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The impact of the demographic characteristics of the director's board on the internal control efficiency: An exploratory research on a sample of accountants in Iraqi industrial companies

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Abstract

The research seeks to examine how the demographic features of the board of directors affect the effectiveness of internal control within the context of Iraqi industrial businesses. The board of directors' demographic characteristics were delineated by four attributes: social diversity, education, years of experience, and expertise. On the other hand, the effectiveness of internal control was depicted by five elements: control environment, risk assessment and evaluation, control activities, information and communication, and monitoring and oversight. The research employed a descriptive-analytical methodology, which involved the creation and administration of a questionnaire to gather data from accountants employed in industrial enterprises in Iraq. There were 82 valid surveys available for analysis. The study yielded a series of findings, with the most notable being the substantial favorable influence of the board of directors' attributes on bolstering the effectiveness of internal control. The variables that had the most significant impact on improving the effectiveness of internal control in domestic industrial enterprises were the board members' years of experience and age.

Keywords: Demographic characteristics of the board of directors, efficiency of internal control, Iraqi industrial companies

1. Introduction

The demand for an internal control system has escalated as a result of notable advancements in the economic domain, the proliferation of economic entities with their varied forms, and the mounting obligations imposed upon them. Additionally, administrative difficulties resulting from their diverse range of activities and increasing volume of tasks add to the complexity. The internal control system encompasses more than just overseeing revenues and expenditures. Its scope includes scrutinizing and assessing the actions carried out by economic entities to guarantee the precision of data in records and its adherence to policies, procedures, laws, and directives established by higher authorities. This entails assessing all regulatory systems to ensure the attainment of objectives. Additionally, it involves evaluating the effectiveness of resource allocation and the existing capacities. The significance of the internal control system in Iraqi industrial businesses has experienced a notable rise as a result of their major growth in operations, along with an increase in their resources (Al-Tamimi & Hadab, 2018) ^[11]. The ultimate authority for control and monitoring within companies is vested in the board of directors. The board's main duties encompass establishing the firm's strategy, devising guiding policies, defining objectives, and overseeing its operations (Chen *et al.*, 2016) ^[13]. Therefore, specific demographic attributes of board members can impact the effectiveness of internal control. This research aims to investigate the relationship between selected board characteristics (social diversity, education, experience, and specialization) and the efficiency of internal control in Iraqi industrial companies. Despite the rapid expansion of the number and variety of industrial companies in Iraq, there aren't many studies that have looked at the effects of these traits on internal control effectiveness. The key inquiry posed here is whether the demographic attributes of board members impact the efficacy of internal control within these organizations. The anticipated outcomes of this research endeavor are to expand the theoretical underpinnings of studies conducted in Iraq regarding this topic and illustrate the degree to which the demographic attributes of board members might influence the effectiveness of internal control.

1.1 Study Problem

Researchers have given little focus to demographic features, particularly in relation to the subject of auditing. The majority of studies undertaken in different nations have demonstrated that these features have consequences for internal auditing. Their influence on an individual's assessment of risk management and provision of advisory services can have a substantial impact on decision-makers and their responsibility for the results. This research intends to examine and evaluate the influence of the social environment on decision-makers in the specific setting of Iraq. The research problem can be defined by the question: Does the demographic composition of the board of directors, including factors such as social gender, age, years of experience, education, and academic background, influence the effectiveness of internal control?

1.2 Importance of the Research

The significance of this research stems from the importance of the demographic characteristics of the board of directors and their impact, whether positive or negative, based on the applied environment. Additionally, it highlights the significance of these characteristics within the industrial companies listed in the Iraq Stock Exchange. Moreover, the importance of this research lies in enhancing the efficiency of internal control by strengthening the demographic characteristics of the board of directors.

1.3 Research Objectives

There are two main objectives that the researcher aims to achieve

- a) Describe the concept of internal control systems and their evaluation foundations in the industrial companies listed on the Iraq Stock Exchange.
- b) Clarify the significance of the demographic characteristics of the board of directors in guiding the foundations for safeguarding company resources.
- c) Determine the impact of the demographic characteristics of the board of directors on the efficiency of internal control in the Iraqi environment.

1.4 Research Hypotheses

The research is based on a primary hypothesis: the significant impact of the demographic characteristics of the board of directors on the efficiency of internal control. This primary hypothesis branches out into several hypotheses that will be tested as follows:

- a) There is a significant impact of social diversity among board members on the efficiency of internal control.
- b) There is a significant impact of the education level of board members on the efficiency of internal control.
- c) There is a significant impact of the years of experience and age of board members on the efficiency of internal control.
- d) There is a significant impact of the diversity of expertise among board members on the efficiency of internal control.
- e) There is a significant impact of the overall demographic characteristics of the board of directors on the efficiency of internal control.

2. Reviewing Studies

2.1 The concept of internal control

The concept of internal control has experienced substantial

evolution, adjusting to swift and successive advancements in the economic domain. According to (Khairuddin & Ismai, 2022:121) ^[23], internal control is no longer just about protecting financial assets. It has now become a set of interrelated aspects and components created by senior management to ensure that unit objectives are met. This progress arose from multiple sources and situations, particularly the significant growth in the scale and intricacy of organizational goals, requiring a more thorough and detailed approach.

