

Impact of Internal Auditing Practices on the Internal Control System: Pre- & Post-Pandemic Comparative Study

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Abstract: Internal auditing is an impartial practice, which involves providing assurance and consulting services that are aimed at improving a company's business operations. The recent business malfunctions and increased fraudulent and corruption cases in both developed and developing countries have raised questions over the effectiveness of internal auditing practices. The key objective of this study was to assess the effect of internal auditing practices on the internal control system quality pre- and post-COVID-19 pandemic. This study proposes organizational independence, objectivity, audit work performance, scope of work, and professional proficiency as the solution for business operations. The study also advocates that risk assessment and control activities are essential elements of the internal control system to evaluate and enhance the quality of audit work. The data for this study were collected from 89 respondents from 31 Iraqi banks using a survey questionnaire technique. The data were analyzed using SPSS and Smart-PLS. The findings present that the organizational independence impacted the control activities and the scope of work impacted the risk assessment before the pandemic. Objectivity impacted control activities and objectivity, organizational and scope of work impacted risk assessment post COVID pandemic. Moreover, the multigroup technique was used for comparative analysis and the results also showed that only organizational independence showed significant impact on control activities. This study is unique in a way that this is the only study that compares the pre- and post-COVID pandemic impact of internal auditing practices on the internal control system.

Keywords: internal auditing practices, internal control system quality, risk assessment, control activities.

内部审计实践对内部控制系统的影 响：大流行前后比较研究

摘要：内部审计是一种公正的做法，涉及提供旨在改善公司业务运营的保证和咨询服务。发达国家和发展中国家最近发生的业务故障以及欺诈和腐败案件的增加都对内部审计实践的有效性提出了质疑。本研究的主要目的是评估内部审计实践对新冠肺炎大流行前后内部控制系统质量的影响。本研究提出组织独立性、客观性、审计工作绩效、工作范围和专业能力作为业务运营的解决方案。该研究还主张风险评估和控制活动是内部控制系统的基本要素，以评估和提高审计工作的质量。本研究的数据是使用问卷调查技术从 31 家伊拉克银行的 89 名受访者中收集的。使用 SPSS 和智能求助对数据进行分析。调查结果表明，在大流行之前，组织独立性影响了控制活动，工作范围影响了风险评估。客观性影响了控制活动，客观性、组织和工作范围影响了新冠病毒大流行后的风险评估。此外，多组技术用于比较分析，结果还表明，只有组织独立性对控制活动有显著影响。这项研究的独特之处在于，这是唯一一项比较内部审计实践对内部控制系统的前后影响的研究。

关键词：内部审计实务，内控体系质量，风险评估，控制活动。

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1. Introduction

Internal auditing in the corporate world around the globe has undergone drastic reforms. It has broadened its focus to make more significant contributions to overall business transparency and credibility by improving efficiencies and reducing deficiencies. Internal audits are often conducted in different juridical and cultural contexts, with different organizations, scales, compositions, and individuals [1]-[2]. Moreover, internal auditors also work as compliance advisors to independent practitioners [3]. Internal auditors can evaluate and list a company's internal strengths and weaknesses on internal controls. Internal auditors can also guide the corporate divisions in the internal management structure to emphasize strategic business goals. Therefore, some previous studies recommend that internal auditors cultivate themselves as essential agents in their organizations instead of spectators from the outside waiting for development [4].

The backbone of any good company is corporate governance. It refers to the techniques, practices, and policies on which a firm makes formal decisions and regulates the processes. Good corporate governance assists organizations in mitigating risk and reducing the possibility of corruption and fraud. In the context of Iraq, internal auditing can be observed as an effective governance mechanism that plays an imperative disciplinary and regulatory role within an organization. Internal auditing procedures can help management perform governance tasks and improve the efficiency of corporate management processes [5]. As a result, the effectiveness of internal auditors' techniques determines the quality of the internal control system. Due to corporate scandals, the government regulatory bodies, policymakers, and the stock exchange of Iraq have recognized that internal auditing can influence business performance [6].

Auditing is an essential function that contributes to the success of an organization by improving corporate governance and its quality through an influential oversight role. It can enhance organizational control, monitor the environment, and mitigate the risk of fraud. Internal auditors play a key role in consulting services that enhance value and organizational effectiveness [7]. Therefore, auditors are skilled auditing professionals who provide insights based on reviews and analyses of business processes and systems. With the increasing importance of accountability and integrity, auditors are expected to offer critical advice to senior management and governing bodies to ensure that corporate governance is upheld appropriately [1]. The Institute of Internal Auditors (IIA) has emphasized that both the public and private sectors are highly concerned with the role of internal auditors. According to the IIA's

International Professional Practices Framework (IPPF), internal auditing is an impartial, objective verification and advising activity aimed at adding value and enhancing an entire operation [8]. Therefore, internal auditors foster transparency and improve the organization's overall performance by providing independent assurance of the internal control activities and risk evaluation.

