capability, early notification that the system has not detected a fraudulent transaction can actually increase the auditee's propensity to commit fraud (Gonzalez & Hoffman, 2018).

Similarly, according to studies, although continuous auditing is very beneficial, its use is still rare (Cipriano et al., 2019). Companies are not ready to actively adopt it because the concept of continuous auditing is still vague for them. Researchers have proposed theoretical foundations, conceptual frameworks, and enabling technologies, but there are not enough empirical studies as well as studies that explain the essential elements and effective factors. In addition, the relationship between continuous auditing and corruption is unclear and needs further research (Jeppesen, 2019). Therefore, in this study, the researcher aims to answer the question of whether risk-based continuous auditing has an effect on reducing fraud in companies listed on the Iraqi Stock Exchange? And what are its components and factors?

[Antonio \(2022\)](#) in a study on “The Effectiveness of Continuous Audit in Auditing with Fraud and Error Detection Challenges in KKK Department Store” proved that continuous audit significantly improves the quality of the organization’s audit and internal control in 2012 and 2013. Another important factor that has a great impact on the effectiveness of continuous audit is the interaction between the continuous audit component, the owner and internal auditor, and all relevant parties. Continuous audit has been proven to be very important in improving the quality of an organization’s audit and internal control, but it is ineffective in handling transactions that involve manual and collusive transactions. In this study, it looks at two key controls, namely “checking whether the received report is older than the date specified in the purchase order” and “checking whether the received report is not authorized in accordance with the purchase order. ". An effective solution is to eliminate such manual transactions or authorizations through systems with inherent controls. This was implemented in 2013 and successfully resolved the problem. The continuous audit approach is an efficient and effective approach as well as sustainable and can provide timely signals in dealing with fraud and error through internal control and risk mitigation.

[Cardoni et al. \(2020\)](#) conducted a study titled “Continuous Audit and Data Mining for Strategic Risk Control and Anti-Corruption: Creating ‘Fair’ Value in the Digital Age”. The aim of this study is to fill the gap in literature by examining a case study of continuous audit for anti-corruption. To fill this gap, they adopted the framework proposed by [Chan and Vasarhelyi \(2018\)](#) and identified the success factors for implementing continuous audit. For the analysis, they used a case study research method and focused on the Italian company (AST), the only steel company in Europe to be ISO 37001 certified. This study demonstrates the practical impact of continuous audit and data mining on strategic risk control by empirically testing the framework of [\(Chan & Vasarhelyi, 2018\)](#) for the specific issue of anti-corruption. The results show that effective continuous audit is focused on an integrated and change management approach, and strategic vision, risk mapping, and a culture of non-corruption are among the most influential factors. The AST case demonstrates that technology is now essential to support strategic risk control, but only if it is integrated with ongoing growth in organizational and managerial capabilities.

[Mukhlisin \(2018\)](#) conducted a study to examine auditor tenure and auditor industry expertise as signals for detecting fraudulent financial reporting. The results of the test showed that in the context of corporate governance, long audit tenure does not reduce auditors' independence and professional skepticism in detecting fraudulent financial reporting. Meanwhile, auditors with industry expertise can detect fraudulent financial reporting.

[Hobson et al. \(2017\)](#) studied the improvement in the detection of CEO fraud by experienced auditors. According to the results obtained in this study, auditors with less work experience were more likely to ignore fraud committed by the company owner

than experienced auditors. In the case of experienced auditors, it can be said that sensitivity to this issue was much higher.

Topor (2017) studied the auditors' responsibility to detect errors and fraud in financial statements in order to assess the risk factors associated with the occurrence of fraud in auditing activities. In this study, the researcher pointed out the various duties of auditors in preventing and detecting fraud in the form of 5 categories including liabilities, customers, shareholders, profit and loss accounts, and inventory.

Cassell et al. (2016) found that fraud risk reduction is more likely among companies with longer auditor tenure. In addition, fraud risk is lower at the end of the second fiscal quarter. Therefore, it can be stated that auditors with “fresh eyes” or less experienced auditors are less effective in responding to fraud risk, while experienced auditors are more effective in this regard.