In addition, (Al-Kurwi, 2015:13) ^[7] provides a definition of internal control as a collection of regulatory controls and procedures implemented by management within an economic entity to safeguard its assets against embezzlement, theft, and misuse. Additionally, it guarantees the utmost precision of accounting data and information, with the objective of attaining operational efficiency and effectiveness through adherence to rules and regulations. (Al-Bakou and Ahmed, 2012:175) ^[5] use a similar definition, stating that it is a method used to accomplish certain goals inside different economic entities, with the intention of minimizing financial corruption and manipulation of records.

According to the Institute of Internal Auditors (IIA), internal control is a process of independently evaluating and analyzing various activities within an organization to determine their effectiveness on behalf of the organization. The scope of this includes both monetary and non-monetary activities, adherence to the organization's regulations and legal requirements, evaluation of operational effectiveness, and detection and supervision of fraudulent activities within the organization (J. Hall, 2011:3-4) ^[18].

Furthermore, as stated by (Mohammed and Mahad, 2019:190) ^[26], internal control refers to a comprehensive system that encompasses all areas of internal organization and activities. Its purpose is to identify and mitigate deviations and risks that impede the attainment of planned objectives. It functions as an efficient method to offer appropriate information and essential safeguarding for the resources of economic entities, assessing the performance of all related levels of management.

Based on the previous definitions, it can be stated that internal control is a system that examines and evaluates the activities conducted by economic units to ensure the accuracy of data in records. It aligns with the policies, procedures, laws, and directives established by higher authorities through assessing all regulatory systems to ensure the achievement of all objectives.

2.2 Components of Internal Control System

The internal control system relies fundamentally on several interrelated components, where any deficiency could potentially limit the system's effectiveness. These components include:

- a) **Organizational Structure:** This structure serves as the starting point for achieving effective accounting and administrative control over the organization's operations.
- b) **Sound Accounting System:** It entails a set of procedures followed by the entity to maintain accounting records that guide, record, and tabulate its operations and prepare reports.
- c) **Detailed Work Procedures and Audit Evidence:** Refers to a program encompassing detailed procedures

to be executed for each documented cycle, identifying the responsible entity for executing these procedures.

- d) **Presence of Adequately Qualified Personnel:** One of the vital components of an effective internal control system is the prudent selection of competencies aligned with responsibilities and authorities delegated to them.
- e) **Performance Oversight:** Having institutional performance standards ensures adherence to planned performance levels. Addressing deviations from these standards reflects the presence of an effective control environment.
- f) **Utilized Resources:** This refers to the use of computerized tools in financial and administrative aspects to ensure accuracy and provide control measures to safeguard public funds against any manipulation or misappropriation.

2.3 Types of Internal Control

Some studies have classified internal control into the following types:

- a) **Accounting Control:** This is an organizational plan formulated by the economic unit, consisting of a set of means and procedures primarily aimed at preserving the assets of the economic unit. It relies on data maintained in accounting records through the double-entry system and journal entries. Its purpose is to ensure that the economic unit's operations are executed in accordance with management instructions (Abdulkareem & Mohammed, 2020: 532) ^[1].
- b) **Administrative Control:** This encompasses various methods and systems containing a range of means and procedures primarily focused on a company's activities and its productive capacity. It also aims to motivate employees to comply with administrative rules and policies. Administrative control includes elements like budgeting, diverse employee training programs, quality control, and standard costing (Al-Amri *et al.*, 2020: 570) ^[4].
- c) **Internal Control System:** Encompassing a set of organizational and accounting procedures and means, this system aims to control and continuously review the unit's operations automatically. It involves a process where one person's work is reviewed by another to ensure smooth operation (Ismaeel, 2021: 418) (Al-Hussaini & Al-Sa'abri, 2017: 1530) ^[17, 6].
- d) **Internal Audit:** This independent evaluative body within the unit's structure constitutes an effective internal control method. The management assigns and funds this unit to ensure the adequacy and application of control measures continuously. This aims to ensure the accuracy of accounting and statistical data, protect the unit's assets and funds, and verify that unit employees adhere to established policies and administrative procedures (Kataa & Khalef, 2021: 148) ^[22].

2.4 Enhanced Focus on Internal Control Systems

- The increasing focus on internal control systems can be attributed to several factors (Sweiti, 2022: 75) ^[10]. One factor is the expansion in the size of organizations. Economic growth and development within economic units have led to increased complexity in their operations and structures, thus necessitating reliance on internal control systems such as financial reporting and

budgeting.

- Safeguarding the institution's assets is another crucial aspect. Management is responsible for preserving the assets of economic units, preventing fraud, and manipulation. Consequently, management has implemented an internal control system aimed at preventing fraud and manipulation while protecting assets from tampering.
- The development of auditing procedures is linked to the expansion and diversification of economic units in their operations. Sampling-based auditing methods have become prevalent due to this expansion, with the estimation of test sizes relying on the strength of the internal control system.
- External auditors, when devising their programs, rely on the internal control system to determine the extent of tests to be conducted. This shift in auditing from detailed to test-based is a result of this reliance on internal control systems.

2.5 Functions of Internal Control

Internal control encompasses several critical functions, as identified by Al-Tai (2021) ^[3]:

- a) **Preventive Control:** This function is dedicated to averting future issues by appointing highly competent employees who fulfill their duties adequately and ensuring the appropriate allocation of responsibilities among staff members.
- b) **Detective Control:** Unlike preventive control, this function involves identifying problems when they occur. It is also referred to as investigative control.
- c) **Corrective Control:** Its role revolves around rectifying errors and resolving issues that arise within the system.