However, increased fraud and numerous examples of corruption in affluent countries such as the United Kingdom and the United States and developing countries such as Ukraine, Panama, and Iraq, have elevated doubts regarding the quality of internal control systems within organizations. As recognized by previous studies [9], ineffective auditing practices can increase corruption and fraud in the corporate sector. Based on prior literature on internal audits, ineffective auditing practices negatively impact the quality of the internal control system. Moreover, internal control addresses organizational hazards and reduces wasteful costs and effort.

Iraq's corporate sector has several issues in terms of financial statement clarity. It is imperative to know which internal auditing practices would maintain the internal control system quality [10]-[11]. However, there is a lack of empirical evidence to understand the role of internal auditing practices and their effect on internal control system quality. Prior studies employed diverse methods and quantitative techniques to analyze the efficiency of the internal control system and internal auditing processes. Some organizations have adopted the International Standards for the Professional Practice of Internal Auditing (ISPPA) as a framework for analyzing and determining audit performance [10], [12]-[13]. Simultaneously, others have opposed it, developed and tested their own frameworks in determining the internal control system. Besides, some researchers have used different predictors to investigate and measure auditing practices [14]. However, there is no consensus on the best method to evaluate the internal control system by drawing on internal auditing practices.

The lack of empirical investigation on assessing the internal control system quality in developing countries, such as Iraq, offers a prospect to conduct further scientific research to assess the predictors of internal control systems [15]-[16]. The current study looks at the impact of internal auditing practices on the internal control systems in Iraq's banking sector. This research aims to find answers to the following questions. What are the best internal auditing practices for maximizing the effectiveness of the internal control system? Does the independence, objectivity, job performance, the scope of work, and professional proficiency

significantly affect the risk assessment and control activities in the banking sector in Iraq? And how do these impacts differ over 2 years' period – pre and post pandemic.

2. Literature Review

An organization's characteristics are designed to enable it to withstand significant corporate, managerial, economic, regulatory, and other risks. This entails anticipating and managing commitments in addition to securing resources. Internal control is "a procedure under the influence of the board of directors and executive, management, and other employees, intended to ensure the effectiveness of objectives in the following categories: (a) operating controls are related to the efficient and effective use of the organization's available resources; (b) revenue recognition controls are related to predicting reliable statements about the financial position of the company; and (c) compliance controls are related to ensuring that the organization complies with applicable laws and regulations" [17]. Internal control safeguard assets against unlawful acquisition, use, and disposal. The formulation of a strategy is a component of internal control. Business takes every measure to structure and methodically safeguard its correctness. It is necessary to ensure the accuracy and dependability of accounting, improve operational efficiency, and promote compliance with specified management policies. The most influential components of an internal control system are vulnerability evaluation and management actions, which may be significantly influenced by internal auditing methods [18].

The procedures of risk identification and analysis are crucial to the effectiveness of an internal control system. Risks should be addressed at all levels, and the necessary procedures should be taken to mitigate them [19]. Internal and external elements are considered during risk evaluation. They must be evaluated once the dangers have been identified. Change management requires continuous risk analysis and its influence on internal controls. The economic, industrial, and regulatory situations are altering, as are the organizations' operations [20]. A more accurate risk assessment necessitates procedures that notice and adapt to shifting conditions. Control activities are the rules and procedures that help in the implementation of management instructions. These ensure that the necessary steps are made to mitigate risks and achieve the management's objectives. Control actions occur in all types of organizations, at all levels, and in all positions [21].

The creation of an efficient internal audit function is a major concern for modern firms. The audit is an impartial review of the financial, organizational, or technological activities of a company. Internal auditing is the process of gathering and analyzing data on the measurable information of business to determine the

degree of conformity and report on the criteria defined [22].

Organizations with well-organized internal auditing processes are superior to those with ineffective and inefficient internal auditing methods, particularly in terms of fraud detection and prevention [2]. Internal auditing techniques have been the subject of extensive past study by [2], [20], [23]. The efficacy of internal auditing was investigated in an empirical study conducted within Israeli firms [24]. Several elements were used to evaluate the efficacy of the internal control system, including professional development, organizational autonomy, the senior management of the internal audit function, and the competence of internal auditors. Internal auditing procedures have a key influence in determining the internal control system, according to the findings of researchers.