Lisic et al. (2015) discussed the issue of accounting fraud, auditing, and the role of government support in China. According to their findings, the probability of fraud in the financial statements of companies audited by large audit firms is lower. Also, the severity of fraud, except for fraudulent companies in other jurisdictions, is higher with the use of fraud alternatives, auditor selection by accountants, and controls for other corporate governance mechanisms. The results obtained confirm the role of government crimes in ensuring audit quality and have important practical and applied implications for helping international audit firms and businesses and generally compete successfully in China.

## **HYPOTHESES OF THE STUDY**

**H1:** *The tools used in risk-based continuous auditing have a significant effect on reducing fraud in companies listed on the Iraqi Stock Exchange.*

**H2:** *Cooperation with external institutions for continuous auditing significantly contributes to fraud reduction.*

**H3:** *The level of adjustments made in continuous audit reports has a significant impact on reducing fraud.*

**H4:** *Managers' objectives related to continuous audit reports significantly influence the reduction of fraud.*

**H5:** *The objectives of the internal audit unit have a significant effect on fraud reduction.*

**H6:** *The number of members of the internal audit committee significantly affects the company's ability to reduce fraud.*

**H7:** *The type of industry in which the company operates has a significant moderating effect on the relationship between continuous auditing and fraud reduction.*

## **CONCEPTUAL FRAMEWORK AND FUTURE TRENDS IN RISK-BASED AUDITING**

The evolution of auditing from traditional periodic reviews to real-time, data-driven assurance functions has paved the way for the emergence of risk-based continuous auditing (RBCA). This section outlines the theoretical underpinnings of RBCA, its conceptual model, and future trends shaping its adoption, particularly within emerging economies like Iraq.

## **Evolution of the Auditing Function**

Auditing used to be focused on past financial information, providing post-event assurance. But with the technological revolution and growing regulatory requirements, people's expectations have changed. Auditing now has to be ongoing, forward looking, and risk based. The emergence of RBCA occurs contemporaneously, satisfying the stakeholder requirement for the detection of fraud in advance and accountability for activities.

## **Theoretical Foundations**

RBCA is based on several theories of audit and governance. Agency theory explains why continuous monitoring minimizes information asymmetry. Contingency theory presumes that audit systems are adjusted to organizational and environmental contexts. Stakeholder theory justifies audit disclosure as a means of establishing trust among diverse groups of stakeholders.

## **Conceptual Model of RBCA**

A conceptual model of RBCA integrates the following components:

- Risk Identification: Identifying key operational, compliance, and strategic risks.
- Continuous Monitoring: Using automated tools to track risk indicators in real-time.
- Audit Analytics: Applying data mining techniques to identify anomalies.
- Feedback and Adaptation: Modifying audit plans based on findings and emerging threats.

This model functions within an internal control environment, supported by audit committees and aligned with enterprise risk management systems.

## **Future Trends: Data Analytics and Artificial Intelligence**

Big data and artificial intelligence are revolutionizing audits. Real-time auditing platforms are increasingly relying on AI to search for anomalies, examine the emotional content of employee interactions, and anticipate fraudulent activities. RBCA enabled by AI will enable predictive rather than reactive audit methods in the future.

## **Blockchain and Real-Time Assurance**

Blockchain technology provides transaction histories that cannot be reversed, and this improves transparency. Merging blockchain with RBCA systems will enable auditors to view irrevocable and real-time audit trails. Such an improvement is particularly useful for financial reporting, supply chain integrity, and contract compliance.

### **Cybersecurity and IT Auditing**

With increasing cyberattack threats, RBCA will increasingly encompass cyber security testing. IT auditing will be carried out routinely to test firewalls, access controls, and data integrity, pushing internal auditors into information security's domain.

### **Integration with ESG Auditing**

Environmental, Social, and Governance (ESG) concerns will be a growing issue for investors. Future iterations of RBCA will consider ESG risks and adherence, connecting audit priorities to sustainability goals. Integration will include developing new measures and audit requirements.

### **Challenges in the Iraqi Context**

Despite the promise of RBCA, several barriers exist in Iraq:

- Low technological adoption among firms
- Limited audit independence
- Lack of standardized audit data
- Fragmented regulatory enforcement

To overcome these issues, cross-sector collaboration among regulators, academic institutions, and audit firms is essential.