2.6 Key Components of Highly Efficient Internal Control

An integrated and efficient internal control structure comprises five primary components, as outlined by Al-Sayegh (2018: 66) ^[8]:

- a) **Control Environment:** This fundamental element of internal control refers to the internal setting where the control mechanisms are applied. It encompasses the behavior of the board of directors and its affiliated committees, the organizational structure, the delegation of authorities and responsibilities, and administrative control, including internal audits concerning employees and their duties (Al-Ghaishi & Abu Al-Anin, 2022: 115) ^[15].
- b) **Risk Assessment:** This component involves identifying risks that could potentially affect or impede an economic unit from achieving its objectives. It involves evaluating the possibility of these risks occurring and attempts to avoid or minimize them to an acceptable level. There are three fundamental steps in the risk management process: assessing the significance of the risk, the likelihood of its recurrence, and devising a strategy to manage the risk (Mousa, 2023: 331) ^[27].
- c) **Control Activities:** These encompass internal control activities such as appropriate job segregation, precise authorization of operations and activities, suitable documentation and records, and physical control over assets and records (Ismail & Adzhar, 2016: 158) ^[18].
- d) **Information and Communication:** This component focuses on identifying relevant information to achieve

the economic unit's objectives, obtaining, processing, and disseminating it to various managerial levels within the unit through open communication channels. These channels facilitate the flow of information and the preparation of financial reports. Timely, accurate, clear, and understandable information is crucial for effective utilization (Sadek & Ahmed, 2022: 480) ^[30].

- e) **Monitoring:** It involves periodically and continuously evaluating the quality of internal control performance. Monitoring can occur through ongoing monitoring processes, independent evaluation processes, or a combination of both (Al-Tamimi & Hadab, 2018: 66) ^[11].

2.7 The Relationship between Board Demographic Characteristics and the Efficiency of Internal Control

The board of directors represents the highest governing and managerial body within a company. It's responsible for overseeing and ensuring the implementation of its objectives as defined by the general assembly of shareholders. It serves as the primary defense line for shareholders against management inefficiency and opportunism. According to corporate governance guidelines, the board of directors undertakes a diverse set of tasks to mitigate conflicts of interest, encouraging senior management to employ conservative accounting practices in preparing financial data that align with current regulations and systems.

This involves establishing committees affiliated with the board of directors, defining their responsibilities, and compiling an annual report specifically for shareholder presentation. This report includes comprehensive analyses of company operations, financial status, future company expectations for the next year, actions, and results of subsidiary companies' operations, and the extent of compliance with governance rules. The board is responsible for defining the company's strategy, monitoring and evaluating senior management's performance to achieve company objectives, advocating for and protecting the rights of various stakeholders (Milegi, 2014: 14) ^[25].

According to (Aifuwa *et al.*, 2019: 33-34) ^[2], board characteristics refer to the internal mechanisms used for corporate governance. These characteristics encompass different factors including board size, independence, diligence, diversity, age, gender, nationality, experience, as well as educational and professional backgrounds." The term refers to the committee framework that manages the administrative tasks of the board of directors and is responsible for supervising the creation and monitoring of an organization's financial statements.

2.7.1 Social Dimension

Board diversity is a fundamental aspect that improves corporate governance processes in a corporation. The presence of diversity in the boardroom enhances the quality of decision-making and promotes creativity inside the organization. As stated by (Siridi *et al.*, 2011: 1610) ^[31], an optimal board consists of individuals who possess a range of talents, knowledge, and readily accessible expertise, and who contribute their time in a professional manner. Importantly, having a board with varied members incurs greater expenses, which could impede the company's performance and potentially affect the accuracy of financial reports.

The study conducted by (Gull *et al.*, 2018: 257) ^[16] proposed

that there exists a correlation between female directors and the supervision of earnings management. The researchers discovered evidence suggesting that possessing business competence and being a member of the audit committee are crucial characteristics of female directors that improve their ability to effectively supervise managing personnel. In the French context, a study conducted by (Damak, 2018) ^[14] revealed empirical evidence indicating that the inclusion of women on corporate boards had a considerable adverse effect on earnings management. Consequently, it was suggested that the presence of women in boardrooms significantly enhances their ability to fulfill their supervisory responsibilities, aligning with the initiatives of French political institutions to promote gender diversity in business boardrooms. This may serve as a source of inspiration for politicians in other nations to launch policies that promote the progress of women and their appointment to positions on corporate boards.

Additionally, as indicated by (Kandil, 2022: 1036) ^[29], the inclusion of women in the board of directors leads to diversity of ideas and experiences, thereby enhancing the supervisory role of the board. Hence, this study suggests a positive relationship between the social diversity of board members and the quality of auditing and oversight. Female directors may exhibit greater independence from management compared to male directors, consequently having a similar impact to that of independent directors. This implies an increase in the effectiveness of the board of directors and a focus on achieving a supervisory role of high-quality standards to uphold their reputation in the market and avoid legal accountability.

2.7.2 Scientific Expertise and Credentials

When a board of directors comprises experts, there is often a level of trust in the reported financial data. To become an expert within a board of directors, a director must possess sufficient academic and professional experience in financial, accounting, and auditing fields, which are crucial attributes for their oversight role.