Various studies have recognized and stressed the necessity to reevaluate the strategy of the internal audit activity; they have also proposed a model of internal audit procedures [15], [24]-[26]. Today, researchers are confronted with a growing interest in the measurement and assessment of internal auditing operations, which would lead to a higher emphasis on the methodologies for the quantitative and qualitative identification of the real output of an internal control system.

Internal auditors are only accountable for providing suggestions in their capacity as qualified advisors [2]. A further internal auditor provides an impetus for improvements [27]. The objective of internal auditing is to recommend or educate governance and process improvements within a business. Internal auditing was covered in the IIA's presentation under the title "Organizational Governance: Guidance for Internal Auditors." Therefore, internal auditing should be undertaken with an emphasis on attaining organizational goals [23] and by assisting an organization's units in managing risk, identifying concerns, and making the required suggestions [19]. As a result of a deficient or nonexistent internal control system, corruption, fraud, and abuse of corporate authority pose several problems for Iraqi businesses. Such a governmental incident necessitates a pragmatic examination to improve the quality of corporate control systems.

2.1. Conceptual Framework

This research focuses on internal auditing functions and internal control systems. Independence, objectivity, auditor job performance, the scope of work, and professional competencies are the auditing methods under examination. In contrast, the internal control system includes risk assessment and management. The research structure is illustrated in the figure below. The framework stated that internal auditing methods would have a significant impact on the internal control system quality of Iraqi banks.

Several past investigations support the study

framework’s outlined correlations [9], [11]. The internal control system cannot function effectively if internal auditors lack independence, objectivity, professional proficiency, and scope of work, according to previous research [4], [20], [28]-[29]. Similarly, improper audit reporting and low audit department performance dependability may harm the quality of the internal control system [19]. This study also attempted to measure the impact of audit practices on the internal control system pre and post pandemic using the multigroup analysis. Based on the given research framework, the following hypothesis was developed for this study.

H1a: The pre and post pandemic multigroup analysis shows that the organizational independence has a significant relationship with risk assessment.

H1b: The pre and post pandemic multigroup analysis shows that the objectivity has a significant relationship with risk assessment.

H1c: The pre and post pandemic multigroup analysis shows that the performance of audit work has a significant relationship with risk assessment.

H1d: The pre and post pandemic multigroup analysis shows that the scope of work has a significant relationship with risk assessment.

H1e: The pre and post pandemic multigroup analysis show that the professional proficiency has a significant relationship with risk assessment.

H2a: The pre and post pandemic multigroup analysis shows that the organizational independence has a significant relationship with control activities.

H2b: The pre and post pandemic multigroup analysis shows that the objectivity has a significant relationship with control activities.

H2c: The pre and post pandemic multigroup analysis shows that the performance of audit work has a significant relationship with control activities.

H2d: The pre and post pandemic multigroup analysis shows that the scope of work has a significant relationship with control activities.

H2e: The pre and post pandemic multigroup analysis show that the professional proficiency has a significant relationship with control activities.

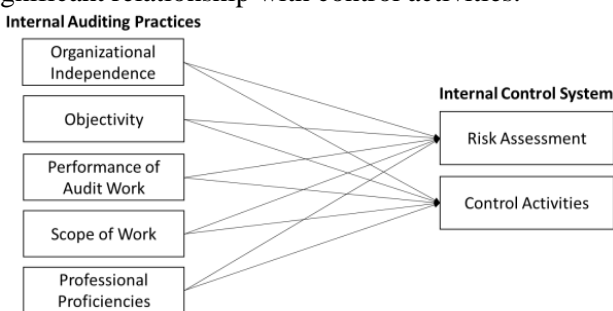


Fig. 1 Conceptual model predicting exogenous and endogenous variables

3. Research Design

This research was started in 2020. Data collection was initiated in March 2020. The questionnaire was

sent to 46 banks listed on the Iraq Stock Exchange; data were collected only from 31 banks until June 2020. The data collection was impacted due to the COVID-19 pandemic. It had been decided at that time to wait till the pandemic ended to collect the data from the remaining banks. However, it took almost 2 years to completely remove the pandemic. It was decided in March 2022 to recollect the data from the same banks to see how the pandemic impacted the auditing practices and internal control system in Iraq. The target population for this study was the general managers for the internal control system variables, and internal auditors for internal auditing practices. The same questionnaire was distributed among the same banks, which had participated in the study in 2020. The data were collected on a five-point Likert Scale [30] questionnaire (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree).