### **Research Opportunities and Methodological Innovation**

Future studies should explore:

- How RBCA affects financial performance over time
- Differences in fraud detection across industries using RBCA
- The role of organizational culture in RBCA effectiveness

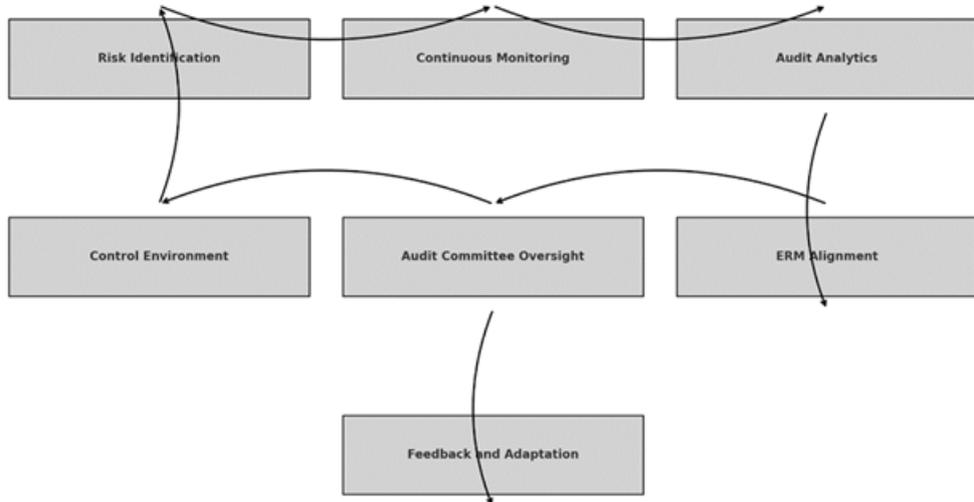
Methodologies can include longitudinal studies, case-based reasoning, and machine learning for audit support decisions.

### **Strategic Vision**

RBCA is not merely to serve as a tool for audit, but also as an asset, which is highly desired. With the incorporation of RBCA into corporate DNA, organizations can transform from reactive risk management towards proactive risk management. For Iraqi

organizations, transformation offers the chance to overhaul governance strategy and get onto the international investor conformity curve.

In conclusion, RBCA is the way of the future for auditing a model whereby technology, strategy, and ethics blend to create healthy, open, and fraud-proof organizations.



**Figure 1:** Conceptual Model of Risk-Based Continuous Auditing (RBCA)

Figure 1 illustrates the theoretical model of Risk-Based Continuous Auditing (RBCA) and the main factors that coexist in an interactive model of auditing. The model starts with Risk Identification, which is complemented by Continuous Monitoring and Audit Analytics that facilitate real-time identification of deviations and early warnings of fraud. These processes are incorporated into the firm's Enterprise Risk Management (ERM) strategy to maintain alignment with overall organizational objectives. Audit Committee governance makes people accountable, and Control Environment is the organizational basis of first-class internal governance. Feedback and Adaptation is the last element ensuring that the system gets better by considering audit results in future. The integrated approach illustrates the way RBCA is an active fact-based system for improving audit quality and detecting fraud.

## RESEARCH METHODOLOGY

The present study can be classified as applied research due to its goal of productivity in the research population. However, due to the data collection mechanism, which was a questionnaire, it is considered a field study, and since it was intended to examine the

relationship between variables, it is non-causal and falls into the descriptive (non-experimental) research group. From another perspective, the research can also be considered a survey and case study that included observing phenomena to give meaning to various aspects of the collected information.

Because the expertise of individuals on the research topic is important, the statistical population was selected from among the experts and financial consultants of companies active in the Iraqi Stock Exchange in the fiscal year 2024, as well as professors in economics and finance with the characteristic that they must have more than 10 years of experience and be proficient in the factors affecting the reduction of fraud in financial and audit reports.

In this study, due to the uncertainty of the number of the statistical population, the available sampling method was used, meaning that all members of the statistical population who were available and willing to cooperate were selected as the statistical sample of this study. Subsequently, 150 copies of the questionnaire were distributed to the entire statistical population, and after removing incomplete and distorted questionnaires, 133 copies were included in the analysis. The statistical method used was Mann-Whitney U using SPSS version 26 software. In this study, in the general questions section of the questionnaire, questions were asked about the gender, field of study, level of education, level of professional experience, and age of the respondents, and in the specialized questions section, the (Antonio, 2022) questionnaire based on a five-point Likert scale was used.