However, a study by (Kang *et al.*, 2007: 194) ^[21] highlighted that experience comes with age, indicating that the older the director, the better. Having senior members in the boardroom leads to an improvement in the quality of financial reports. Researchers have presented varied results regarding the relationship between the board's experience and the quality of financial reports. A prevalent consensus in the literature suggests that the board's experience significantly and positively influences the quality of financial reports.

2.7.3 Age and Years of Experience

The age of the manager is a crucial demographic factor that has a strong link with interactions among board members and therefore has a major impact on the decision-making process (Makhlouf *et al.*, 2018) ^[24]. The study indicates that variations in age can impact the collective cognition among members of the board of directors. Younger persons frequently have vitality, zeal, and a readiness to embrace chances, whereas older individuals possess wisdom, prudence, and an inclination to shun dangers.

Moreover, a study conducted by (Bekiroğlu *et al.*, 2011) ^[12] in Turkey highlighted differences across age groups, indicating that younger managers tend to be more sensitive to environmental and ethical issues compared to their older counterparts.

Managers' age correlates with their inclination towards risk acceptance and adaptation to new changes. Older managers tend to be more cautious and resistant to taking risks compared to younger managers. They often manage companies more conservatively. Additionally, senior managers boast more experience and exhibit greater conservatism than their less experienced, younger counterparts, especially in the fields of accounting and auditing.

It's logical to assume that the older, more experienced manager is wiser. This, in turn, reinforces the manager's inclination towards demanding high-quality auditing and oversight (Mustafa *et al.*, 2017: 53)^[28].

2.7.4 Expertise

Board members with accounting and financial expertise tend to have a superior ability to comprehend financial information and reports, read the company's environment, and assess its internal performance more thoroughly. Board members with backgrounds in accounting and management possess deeper knowledge and capability to confront and resolve corporate challenges. Additionally, those with expertise in accounting and management among board members tend to make more suitable and impartial decisions. Furthermore, their expertise aids in effectively preserving the company's resources (Al-Silawi, 2022: 58)^[9].

3. Research Model

3.1 Research Population and Sample

The study field encompasses industrial companies listed on the Iraq Stock Exchange. The research community

comprises accountants, assistant accountants, and executive managers employed in 20 active industrial companies within the Iraq Stock Exchange. A total of 100 survey questionnaires were distributed, out of which 82 valid responses, accounting for 82% of the total distributed surveys, were retrieved for analysis.

3.2 Data Collection

Data was gathered using a questionnaire devised by the researchers to collect fundamental research data. This aimed to measure the research variables, which consisted of two types. The first was the independent variable, the demographic characteristics of the board of directors, incorporating four attributes (social diversity, education, years of experience, specialization) through 12 statements, three for each attribute. The second type represented the dependent variable, internal control efficiency, comprising five dimensions (control environment, risk assessment, control activities, information and communication, monitoring and supervision) through 15 statements, three for each dimension. The questionnaire also included a section on the demographic characteristics of the sample individuals represented by their personal information, encompassing five attributes (educational attainment, job title, years of experience, number of specialized courses, scientific specialization). Table (1) displays the structure of the questionnaire utilized in the present research.

The Pentadic Likert scale (Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1) was employed to articulate the inclinations of the sampled individuals.

Table 1: Survey Questionnaire Axes

"Axes"	"Statement"	"The dimensions"	The Aggregate	The Number	The Sequence
"The first axis: Demographic information"	"Educational Attainment"		Q		
	"Job Title"		J		
	"Experience"		E		
	"The number of courses"		C		
	"The scientific specialization"		S		
"The second axis: Independent Variable"	"The demographic characteristics of the board of directors"	"First: Social Diversity"	XX1	3	3-1
		"Second: Certification"	XX2	3	6-4
		"Third: Years of Experience"	XX3	3	9-7
		"Fourth: Specialization"	XX4	3	12-10
		"Total"	X	12	12-1
"The Dependent Variable"	"Internal control efficiency"	First: Control Environment	YY1	3	15-13
		Second: Risk Assessment and Evaluation	YY2	3	18-16
		Third: Control Activities	YY3	3	21-19
		"Fourth: Information and Communication"	YY4	3	24-22
		"Fifth: Monitoring and Oversight"	YY5	3	27-25
		"The Total"	Y	15	27-13

Source: Table created by the researchers.

4. Discussion of Results and Hypothesis Testing

4.1 Description of Surveyed Individuals

The researchers aimed to provide a simple description of the sampled individuals through their personal information to

offer a more comprehensive insight into how individuals perceive the research variables. Table (2) displays the distribution of individuals based on their personal information.

Table 2: Distribution of Sampled Individuals Based on Personal Information

Information	Category	The number	Percentage
Educational attainment	Less than a bachelor's degree.	31	37.8
	bachelor's	43	52.4
	Master's degree.	7	8.5
	Ph.D.	1	1.2
Job title	Assistant Accountant	27	32.9
	Accountant	37	45.1
	Department Head	12	14.6
	Section Head	4	4.9
	CEO	2	2.4
Years of service	1-5 years	4	4.9
	6-10 years	25	30.5
	11-15 years	42	51.2
	16 years and above	11	13.4
Number of courses in the specialization	One course	24	29.3
	2-3 courses	41	50.0
	4 or more courses	17	20.7
Scientific specialization	Accounting	50	61.0
	Business Management	15	18.3
	Finance and Banking Sciences	12	14.6
	Other	5	6.1

The table was prepared by researchers using the Statistical Package for the Social Sciences (SPSS).

