# Measuring impact the audit Committee characteristics , CEO experience and ownership structure on the disclosure of internal control weakness

## (An applied study)

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## Abstract

**The purpose of this study** is to investigate the impact the interaction between the audit committee characteristics, CEO financial experience and ownership concentration for major shareholders on disclosing the internal control weakness (ICWD).

**In order to achieve the study objectives**, We used the content analysis method to measure the impact of the financial and accounting experience of audit committee members, as well as audit committee members held the position of directors board for another company, in addition to measuring the impact of the CEO financial experience and ownership concentration on ICWD.

This study was applied on a sample of 38 Egyptian corporations listed at Egyptian Security Exchange during the period 2018-2019, Multiple regression analysis was used to ascertain the relationship between the study variables.

**The results of the study showed** a negative effect of increasing the audit committee financial and accounting experience on ICW (the first hypothesis), and the results also showed a negative relationship between the CEO financial experience and ICW (the second hypothesis) and also a negative relationship between the ownership concentration For the major shareholders and ICW (the third hypothesis), this study also showed increasing in the negative impact of the interaction between the three independent variables and some control variables on ICW (the fourth hypothesis).

**Depending on this** : the study recommended the necessity of studying all the variables that affect on ICW in another different sectors and in different economic environments, because of the importance this in increasing the internal control quality and reducing its weaknesses and its importance in increasing the financial reports quality to protect the shareholders' interests.
**Keywords**: Disclosure of ICW - Audit committee characteristics – CEO financial experience -

Ownership concentration for major shareholders – Protecting the shareholders' interests.

# قياس أثر خصائص لجنة المراجعة وخبرة المدير التنفيذي وهيكل الملكية علي الأفصاح عن ضعف الرقابة الداخلية (دراسة تطبيقية)

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**ملخص الدراسة**

**هدفت هذه الدراسة** الى اختبار أثرخصائص لجنة المراجعة والخبرة المالية للمدير التنفيذي وتركز الملكية لكبار المساهمين علي الأفصاح عن ضعف الرقابة الداخلية وذلك بالتطبيق علي الشركات المساهمة المصرية .

**ولتحقيق أهداف الدراسة** تم استخدام أسلوب تحليل المحتوى من خلال تطبيق تحليل الأنحدار لقياس تأثير الخبرة المالية والمحاسبية لأعضاء لجنة المراجعة وكذلك شغل عضو لجنة المراجعة لمنصب عضو مجلس أدارة بشركة أخري ، بالأضافة الي الي قياس تأثير الخبرة المالية للمدير التنفيذي وتركز الملكية لكبار المساهمين علي الأفصاح عن ضعف الرقابة الداخلية، وقد طبقت الدراسة على عينة مكونة من (٣٨) شركة من الشركات المساهمة المدرجة في البورصة المصرية خلال الفترة ٢٠١٨-٢٠١٩م .

**وأظهرت نتائج الدراسة** وجود تأثير سلبي لزيادة الخبرة المالية والمحاسبية لأعضاء لجنة المراجعة علي نقاط ضعف الرقابة الداخلية ( الفرض الأول ) ، كما أظهرت النتائج وجود علاقة سلبية بين الخبرة المالية للمدير التنفيذي و نقاط ضعف الرقابة الداخلية ( الفرض الثاني ) وأيضا وجود علاقة سلبية بين تركز الملكية لكبار المساهمين و نقاط ضعف الرقابة الداخلية ( الفرض الثالث ) ، كما أظهرت الدراسة أيضا زيادة التأثير السلبي للتفاعل بين المتغيرات المستقلة الثلاث وبعض المتغيرات الرقابية علي نقاط ضعف الرقابة الداخلية ( الفرض الرابع ) .

**اعتمادا علي ذلك** : أوصت الدراسة بضرورة دراسة كافة المتغيرات التي تؤثر علي الأفصاح عن ضعف الرقابة الداخلية بقطاعات مختلفة أخري وفي بيئات اقتصادية مختلفة ، لأهمية ذلك في زيادة جودة الرقابة الداخلية وتخفيض نقاط الضعف بها ، لما لذلك من أهمية في زيادة جودة التقارير المالية وحماية مصالح المساهمين .