Table 1 provides a comprehensive overview of the variables utilized in the study, systematically classified into dependent, independent, and control variables. The dependent variable, Fraud Reduction, represents the perceived effectiveness of risk-based continuous auditing in minimizing fraudulent activities within companies listed on the Iraqi Stock Exchange. The main independent construct, Risk-Based Continuous Auditing, is decomposed into multiple dimensions such as audit tools used, cooperation with external institutions, frequency of audit adjustments, and the structure and objectives of both management and the internal audit unit. These dimensions were operationalized using a 5-point Likert scale to capture respondents' agreement with specific statements related to the effectiveness of auditing practices in reducing fraud.

The table also outlines control variables such as firm size, years of experience, education level, and industry type. These were incorporated to account for organizational and demographic differences that may influence the relationship between auditing practices and fraud reduction. Measurement methods for these controls include logarithmic transformations for firm size, categorical classifications for industry type and education level, and numerical input for experience. The inclusion and detailed description of these variables strengthen the empirical model by reducing omitted variable bias and ensuring more robust statistical inferences. Overall, the table

provides a clear operational framework for testing the study's hypotheses and enhances the transparency and replicability of the research.

## RESEARCH VARIABLES AND MEASUREMENT METHODS

**Table 1: Summary of Research Variables and Their Measurement Methods**

Variable Type	Variable Name	Definition	Measurement Method
Dependent Variable	Fraud Reduction	Extent to which continuous risk-based auditing reduces fraudulent activities.	5-point Likert scale based on expert perceptions.
Independent Variable	Audit Tools Used	Use of analytical and digital tools in continuous auditing.	5-point Likert scale (e.g., strongly disagree to strongly agree).
Independent Variable	Cooperation with External Institutions	Level of collaboration with external auditors or regulatory bodies.	5-point Likert scale.
Independent Variable	Adjustment Level in Audit Reports	Frequency and extent of changes made in audit reports.	5-point Likert scale.
Independent Variable	Managers' Objectives for Audit Reports	Strategic intentions of managers behind continuous audit implementation.	5-point Likert scale.
Independent Variable	Internal Audit Unit Objectives	Effectiveness and goals of internal audit in detecting fraud.	5-point Likert scale.
Independent Variable	Internal Audit Committee Size	Number of members in the internal audit committee.	Numerical count or categorical (small/medium/large).
Independent Variable	Industry Type	The business sector in which the firm operates.	Categorical variable (e.g., coded as dummy variables).
Control Variables	Firm Size	Operational scale and total assets of the firm.	Natural logarithm of total assets.
Control Variables	Years of Experience	Experience of respondents in auditing or finance.	Measured in years.
Control Variables	Education Level	Academic qualification of respondents.	Categorical: Bachelor's, Master's, PhD.
Control Variables	Age of Respondent	Age group of respondents.	Categorical: e.g., Under 35, 35–45, etc.

## PRACTICAL IMPLICATIONS AND STRATEGIC APPLICATIONS

Risk-based continuous auditing (RBCA) has a lot to offer in the form of improved corporate governance systems' capacity to fight fraud. Given Iraq's new economic context, where conventional audit practices falter against old-fashioned systems, no availability of any sort of real-time data, and broken enforcement systems, implementing it is not just an evolutionary necessity but a strategic one. It is a discussion of the way that RBCA can be applied in Iraqi firms and the strategic issues and problems that need to be overcome.

## **Organizational Readiness and Audit Culture**

Companies must assess their existing internal audit framework and gauge their readiness prior to employing RBCA. They are the maturity of their internal control, the competence of the auditors, ready availability of technology infrastructure, and top-management sponsorship. The audit culture must be established on the principles of transparency, forward-looking monitoring, and risk awareness. Audit committees must be given authority to monitor implementation and drive the transition from the classical periodic audit model towards a continuum risk-based one.