According to Table (2), it is evident that the largest proportion of persons, accounting for 52.4%, have achieved a bachelor's degree. This corresponds to a total of 43 individuals out of the overall sample size of (n=82). Meanwhile, the sample included individuals with advanced degrees (master's and PhD) at a rate of 9.7%. This improves the knowledge and comprehension of the questionnaire statements among the participants in the sample. Accountants comprised 45.1% of the occupational titles, with assistant accountants, department heads, division heads, and executive directors following in descending order. This enhances the cognitive abilities of individuals in accounting roles to comprehend the statements in the questionnaire.

Regarding years of experience, the data shows that the majority, specifically 95.1% of the sample individuals, possess more than five years of experience. This contributes to the development of a high degree of skill and extensive knowledge gained via a variety of experiences over many years of service. Consequently, this improves the impartiality of individuals' answers to the questionnaire statements.

All participants in the sample had completed courses in the domains of accounting and computer science, with the majority, 50%, taking part in a minimum of 2 to 3 courses. This emphasizes the concept of updating knowledge through experiences, while considering the appropriateness of

answering to the questionnaire statements. Furthermore, it is worth mentioning that 61% of the participants in the sample possess accounting specializations. This fact contributes to the scientific rigor of the questionnaire's terminology and, as a result, improves the dependability of the responses to its claims.

4.2 Research Tool Validation

The face validity of the questionnaire was tested by presenting the questionnaire to six experts specializing in accounting at the College of Management and Economics - Tikrit University. The experts provided several comments that led to modifications in the current form of the questionnaire. Additionally, the scale's validity was tested using the reliability coefficient, calculated through the square root of the Cronbach's alpha coefficient. The values ranged between (0.881 - 0.939), as illustrated in Table (3). Furthermore, Table (3) also indicates the stability test of the questionnaire, which was assessed through the Cronbach's alpha coefficient. The values ranged between (0.777 - 0.882), exceeding the standard value of 60% for this coefficient. This implies the stability of the questionnaire, indicating the consistency of survey results. The results provide researchers with the validity to adopt and generalize the questionnaire to the research community due to its reliability and stability.

Table 3: Validity and Reliability of the Questionnaire Form

"The variables."	"The code"	"Coefficient of validity"	"Cronbach's Alpha coefficient"
"The demographic characteristics of the board of directors."	X	0.881	0.777
"The effectiveness of internal control."	Y	0.939	0.882
"For the entire questionnaire."		0.949	0.900

The source: The table was prepared by the researchers using the statistical software (SPSS).

4.3 Descriptive Analysis

Both the mean and standard deviation, along with the relative importance, were utilized to assess the questionnaire statements as a whole. This was done using the statistical

software (SPSS Ver.22), which also enables the clarification of individuals' perceptions regarding the questionnaire statements, as illustrated in Table (4).

Table 4: Descriptive Analysis of Research Statements

S	The statements	"Arithmetic mean"	"The standard deviation"	"The relative importance"
1	"Women hold managerial positions proportional to men."	3.951	0.646	79.02%
2	"Women have a percentage of voting rights in the board of directors."	4.146	0.611	82.93%
3	"Women have equal rights in appointment and promotion as men."	4.085	0.834	81.71%
4	"That board members and executives should hold degrees not less than a bachelor's degree."	4.000	0.609	80.00%
5	"Board members with degrees have a greater impact on board decisions."	3.671	0.721	73.41%
6	"The board leadership values the input of members with advanced degrees in providing consultations and opinions, recognizing their broader and more diverse knowledge."	3.634	0.868	72.68%
7	"Individuals with older age and more years of experience are considered more eligible to provide opinions as they are perceived to be more cautious and risk-averse."	3.902	0.696	78.05%
8	"The ages of board members vary between seniors and younger members to balance between caution, enthusiasm, and embracing some risks for development."	3.939	0.822	78.78%
9	"The composition of the board of directors tends to favor members with more experience and older age."	3.866	0.766	77.32%
10	"Board members with a scientific background in accounting and management tend to have more knowledge and capability to face and solve the challenges encountered by companies."	3.927	0.913	78.54%
11	"Board members with a scientific background in accounting and management possess the ability to make more suitable and objective decisions."	3.780	0.903	75.61%
12	"Board members with a scientific background in accounting and management have the ability to more effectively preserve the company's resources."	3.683	0.859	73.66%
13	"Emphasis is placed on integrity and ethical values to support the work of internal control by outlining guiding procedures at all levels of the economic unit."	3.939	0.934	78.78%
14	"Control is exercised over the development and performance of internal control by periodically identifying and evaluating skills and experiences to enable them to take appropriate actions."	4.110	0.786	82.20%
15	"Qualified individuals are attracted, developed, trained, and retained in accordance with the goals, and competence is assessed in all departments of the economic unit, with efforts made to address deficiencies when necessary."	4.037	0.637	80.73%
16	"The company's objectives are defined in accordance with laws, regulations, standards, and recognized frameworks of external organizations."	4.012	0.839	80.24%
17	"The risks hindering the achievement of objectives across the economic unit are identified, and risk analysis serves as a foundation for determining how to manage risks. This involves identifying risks from internal and external factors and assessing their impact on achieving objectives."	4.024	0.702	80.49%
18	"Consideration is taken into account when assessing the risks of fraud, involving employees' involvement in inappropriate acts or justifications."	4.134	0.857	82.68%
19	"Activities of control are developed to contribute to mitigating risks to acceptable levels that may hinder the achievement of objectives."	3.805	0.881	76.10%
20	"Activities for controlling the information technology infrastructure are selected and developed, designed and implemented to assist in ensuring the completeness, accuracy, and availability of technology processing."	3.793	0.978	75.85%
21	"Control activities are practically implemented through policies that define requirements and procedures that enforce policy execution. Regular reviews of control activities are conducted to assess their continuity and update them as necessary."	3.854	0.788	77.07%
22	"The required and expected information is identified, and appropriate, high-quality information is used to support the functional role of internal control and achieve the objectives of the economic unit."	4.073	0.900	81.46%
23	"Sequential operational procedures are established to effectively convey the required information, enabling all employees to understand and execute internal control responsibilities."	3.902	0.696	78.05%
24	"Processes are implemented to deliver relevant and timely information to external parties, including stakeholders, partners, owners, customers, financial analysts, and other external entities."	3.829	0.798	76.59%
25	"Continuous or separate assessments are selected, developed, and executed to ensure the presence and functionality of internal control elements, with objective feedback provided."	3.915	0.706	78.29%
26	"Assessors conducting ongoing and separate assessment operations have sufficient knowledge to understand what is being evaluated."	3.829	0.979	76.59%
27	"The economic unit assesses deficiencies in internal control and reports them in a timely manner to the responsible parties for corrective actions, including senior management and the board of directors."	3.915	0.849	78.29%