**الكلمات الافتتاحية:** الأفصاح عن نقاط ضعف الرقابة الداخلية – خصائص لجنة المراجعة – الخبرة المالية للمدير التنفيذي تركز الملكية لكبار المساهمين - حماية مصالح المساهمين .

# Impact of the audit Committee Characteristics , CEO experience and ownership structure on the disclosure of internal control weakness (An applied study)

## 1- Theoretical framework

### 1-1 Introduction

The growing importance of internal control has become increasingly evident, particularly due to the financial collapses experienced by companies such as Enron and WorldCom. These events motivated various professional organizations to emphasize the need for enhanced internal control effectiveness to increase the reliability of financial reporting and reduce earnings management practices. The Committee of Sponsoring Organizations (COSO) was the first to issue a comprehensive framework for internal control systems. Subsequently, the Sarbanes-Oxley Act of 2002 was enacted, highlighting the significance of internal control under Section 404, which mandates annual assessment and certification of internal controls

(Rice, S. C. et al., 2012). The Public Company Accounting Oversight Board (PCAOB) further reinforced these requirements by issuing Auditing Standard No. 2, later revised as Standard No. 5 in 2007, stipulating that management must report on its assessment of the internal control system (Munter, H. A. 2015-De Fond et al., 2017).

In Egypt, internal control has also gained considerable attention as the Code of Corporate Governance was issued in February 2011 (Article 10, Paragraph 1/3/5), as well as what was stated in the Egyptian Corporate Governance Code issued in August 2016 (Axis Four - Control Environment - Clause 2/4/1 Internal Control System), underscored the importance of a robust internal control system. These codes emphasize the need for companies to establish effective internal control systems, which should be regularly assessed by the audit committee and reported to the board of directors. Furthermore, Auditing Standard No. 315, paragraph 42, mandates that an entity should design an internal control system to mitigate risks that could affect the reliability of financial reporting and protect the interests of shareholders and other stakeholders.

Consequently, strengthening internal control can serve as a counterbalance to control weaknesses and deter opportunistic managerial behaviours.

## 1-2 Problem and Research Questions

Weak internal control is a significant contributor to the poor quality of financial reporting and accounting earnings. It empowers management to exercise discretion in selecting alternative accounting policies and making accounting estimates (Bardhan, 2015), which is confirmed by the study of (Ebrahimi et al., 2018) which reveals that internal control weaknesses (ICW) lead to a decline in financial reporting quality by facilitating errors and opportunistic managerial behaviour, resulting in lower earnings quality and diminished company value. Furthermore, (Faghani et al., 2018) emphasize that weak internal control systems intensify agency problems across various industries. The absence of effective controls allows managers to inject personal preferences into corporate financing decisions, such as avoiding debt to bypass debt covenants. Consequently, companies are more likely to prefer equity financing over debt financing when internal control weaknesses remain undisclosed. The study of (Ji et al., 2017) support this notion, arguing that top executives may bypass internal controls or exploit ICW for personal gain, disregarding shareholder interests.

The study of (shijun Cheng, 2019) highlights that if an audit committee member transfers information and insights about internal control weakness disclosure experiences from the company in which he is a member of the board of directors to another where he is an audit committee member (which is called interconnected companies), the indirect effects of this disclosure become more pronounced when the transferred information about internal control weaknesses (ICW) is more critical.

Achieving effective internal control is influenced by ownership structure, specifically the dispersion or concentration of ownership and the level of shareholder awareness of company affairs. Dispersed ownership among a large number of shareholders negatively impacts their ability to exercise effective oversight and achieve effective internal control. Consequently, weak internal control fails to meet their demands for protecting company funds and interests. Conversely, in concentrated ownership where ownership is concentrated in the hands of a limited number of shareholders who participate in company management through direct board representation facilitates effective internal control and reduces earnings management practices (Mindzak, J. et al., 2018; Xiao Wang et al., 2016).

Some studies (Salehi et al., 2018; Kalelkar & Khan, 2016; Javad Oradi et al., 2020) indicate that the CEO's financial expertise reduces material errors in internal control and that experienced CEOs have an impact on mitigating internal control weaknesses.