## **Technology and Infrastructure Requirements**

Some of the most important aspects of RBCA include the implementation of high-end technological tools like audit analytics, real-time dashboards, and AI-based alert systems. Iraqi business enterprises, especially the listed ones on the ISX, need to invest in audit software that allows for constant transactions tracking. Enterprise resource planning systems can also allow data integration and enhance auditors' capabilities for identifying anomalies.

## **Alignment with Enterprise Risk Management (ERM)**

RBCA should be integrated with the general risk management strategy of the company. The objectives of the audit need to be regularly modified and linked with risk registers. Through the assistance of risk matrices and heat maps, audit personnel must prioritize high-risk domains and allocate audit resources accordingly. Internal auditors need to collaborate with risk management officers so that there is uniformity while identifying new risks and responding to them.

## **Strategic Benefits for Fraud Reduction**

RBCA's real-time capability gives auditors the visibility to identify and react to fraud signals much sooner than conventional audit frequencies. Because it scans high-risk processes like procurement, payroll, and inventory, RBCA minimizes the probability of fraud remaining undetected. The real-time component also discourages would-be perpetrators, because the seemingly ubiquitous presence increases the psychological cost of committing fraud even more.

## **Human Capital and Auditor Training**

One of the significant challenges to implementing RBCA in Iraq is the lack of auditors who are certified in advanced auditing techniques and tools in risk assessment. Traditional universities and professional institutions need to include certified RBCA principles in auditing and auditing studies. The audit personnel should be continually trained in data analytics, fraud analytical methods, and expert audit software use.

## **Legal and Regulatory Considerations**

Effective application of RBCA is also dependent on regulators' support. There is a need for Iraqi Securities Commission (ISC) and other authorities to transform codes of corporate governance to encompass the need for frequent risk-based auditing. Compulsory disclosure of RBCA practices may stimulate companies to implement such practices and harmonize regional regulations with global expectations.

### **Case Examples and International Benchmarks**

Globally, companies like Siemens, Unilever, and banks have implemented RBCA frameworks. Companies used computer-based audit programs running 24/7 that can identify inconsistencies and allow early investigation. Iraqi enterprises could learn from these experiences in an attempt to develop scalable and context-specific solutions.

### **Role of Audit Committees and Boards**

Good governance requires audit committees to be actively engaged in monitoring RBCA. This includes approval of the audit plans, assessment of threats, auditing report oversight, and accountability. Boards should appreciate that the implementation of RBCA is not a technical change but re-engineering how the business operates with integrity and transparency.

### **Cost Considerations and ROI**

RBCA may require initial systems investment and training, but the payoff is high. Lower fraud loss, enhanced compliance, and enhanced investor confidence all equate to bottom-line and image benefits. Organizations need to conduct cost-benefit analysis and phase in the rollout to cover costs.

### **Recommendations for Implementation**

- Start with pilot programs focusing on high-risk areas.
- Collaborate with IT departments to ensure data quality and accessibility.
- Engage external consultants for training and initial implementation.
- Develop performance metrics to evaluate the effectiveness of RBCA.

Through the application of RBCA, Iraqi companies can establish control-focused culture, enhance fraud detection and place themselves competitively in the regional capital market.

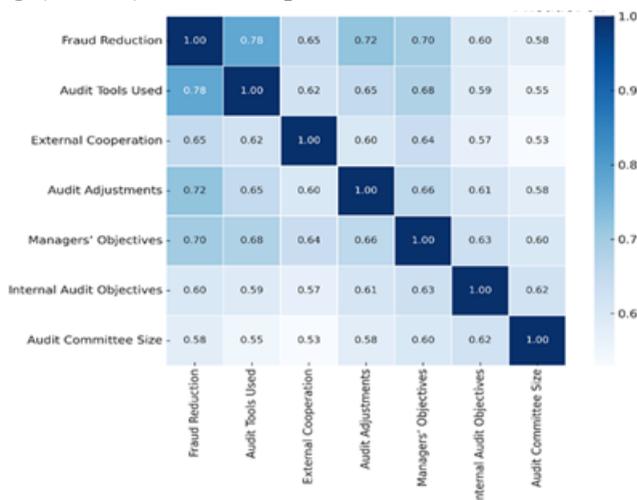
## **RESEARCH FINDINGS**

Table 2 shows the results of the analysis of the general questions in the questionnaire. As can be seen, 82% of the respondents are male and the rest are female. In addition, 55% of the respondents have professional experience between 10 and 15 years, 30% have 15 to 25 years, and the rest have more than 25 years of professional experience.