The source: The table was prepared by the researchers using the statistical software (SPSS)

Based on the data presented in Table (4), it is evident that the sampled individuals exhibit a significant level of awareness regarding all questionnaire statements. This is

supported by the high mean and relative importance values assigned to each statement." Statement (2), which states that women have a proportion of voting rights in the board of

directors, had the greatest degree of agreement with a mean of 4.146 and a relative importance of 82.93%. Statement (6), which states that the board values the input of members with advanced degrees in delivering consultations and opinions, received the lowest level of agreement with a mean of 3.634 and a relative importance of 72.68%.

The data shows a low standard deviation for all assertions, suggesting that the sampled individuals consistently responded in a similar manner and there was little variety in their answers. Statement (4), which states that board members and executives should possess at least a bachelor's degree, demonstrated the highest level of consistency with a standard deviation of 0.609. On the other hand, Statement (26), which emphasizes the need for assessors conducting

ongoing and separate assessment operations to have adequate knowledge of what is being evaluated, exhibited the lowest level of consistency with a standard deviation of 0.979.

Considering the information provided, the high level of agreement among the questionnaire statements, as demonstrated by the mean, may be applied to the entire sample because there is minimal diversity in responses, as represented by the low standard deviation.

While Table (5) provides an overview of the dimensions and variables of the research at the total sample level, descriptive analysis of the research variables was conducted using the mean, standard deviation, as well as the relative importance, along with the lowest and highest values.

Table 5: Descriptive Analysis of Research Variables and Dimensions

"The variables and dimensions."	"The mean"	"The standard deviation"	"The lowest value"	"The highest value"	"The relative importance (%)"	(Skewness)
"First: Social Diversity"	4.061	0.550	3.000	5.000	81.22%	-0.385
"Second: Educational Qualification"	3.768	0.490	2.667	5.000	75.37%	0.073
"Third: Years of Experience"	3.902	0.546	2.333	5.000	78.05%	-0.570
"Fourth: Specialization"	3.797	0.652	1.667	5.000	75.93%	-0.741
"Independent Variable: Demographic Characteristics of the Board of Directors"	3.882	0.418	2.667	5.000	77.64%	-0.104
"First: Control Environment"	4.028	0.602	2.000	5.000	80.57%	-0.813
"Second: Risk Assessment and Evaluation"	4.057	0.619	2.333	5.000	81.14%	-0.824
"Third: Control Activities"	3.817	0.659	2.000	5.000	76.34%	-0.408
"Fourth: Information and Communication"	3.935	0.638	1.333	5.000	78.70%	-0.532
"Fifth: Monitoring and Oversight"	3.886	0.611	1.333	5.000	77.72%	-0.004
"Dependent Variable: Internal Control Efficiency"	3.945	0.509	2.600	5.000	78.89%	-0.742

The source: The table was prepared by the researchers using the statistical software (SPSS)

The data presented in Table (5) demonstrates a significant level of consensus among the participants of the survey with respect to all the variables and dimensions of the study, as indicated by the average and relative significance. When examining the independent variable dimensions of the board of directors' demographic characteristics, it is evident that social diversity had the highest level, followed by years of experience, specialization, and finally degree, as determined by the mean and standard deviation. When considering the dimensions of the dependent variable, internal control efficiency, it is observed that the highest agreement was found after the second dimension, Risk Assessment and Evaluation. This was followed by the first dimension, Control Environment, then the fourth dimension, Information and Communication. The fifth dimension, Monitoring and Oversight, was ranked next, and finally, the third dimension, Control Activities, based on the mean and relative importance. At the variable level, it is evident that the dependent variable, internal control efficiency, exhibits the highest level of agreement, with a mean of 3.945 and a relative importance of 78.89%. Following this, the independent variable, the demographic characteristics of the board of directors, has a mean of 3.882 and a relative importance of 77.64%. The reduction in standard deviation values across all research variables and dimensions signifies uniformity in the replies of all participants and a decrease in

the level of variability in individuals' perceptions across all dimensions and variables. Consequently, the overall rise in consensus shown by the average of the research variables and dimensions may be applied to the entire sample due to the limited variation in the responses of the sample participants.