This study used the G-Power software for sample size measurement [31]. The software calculates the sample size based on one-tail or two-tailed test and based on the number of predictor variables. The study hypotheses show that the two-tailed tests will be conducted, and the total number of predictor variables is five. Therefore, the sample size based on this criterion is 89 respondents, as shown in the figure given below as well.

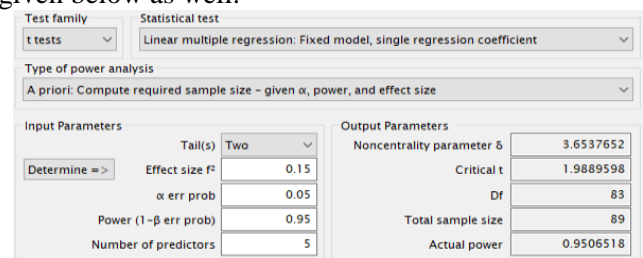


Fig. 2 G-Power sample size measurement

A total of 153 questionnaires were distributed in 2020 and the same number of questionnaires were distributed in 2022 using the mail survey technique. In 2020, 89 questionnaires were received with usable responses, with a response rate of 58%. In 2022, 94 usable questionnaires were received back, but 89 were used to ensure that the response rate stays the same for 2020 and 2022 for comparative analysis.

3.1. Measurement of Variables

The survey items for the independent variables, objectivity and performance of audit work, have been adapted from [32]. The items for the “objectivity” variable are 1) the internal auditing staff are allowed to review all departments in the bank; 2) organizational status for fulfilling the goals of its internal audit department is adequate; 3) interference by the management in the internal auditing staff work; 4) the board of directors enhances the objectivity of internal auditors; 5) conflict of interest is rarely present in the work of internal auditors; 6) internal auditors report to the board of directors between 3 and 6 times a year; 7)

generally, internal audit staff have access to all information considered pertinent; 8) internal audit staff has free access to all employees in the bank.

The items for the “performance of audit work” variable are 1) the director of internal audit department is supervising his/her staff through defined system of responsibilities; 2) there are audit schedules for the bank branches/department audits; 3) the bank internal auditors examine the reliability and integrity of information; 4) the internal auditors review the adequacy of risk management on a regular basis; 5) there are corrective actions on the findings of the internal auditors; 6) the director of the internal audit department regularly checks the quality of working paper; 7) the internal auditing staff evaluate the adequacy of the bank internal control system; 8) the internal audit staff review the systems used for safeguarding the bank assets; 9) the internal audit department in the bank monitors the financial controls to ensure the reliability of financial reporting.

The items for the professional proficiency variable and the independence variable were adapted from [23]. The items for the “professional proficiency” variable are 1) the organization allows IA employees to participate in training and development programs to maintain their skills and keep up to date in the field; 2) IA employees have the appropriate and relevant education in auditing that allows them to audit all of the organization’s systems (financial, operational, logistical and computerized).

The items for the “independence” variable are 1) I have regular and direct working relations with the head of the IA committee; 2) I have regular and direct working relations with the general manager and the managerial team; 3) terminating the work of the IA requires the approval of the IA committee, and/or the board of directors, and/or the Civil Service Commission; 4) the IA staff has free access to information and data about the organization, and unrestricted access to its site; 5) all organizational data pools are accessible to the IA; 6) all organizational data pools can be downloaded and examined by the IA; 7) detailed budget proposals and information on staffing are included in the annual work plan of the IA; 8) I rotate the IA staff so that they all cover a variety of assignments; 9) the IA also performs other activities even if they are not defined as its direct responsibility; 10) the IA sometimes takes part in designing systems in the organization and in developing procedures for regulating their operations; 11) the IA operates totally independently, can audit any issue it considers in need of auditing, and can access any necessary information

even if it is classified.

The items for the “scope of work” variable were adapted from [33]. The items are 1) internal auditors check daily payments and receipts for all transactions; 2) internal auditors check and inspect all salaries of the company’s employees; 3) internal auditors check all sales processes; 4) internal auditors check internal control of banking operations through banking settlement memorandums and track banking insurance letters issued to third parties.

The items for the dependent variable “risk management” have been adapted from [34]. The items are 1) Management’s Risk Assessment Process is effective. 2) Awareness of Compliance with Laws and Regulations is effective. The items for the “control activities” variables were adapted from [35]. The items are 1) functional controls in the company’s processes, which gave warning whenever something exceptional occurred; 2) as soon as something exceptional and undesired was noticed, it was dealt with promptly and appropriately; 3) special attention was paid to authorization in the definition of tasks, and the special demands of the tasks; 4) the entire personnel had updated job descriptions.