**Table 2: Demographic Characteristics**

Description	Abundance	Percentage
Gender		
male	24	18
female	109	82
Total	133	100
Age		
Under 35 years old	17	13
35 to 45 years	55	41
45 to 55years	35	26
Over 55 years old	26	20
Total	133	100
Professional experience		
10 to 15 years	73	55
15 to 25 years	40	30
More than 25 years	22	15
Total	133	100
Education		
Bachelor's degree	53	40
Master's degree	60	45
PhD	20	100
Total	100	100

Figure 2 illustrates the correlation matrix between the key dimensions of Risk-Based Continuous Auditing (RBCA) and the dependent variable, Fraud Reduction.



**Figure 2: Correlation Analysis Between RBCA Dimensions and Fraud Reduction**

The heatmap reveals that all RBCA dimensions are positively correlated with fraud reduction, with “Audit Tools Used” showing the strongest correlation ( $r = 0.78$ ), followed by “Audit Adjustments” ( $r = 0.72$ ) and “Managers’ Objectives” ( $r = 0.70$ ). These findings suggest that the effectiveness of continuous auditing practices is significantly associated with reduced fraudulent behavior, thereby providing preliminary support for the research hypotheses. The absence of negative or zero

correlations further strengthens the assumption of a positive linear relationship, justifying the use of regression analysis in the next section.

## INFERENCE STATISTICS

Table 3 shows the results of inferential statistics for each of the research questions using the Mann-Whitney U-squared statistical method.

**Table 3: Results of the Mann-Whitney U test**

Question	Chi-square value	p-Value
First question	14/667	0/005
Second question	12/333	0/015
Third question	8/667	0/070
Fourth question	18/000	0/001
Fifth question	6/667	0/155
Sixth question	3/000	0/558
Seventh question	15/125	0/004

Based on the first question, it is expected that the tools used in continuous auditing will lead to a reduction in fraud. The significance level of the Mann-Whitney U test for the first question is less than 5%. As a result, it can be said that the use of risk-based auditing tools reduces fraud in financial statements.

Based on the second question, it is expected that cooperation with external auditing institutions will reduce the probability of fraud. Based on the results of Table 2, the significance level of the Mann-Whitney U test for the second question is less than 5%. As a result, it can be said that cooperation with external auditing institutions will reduce the probability of fraud in financial statements.

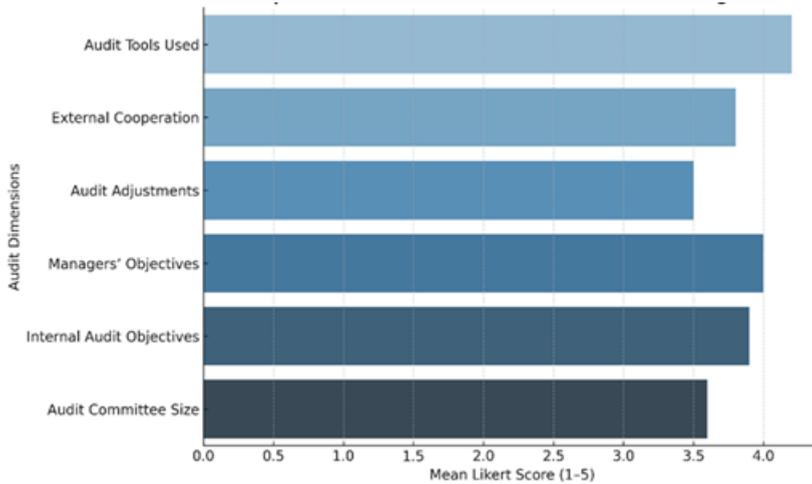
The third question is: Does the amount of adjustment in the continuous audit report reduce fraud? Based on the results of Table 2, the significance level of the Mann-Whitney U test for the third question is greater than 5%. As a result, it can be said that the amount of adjustment in the continuous audit reports does not affect the reduction of fraud.