4.4 Results

To test the hypotheses of the research, it was necessary to determine the type of statistical tests, whether parametric or non-parametric. The researchers adopted the skewness coefficient to assess the skewness of the sample data. Data is considered normally distributed when the skewness coefficient falls within the range of (+1 to -1). As observed in Table (5), the calculated skewness coefficients for all research variables and dimensions fall within this range, indicating that the research data is normally distributed. This suggests the possibility of employing parametric statistical methods to test the research hypotheses.

The researchers also tested the relationship between research variables and dimensions by initially using the Pearson correlation coefficient as a preliminary step before conducting regression equations to test hypotheses of influence in the research. Table (6) shows the correlation coefficient values between research variables and dimensions.

Table 6: Relationship between Research Variables and Dimensions

Variables	"Dependent variable: Internal control efficiency."	
	Person coefficient	(Sig)
"First: Social Diversity"	0.403**	0.000
"Secondly: the certificate."	0.467**	0.000

"Thirdly: years of experience."	0.709**	0.000
"Fourthly: specialization."	0.346**	0.001
"Freelancer: The demographic characteristics of the board of directors."	0.635**	0.000

(*) Significance at the 5% level. (**) Significance at the 1% level.

The source: Table prepared by the researchers using the statistical software (SPSS)

Table (6) reveals a notable positive (negative) correlation between the independent variable, the demographic attributes of the board of directors across various aspects (social diversity, qualifications, years of experience, specialization), and the dependent variable, internal control efficiency. This suggests that when the availability of these four demographic parameters increases, there is a corresponding enhancement in the efficiency of internal control. The dimension of years of experience exhibited the strongest link with internal control efficiency, followed by qualifications, social diversity, and specialty, in that order. For the purpose of testing the five research hypotheses, five regression equations have been formulated within the Ordinary Least Squares (OLS) analysis as follows:

Equation 1: $Y = \beta_01 + \beta_1XX1 + \epsilon$

Equation 2: $Y = \beta_02 + \beta_2XX2 + \epsilon$

Equation 3: $Y = \beta_03 + \beta_3XX3 + \epsilon$

Equation 4: $Y = \beta_04 + \beta_4XX4 + \epsilon$

Equation 5: $Y = \beta_05 + \beta_5X + \epsilon$

The variable (Y) represents internal control efficiency, while (XX1) refers to the first dimension of the board of directors' demographic characteristics, specifically (firstly: social diversity), and (XX2) denotes the second dimension (secondly: qualifications). Likewise, (XX3) corresponds to the third dimension (thirdly: years of experience), and (XX4) signifies the fourth dimension (fourthly: specialization). Here, (X) indicates the aggregate variable of the board's demographic characteristics, (β) refers to the regression coefficient, and (ε) represents the standard error in the regression equation.

Table (7) displays the regression model analysis results for the first equation, revealing the potential to estimate internal control efficiency concerning the dimension (firstly: social diversity). The F-value of (15.480) at a significant level of 5% confirms the validity of the regression model, signifying

the potential estimation of internal control efficiency concerning (firstly: social diversity). Moreover, the T-value of (3.934) at a significant level of 5% indicates the significance of the impact of (firstly: social diversity) on internal control efficiency. The positive regression coefficient value (β) of (0.403) signifies the positive impact, suggesting that an increase in (firstly: social diversity) leads to an elevation in the level of internal control efficiency in the industrial companies within the research sample. Furthermore, the coefficient of determination (R²) of (0.162) indicates that the dimension (firstly: social diversity) explains approximately 16.2% of the variations occurring in the dependent variable, internal control efficiency. Based on these results, the primary hypothesis of the research is accepted.

Table (7) presents the regression model analysis results for the second equation, demonstrating the potential to estimate internal control efficiency concerning the dimension (secondly: qualifications). The reported F-value of (22.307) at a significant level of 5% affirms the validity of the regression model, indicating the possibility of estimating internal control efficiency concerning (secondly: qualifications). Furthermore, the T-value of (4.723) at a significant level of 5% highlights the significance of the impact of (secondly: qualifications) on internal control efficiency. The positive regression coefficient value (β) of (0.467) indicates the positive impact, signifying that an increased availability of (secondly: qualifications) leads to an elevation in the level of internal control efficiency in the industrial companies within the research sample. Additionally, the coefficient of determination (R²) of (0.218) reveals that the dimension (secondly: qualifications) explains approximately 21.8% of the variations occurring in the dependent variable, internal control efficiency. Based on these results, the second primary hypothesis of the research is accepted.