4. Results

4.1. Descriptive Statistics

Descriptive statistics present basic information about the study respondents. This study spanned over two years and data collection was done at two separate time intervals. Once in 2020 and then in 2022. Therefore, the descriptive statistics is also presented separately for both datasets.

Pre-Pandemic Study Respondents – Auditors: Out of 89 respondents, 64% of males and 36% of females participated in pre-pandemic study. Regarding their marital status, 57% of the respondents were married, 41 % were unmarried, and 2% were widowed. As for the participants’ age, 31% of the study respondents were aged between 20 and 30 years, 39% of the respondents were aged between 31 and 40 years, 24% were aged between 41 and 50 years, and 6% were aged above 50 years. Out of the 89 respondents, 27% had 1-3 years of experience, 47% had 4-6 years of experience, 19% had 7-9 years of experience, and 7% had an experience of 10 years and above. Regarding the qualification of the study respondents: 11% had diplomas, 30% had bachelor degrees, 52% had master degrees, 1% had doctor degree and 6% had CA/ACCA professional qualification.

Table 1 Descriptive data of the respondents

Items		Pre-Pandemic		Post-Pandemic	
		Frequency	Percentage	Frequency	Percentage
Gender	Male	57	64	61	69
	Female	32	36	27	30
	Did not answer	0	0	1	1

	Total	89	100	89	100
Marital Status	Married	51	57	48	54
	Unmarried	36	41	33	37
	Divorced	0	0	5	6
	Widowed	2	2	3	3
Age (years)	Total	89	100	89	100
	20 to 30	28	31	22	25
	31 to 40	35	39	31	35
	41 to 50	21	24	27	30
Job Experience (years)	Total	89	100	89	100
	1 to 3	24	27	16	18
	4 to 6	42	47	51	57
	7 to 9	17	19	19	22
Qualification	Total	89	100	89	100
	Diploma	10	11	8	9
	Bachelor	27	30	31	35
	Master	46	52	44	50
	Doctorate	1	1	3	3
	CA/ACCA	5	6	3	3
	Others	0	0	0	0
	Total	89	100	89	100

Post-Pandemic Study Respondents – Auditors: Out of 89 respondents, 69% of males and 30% of females, and 1% did not answer the question; 55% of the respondents were married, 37% were unmarried, 6% were divorced, and 3% were widowed. In terms of age, 25% of the study respondents were aged between 20 and 30 years, 35% of the respondents were aged between 31 and 40 years, 30% were aged between 41 and 50 years, and 10% were aged above 50 years. Out of the total 89 respondents, 18% had 1 to 3 years of experience, 57% had 4 to 6 years of experience, 22% had 7 to 9 years of experience, and 3% had an experience of 10 years and above. Regarding the qualification of the study respondents, 9% had diplomas, 35% had bachelor degrees, 50% had master degrees, 3% had doctor degrees and 3% had CA/ACCA professional qualification.

4.2. Measurement Assessment Model

Table 2 illustrates the outer loadings of pre-pandemic and post-pandemic groups. The current study considered organizational independence, scope of work, objectivity, professional proficiency, and performance of audit work as exogenous constructs. Risk assessment, and control activities as endogenous constructs. The threshold for the outer loadings should be > 0.70 [36]. Despite having low outer loadings, items were not omitted because of the reliability and validity achieved by having that items [36]. The performance of the audit work variable initially had 9 items, but 3 items were removed during the measurement assessment because that item did not improve the reliability and validity. The organizational independence variable had 11 items, out of which 4 items were removed. The control activity variable had 4 items out of which 1 item was removed. The variable of objectivity initially had 8

items but only 5 were kept and 3 were removed. The same items were removed for both tests because those items did not represent the constructs they were intended to.