The fourth research question is: Do managers' goals for continuous audit reports influence reducing fraud? Based on the results of Table 2, the significance level of the Mann-Whitney U test for the fourth question is less than 5%. As a result, it can be said that managers' goals for continuous audit reports reduce fraud.

Based on the fifth question, it is expected that the objectives of the internal audit unit will lead to a reduction in fraud. The significance level of the Mann-Whitney U test for the fifth question is greater than 5%. As a result, it can be said that the objectives of the internal audit unit do not influence preventing fraud.

According to the sixth question, the number of members of the internal audit committee is expected to lead to a reduction in fraud. The significance level of the Mann-Whitney U test for the sixth question is greater than 5%. As a result, it can be said that the number of members of the internal audit committee does not affect the probability of reducing fraud.

The seventh research question is: Does the type of industry influence reducing fraud? Based on the results of [Table 2](#), the significance level of the Mann-Whitney U test for the seventh question is less than 5%. As a result, it can be said that the type of industry reduces fraud.



**Figure 3:** Descriptive Analysis of Risk-Based Continuous Auditing Dimensions

[Figure 3](#) presents the mean response scores for each dimension of Risk-Based Continuous Auditing (RBCA) based on a 5-point Likert scale. The results indicate that “Audit Tools Used” received the highest average score (4.2), reflecting strong agreement among respondents on its effectiveness in reducing fraud. Other dimensions, such as “Managers’ Objectives” (4.0) and “Internal Audit Objectives” (3.9), also received favorable responses, indicating their perceived importance. The lowest-rated dimension was “Audit Adjustments” (3.5), suggesting relatively moderate perceptions of its impact. These findings support the notion that the integration of strategic tools and managerial alignment is essential for effective fraud prevention through continuous auditing practices.

## CONCLUSIONS

The risk-based continuous audit approach is a suitable tool for estimating the time to complete the work and audit fees to fulfil the duties and professional responsibilities of auditors. Today, all common auditing standards in the world emphasize strategic audit management and its planning based on the audit risk model. An effective risk-based

audit program, by observing the organization's risks through the prism of strategic objectives, overcomes all limitations and allows the auditor to have a more targeted and efficient audit. Also, this audit program, by relating the organization's risks to the organization's business objectives, will enable more accurate, faster and clearer risk reduction plans to be developed and will reduce fraud. Therefore, the purpose of this study is to examine the effect of using risk-based continuous audit on reducing fraud. For this purpose, data from 133 questionnaires related to financial experts and consultants in the Iraqi Stock Exchange and professors in the fields of economics and finance were examined.

The results of the research questions showed that the tools used in continuous auditing, cooperation with external continuous auditing institutions, managers' objectives for continuous audit reports, and industry type have a significant effect on reducing fraud. These findings are like the findings of (Antonio, 2022) research. Also, the amount of adjustment in continuous audit reports, the objectives of the internal audit unit, and the number of members of the internal audit committee do not influence reducing fraud. These findings are contrary to (Antonio, 2022) research. In general, risk-based auditing increases efficiency and effectiveness because by determining the type and nature, timing of implementation, and the extent of content tests, it is carried out in a reasonable manner and with the ability to fully respond to the investigations to an appropriate extent. In fact, risk-based auditing establishes the role of adding value to the customer's product.

This study expands on the findings of previous studies on factors affecting fraud and introduces risk-based continuous auditing as a factor affecting one of the most important variables in audit research. The findings of this study can be of interest and use to stakeholders and investors, legislators, company managers, audit firm managers, auditors, and the academic course development committee at the Ministry of Science, the Society of Certified Public Accountants, and the Association of Official Experts of Justice and the Judiciary.

It is suggested for future research:

- A. To study the effect of continuous risk-based auditing on the quality of financial reporting.
- B. To study the effect of continuous risk-based auditing on audit fees.
- C. To study the effect of tax consultants on the relationship between risk-based auditing and fraud reduction.

The implementation of this research, due to the use of a questionnaire tool to collect information, has faced inherent limitations such as the respondents' lack of familiarity with the subject, different interpretations of terms and vocabulary by respondents, and conservatism of some respondents in answering the questionnaire questions.

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