Table 7: Regression Models for Testing the Hypotheses

"The Equation"	"The Variables"	B	T	Sig.	F	Sig.	R ²
1	XX1	0.403	3.934	0.000	15.480	0.000	0.162
2	XX2	0.467	4.723	0.000	22.307	0.000	0.218
3	XX3	0.709	8.987	0.000	80.762	0.000	0.502
4	XX4	0.346	3.293	0.001	10.847	0.001	0.119
5	X	0.635	7.346	0.000	53.958	0.000	0.403

The Source: The table was prepared by the researchers using the statistical software (SPSS)

The results of the regression model analysis for the third equation, which pertains to the dimension of years of experience, are presented in Table (7). This table showcases the potential to assess internal control efficiency. The F-value of (80.762), reported at a 5% significance level, verifies the validity of the regression model and indicates its capacity to assess the efficiency of internal control with respect to years of experience. Furthermore, the T-value of (8.987) at a significance level of 5% demonstrates the importance of the impact of (specifically: years of experience) on internal control efficiency. The positive regression coefficient value (β) of (0.709) indicates a favorable influence, indicating that an increase in the

availability of years of experience leads to greater levels of internal control efficiency in the industrial enterprises included in the research sample. Furthermore, the R² value of (0.502) indicates that the variable of years of experience is responsible for about (50.2%) of the changes observed in the dependent variable, internal control efficiency. Therefore, the investigation has confirmed the acceptance of the third basic hypothesis.

The regression model analysis findings for the fourth equation are presented in Table (7), which demonstrates the ability to estimate internal control efficiency specifically in relation to the dimension of specialization. The F-value of (10.847), reported at a significance level of 5%, provides

evidence supporting the validity of the regression model. This suggests that the model is capable of estimating the efficiency of internal controls, specifically in relation to specialization. Furthermore, the T-value of (3.293) at a significance level of 5% indicates the importance of the impact of (fourthly: specialization) on the efficiency of internal control. The positive regression coefficient value (β) of (0.346) indicates a direct and favorable effect. Specifically, it suggests that an increase in the availability of specialization leads to greater levels of internal control efficiency in the industrial companies included in the research sample. Furthermore, the R² value of (0.119) suggests that the specialization dimension is responsible for about (11.9%) of the variability observed in the dependent variable, internal control efficiency. Therefore, the investigation has accepted the fourth primary hypothesis.

The regression model analysis findings for the fifth equation, as shown in Table (7), illustrate the ability to assess the efficiency of internal control in relation to the overall variable of the board's demographic characteristics. The F-value of (53.958) obtained at a significance level of 5% verifies the validity of the regression model, suggesting its capacity to estimate the effectiveness of internal control in relation to the overall variable of the board's demographic characteristics. In addition, the T-value of (7.346) at a significance level of 5% indicates the importance of the influence of the combined variable of the board's demographic characteristics on internal control efficiency. The positive regression coefficient value (β) of (0.635) indicates a direct and favorable effect. It suggests that when there is a greater availability of the aggregate variable representing the board's demographic characteristics, the internal control efficiency in the industrial companies within the research sample tends to increase. Furthermore, the coefficient of determination (R²) of (0.403) indicates that the combined factors of the board's demographic characteristics account for about (40.3%) of the differences observed in the dependent variable, internal control efficiency. Therefore, the research accepts the fifth basic hypothesis.

5. Conclusion

The research focused on examining the contribution of demographic characteristics of board members in enhancing internal control efficiency within Iraqi industrial companies. The study found a significant positive impact of board characteristics on enhancing internal control efficiency. Specifically, the tenure and age of board members had the most significant influence on enhancing internal control efficiency in these domestic industrial companies.

6. The research has produced numerous significant discoveries

1. Internal control is a comprehensive system that entails the scrutiny and assessment of the activities carried out by economic entities. Its purpose is to verify the accuracy of data in records and ensure compliance with policies, procedures, laws, and instructions established by higher authorities. This is achieved by evaluating all regulatory systems to ensure the attainment of goals.
2. The growth and heightened attention towards the internal control system can be ascribed to several factors, such as the scale of organizations, safeguarding the establishment's funds, formulating audit procedures, and external auditors depending on the internal control

system while preparing their programs.

3. The internal control system primarily depends on several components, such as the organizational structure, a robust accounting system, comprehensive work procedures and audit evidence, the availability of skilled individuals, performance control, and automated methods.
4. Control is often classified into many categories such as accounting control, administrative control, internal control system, and internal auditing.
5. Internal control serves multiple tasks, such as proactively preventing future issues, promptly detecting problems when they arise, rectifying errors, and effectively resolving difficulties.
6. A comprehensive and effective internal control framework comprises five primary elements: control environment, risk assessment and evaluation, control activities, information and communication, and monitoring and supervision.
7. The study aimed to examine the impact of demographic features of board members on the effectiveness of internal control in Iraqi industrial businesses. The study revealed that all aspects of board characteristics (social diversity, education, experience, expertise) have a noteworthy beneficial influence on enhancing the effectiveness of internal control.
8. The collective demographic features of the board account for 40.3% of the observed changes in the dependent variable, specifically the efficiency of internal control.
9. The variables of years of experience and age of board members had the most significant influence on improving the effectiveness of internal control in Iraqi industrial enterprises. Specifically, years of experience accounted for 50.2% of the changes in the dependent variable, which is the efficiency of internal control.
10. The presence of greater socioeconomic diversity and better levels of education among board members in Iraqi industrial businesses results in improved internal control efficiency.
11. Specialization among board members had the least significant impact on the efficiency of internal control, as it only accounted for 11.9% of the differences in the dependent variable.

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