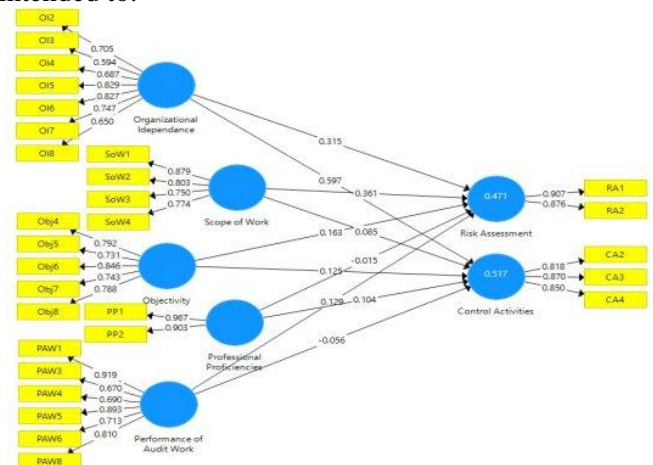


Fig. 3 Pre-Covid measurement assessment model

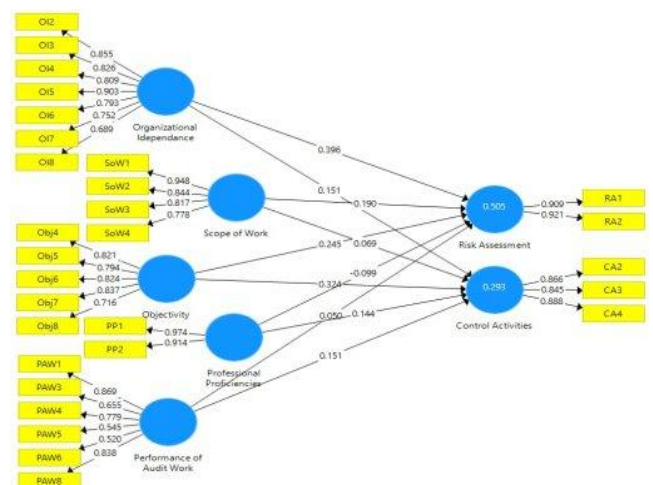


Fig. 4 Post-Covid measurement assessment model

Table 2 Outer loading

	Pre-Covid-Pandemic					Post-Covid-Pandemic								
	CA	OI	Obj	PAW	PP	RA	SoW	CA	OI	Obj	PAW	PP	RA	SoW
CA2	0.818							0.866						
CA3	0.870							0.845						
CA4	0.850							0.888						
OI2		0.705							0.855					
OI3		0.594							0.826					
OI4		0.687							0.809					
OI5		0.829							0.903					
OI6		0.827							0.793					
OI7		0.747							0.752					
OI8		0.650							0.689					
Obj4			0.792									0.821		
Obj5			0.731									0.794		
Obj6			0.846									0.824		
Obj7			0.743									0.837		
Obj8			0.788									0.716		
PAW1				0.919									0.869	
PAW3				0.670									0.655	
PAW4				0.690									0.779	
PAW5				0.893									0.545	
PAW6				0.713									0.520	
PAW8				0.810									0.838	
PP1					0.967								0.974	
PP2					0.903								0.914	
RA1						0.907								0.909
RA2						0.876								0.921
SoW1							0.879							0.948
SoW2							0.803							0.844
SoW3							0.750							0.817
SoW4							0.774							0.778

The items that were removed from the performance of the audit work construct were “There are audit schedules for the bank branches/department audits”, “The internal auditing staff evaluate the adequacy of the bank internal control system”, and “The internal audit department in the bank monitors the financial controls to ensure the reliability of financial reporting”. The items that were removed from the organizational independence construct were “I have regular and direct working relations with the head of the IA committee”, “The IA also performs other activities even if they are not defined as its direct responsibility”, “The IA sometimes takes part in designing systems in the organization and in developing procedures for

regulating their operations”, and “The IA operates totally independently, can audit any issue it considers in need of auditing, and can access any necessary information even if it is classified”. The item that was removed from the control activity construct was “There were functional controls in the company’s processes, which gave warning whenever something exceptional occurred”. And the items that were removed from the objectivity construct were “The internal auditing staff is allowed to review all departments in the bank”, “Organizational status for fulfilling the goals of its internal audit department is adequate”, and “Interference by the management in the auditing staff work”.

Table 3 Reliability and validity

	Pre-Covid-Pandemic				Post-Covid-Pandemic			
	Alpha	rho_A	CR	AVE	alpha	rho_A	CR	AVE
Control Activities	0.802	0.802	0.883	0.716	0.836	0.850	0.900	0.751
Objectivity	0.840	0.850	0.887	0.610	0.858	0.865	0.898	0.639
Organizational Independence	0.846	0.857	0.884	0.525	0.909	0.917	0.928	0.650
Performance of Audit Work	0.890	0.960	0.907	0.622	0.849	0.837	0.858	0.510
Professional Proficiency	0.866	1.042	0.933	0.875	0.887	1.109	0.943	0.892
Risk Assessment	0.744	0.754	0.886	0.795	0.806	0.809	0.911	0.837
Scope of work	0.818	0.846	0.879	0.645	0.870	0.912	0.911	0.721

Before moving forward, reliability and validity of the scale should be measured [37]. This study contained five exogenous constructs and 2 endogenous constructs; all were measured reflectively. Results illustrated that organizational independence, scope of

work, objectivity, professional proficiency, performance of audit work, risk assessment and control activities achieved reliability and convergent validity for both groups. The cut off point for the Cronbach’s alpha, rho and CR is >0.70 [36]. Furthermore, the

threshold of the AVE is >0.50 for the convergent validity [38]. There were no reliability and convergent

validity issues found among the constructs between the two groups.

Table 4 Discriminant validity

	Pre-Covid-Pandemic						Post-Covid-Pandemic							
	CA	Obj	OI	PAW	PP	RA	SoW	CA	Obj	OI	PAW	PP	RA	SoW
CA														
Obj	0.665							0.553						
OI	0.842	0.799						0.473	0.722					
PAW	0.124	0.148	0.177					0.196	0.120	0.262				
PP	0.108	0.086	0.151	0.158				0.178	0.176	0.055	0.054			
RA	0.640	0.585	0.688	0.217	0.076			0.484	0.696	0.755	0.177	0.089		
SoW	0.369	0.296	0.359	0.139	0.103	0.652		0.314	0.502	0.466	0.190	0.077	0.534	

Note: CA - control activities, Obj - objectivity, OI - organizational independence, PAW - performance of audit work, PP - professional proficiency, RA - risk assessment, SoW - scope of work

This study used Heterotrait-Monotrait ratio for assessing the discriminant validity. Prior studies have considered the Fornell & Larcker criterion [39]. According to [40], the Fornell and Larcker criterion has a sensitivity issue for evaluating the discriminant validity. To overcome this sensitivity issue, the HTMT ratio was introduced [40]. There are two approaches for

the HTMT: liberal and conservative approach. According to the liberal approach, the threshold should be < 0.90 and based on the conservative approach, the threshold should be < 0.85. This study followed a conservative approach and found no discriminant validity issue in both groups.

Table 5 MICOM test

	Step 1	Step 2		Step 3					
		Compositional invariance	Partial measurement invariance	Equal means	Equal invariance		Full measurement invariance		
Constructs	Configurational Invariance	C = 1	5%	Differences	2.5% 97.5%	Differences	2.5% 97.5%		
CA	Yes	0.998	0.992	Yes	-0.135	[-0.308 0.302]	-0.245	[-0.463 0.445]	Yes/Yes
Obj	Yes	0.998	0.992	Yes	-0.036	[-0.303 0.322]	-0.137	[-0.5190.478]	Yes/Yes
OI	Yes	0.999	0.991	Yes	0.021	[-0.312 0.278]	-0.393	[-0.431 0.479]	Yes/Yes
PAW	Yes	0.922	0.314	Yes	0.020	[-0.330 0.321]	0.145	[-0.263 0.270]	Yes/Yes
PP	Yes	1.000	0.716	Yes	0.140	[-0.299 0.292]	1.136	[-0.667 0.679]	Yes/No
RA	Yes	0.999	0.996	Yes	-0.153	[-0.306 0.281]	0.095	[-0.507 0.476]	Yes/Yes
SoW	Yes	0.997	0.990	Yes	-0.045	[-0.321 0.286]	-0.241	[-0.364 0.353]	Yes/Yes

Before moving forward for the multigroup analysis, it is necessary to fulfill the basic assumption of multigroup analysis [41]. The researchers recommended that the measurement invariance of the composites (MICOM) should be assessed before performing multigroup analysis. The MICOM analysis consists of three steps [42]. The first step is configural invariance, without this step, we cannot move further for the step number two and three. For configural invariance, the model should be similar for both groups. In the second step, the original correlational values should be greater than from 5% quintile to establish compositional invariance. The third step is equal and mean invariance between both groups. The original mean difference and equal mean difference should be between 2.5% and 97.5% confidence interval. This study found partial measurement invariance in the model. Therefore, we can proceed further to assess multigroup analysis.

4.3. Structural Assessment Model

For the pre-pandemic results, organizational independence showed a significant relationship with control activities, and scope of work showed a significant relationship with risk assessment. For post-pandemic results, only objectivity showed a significant relationship with control activities. The objectivity, organizational independence, and scope of work showed a significant relationship with risk assessment. For the multigroup analysis this study used two approaches for the multigroup analysis namely Henseler’s MGA and permutation. Based on both techniques, we found that there is minor difference for the pre-COVID pandemic and post-COVID pandemic. Results show that only organizational independence effect differently on control activities for both groups. All remaining hypotheses showed no difference in the effect of objectivity, performance of audit work,

professional proficiency, scope of work on control activities and risk assessment. The study with all

insignificant hypotheses is also acceptable [42].

Table 6 Hypotheses testing

	Pre-Covid-Pandemic			Post-Covid-Pandemic			Henseler's MGA	Permutation	Supported
	Path	t-values	p-values	Path	t-values	p-values	p-value differences		
Obj -> CA	0.125	0.988	0.324	0.324	2.408	0.016	0.855	1.060	No/No
Obj -> RA	0.163	1.158	0.247	0.245	2.233	0.026	0.677	0.448	No/No
OI -> CA	0.597	4.607	0.000	0.151	0.973	0.331	0.020	2.105	Yes/Yes
OI -> RA	0.315	1.830	0.068	0.396	3.534	0.000	0.635	0.388	No/No
PAW -> CA	-0.056	0.583	0.560	0.151	1.141	0.255	0.908	1.337	No/No
PAW -> RA	0.129	1.306	0.192	0.050	0.395	0.693	0.298	0.507	No/No
PP -> CA	0.104	0.984	0.326	0.144	1.304	0.193	0.622	0.289	No/No
PP -> RA	-0.015	0.186	0.852	-0.099	1.525	0.128	0.213	0.810	No/No
SoW -> CA	0.085	0.945	0.345	0.069	0.679	0.497	0.450	0.115	No/No
SoW -> RA	0.361	3.822	0.000	0.190	2.480	0.013	0.074	1.489	No/No

5. Discussion

Over the past few decades, internal auditing has become an integral aspect of contemporary company governance. It can assist a company in identifying errors and violations that damage its integrity and lead to corruption. Long-term profitability and viability of a corporation require regular monitoring and control of performance measures, future risk management, business uncertainties, economic structure, and regulatory framework. Based on the internal audit reports, the internal control system may be considered a company's financial security, since performance threats and hazards can be identified. Modern firms are concerned with the quality of their internal control systems to ensure successful corporate governance and financial success.

The primary objective of this study was to examine the influence of internal auditing procedures on the efficacy of control systems in publicly traded Iraqi banks. The data were acquired through a postal survey using a survey questionnaire. This research evaluates internal auditing methods in terms of independence, objectivity, audit work performance, job scope, and professional proficiencies. The quality of the internal control system was evaluated through risk assessment and control actions. The findings of this study identified that when the impact of the internal audit practices was measured before the COVID-19 pandemic, the organizational independence showed a significant relationship with control activities. The scope of work variable showed a significant relationship with the risk assessment dimension of internal control system. When the analysis was performed between the same variables after the pandemic ended, the results were slightly different. The objectivity variable showed significant relationship with the control activity dimension of internal control system. The objectivity, organizational independence and the scope of work variables showed a significant relationship with the risk assessment dimension of internal control system. This was the different between the two data sets when measured with a gap of two years. The multigroup analysis was also performed

using Henseler's MGA technique. The results showed that, organizational independence showed a significant relationship with control activity. All other relationships/hypotheses were insignificant. The insignificance of the results between most of all variables is not new. In [42] all the hypotheses were rejected when the multigroup analysis was performed. The results of this study are comparable to those of numerous prior investigations. Similarities between results are established in older publications [10], [20], [43]-[44].

6. Conclusion

The results of this study indicate a correlation between some of the dimensions of internal auditing practices and the quality of the internal control system. The study suggests that banks listed on the Iraqi stock market focus on enhancing the quality of their internal control system by enhancing internal auditing standards. Companies should guarantee that internal auditors are impartial and possess solid professional skills. Auditors should also provide useful and adequately documented reports. Internal auditors must be competent and well-trained to conduct all audit assignments and complete audit responsibilities.

The study illuminates the vital importance of internal auditing procedures such as independence, objectivity, audit task performance, project scope, and professional competencies for strengthening risk assessment and control activities based on their practical consequences. The findings suggest that internal auditing practices can assist managers in making better judgments and decisions, reporting control and performance weaknesses, providing management consultants and boards with business problem solutions, and providing timely, accurate, and convenient information at all levels. Because to the possibility of mistakes and inaccuracies, businesses must include protections in their internal control system to guarantee they satisfy their fiduciary obligations. Standards for internal audits, independence, professional competence, and internal control have a strong relationship with capital structure decisions.

According to the study, a unit increase in internal audit standards would enhance the financial outcomes of financial organizations by one unit.

As with almost all other studies, this study also has its own limitations. It was hard to get access to the email addresses of the bank staff, so the questionnaires were physically delivered at the banks. This process is a time consuming which delayed the process of data collection. Meanwhile, the COVID pandemic impacted the whole world and the data collection process for this study also got impacted.

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