Other studies reveal that material weaknesses in internal control led to lower financial reporting quality (Bazrfshan A. et al., 2015) and reduced investment efficiency (Lee Jaehong et al., 2016). Also, research conducted in Iran demonstrates that disclosing material weaknesses in internal control is associated with an increased risk of stock price collapse (Fendereski et al., 2018) and a decline in company market value (Ebrahimi, K.A. et al., 2018).

Researchers have also explored determinants of internal control weaknesses (ICW), such as internal company-level factors (e.g., company size, age, complexity, growth, diversification, corporate governance) and external factors (e.g., external auditor, board independence, organizational culture) (Chen Y. et al., 2017). Previous studies have documented the relationship between ICW and certain managerial-level factors, such as CEO age and gender (Chen Y. et al., 2016); and the CEO's dual role and tenure (Hesarzadeh R. et al., 2019; Javad Oradi et al., 2020).

Consequently, this study contributes to the accounting literature as it is considered one of the rare studies that shed light on the distinctive role of financial and accounting expertise within audit committees and examining how the experiences of audit committee members in external companies influence their role within their own company through interconnected companies. Additionally, the study investigates the impact of the interaction between audit committee characteristics, ownership structures, and CEO financial expertise on internal control weakness disclosure in the Egyptian context. Most previous studies related to some of these variables were conducted in developed countries with varying results due to differences in the application environment. Moreover, these studies did not address a comprehensive framework for the interaction between these variables and their impact on internal control weakness disclosure, making this research particularly significant.

In light of the above, the research problem can be formulated through the following questions:

* What is the impact of audit committee characteristics on internal control weakness disclosure?
* What is the impact of CEO financial expertise on internal control weakness disclosure?
* What is the impact of ownership structures on internal control weakness disclosure?
* What is the impact of other company characteristics on internal control weakness disclosure?
* What is the impact of the interaction between the above-mentioned variables on internal control weakness disclosure?

**1-3 Research Objectives**

This research aims to measure the impact of the interaction between audit committee characteristics, ownership structures, and CEO financial expertise on internal control weakness disclosure by achieving the following sub-objectives:

* Examining the relationship between audit committee characteristics and internal control weakness disclosure.
* Investigating the influence of CEO financial background on internal control weakness disclosure.
* Analyzing the association between ownership structures and internal control weakness disclosure.

* Assessing the impact of other company characteristics (control variables) on internal control weakness disclosure.

* Exploring the effect of the interaction between the above-mentioned variables on internal control weakness disclosure.

**1-4 Research importance and motivations**

This research holds significant academic value as it addresses a critical research issue, particularly given the scarcity of studies on this topic in the Arab world, especially Egypt. The issue has garnered considerable attention in foreign studies in developed countries.

The research also derives its practical importance from the interest of stakeholders and investors in identifying variables affecting internal control weaknesses, given the crucial role of internal control quality in safeguarding their investments. Consequently, the primary motivation for this research is to narrow the academic research gap in this field within the Egyptian business environment.

**1-5 Research Methodology**

To achieve the research objectives, the researcher will analyze previous studies related to the impact of audit committee characteristics, CEO financial expertise, and ownership structures on internal control weakness disclosure. The researcher will then formulate research hypotheses related to these relationships and test their validity through an empirical study of Egyptian publicly traded companies listed on the stock exchange. This aims to obtain results that fulfil the research objectives.

**1-6 Research Limitations**

There are several limitations to the empirical study of this research, the most important of them are:

* Audit committee characteristics are limited to financial and accounting expertise and the committee member's role as a board member in another company. Consequently, other audit committee characteristics are excluded from the empirical study.
* The study focuses on the ownership structure of major shareholders (ownership concentration). Other ownership patterns are excluded from the empirical study, except to the extent they serve the theoretical aspect of the research.
* The research is limited to examining the impact of CEO financial expertise on internal control weakness disclosure, excluding other CEO characteristics.
* The accuracy of the study's results depends on the precision of sample selection and the time period covered by the study.

**1-7 Research Plan**

Based on the research problem, objectives, and limitations, the research is organised as follows:

1- Theoretical Framework
2- Literature Review Analyzation and Evaluation

3- Study and Analysis of the Impact of Audit Committee Characteristics, CEO Financial Expertise, and Ownership Structures on Internal Control Weakness Disclosure.
4- Research Methodology
5- Results, Recommendations, and Future Research

**2- Literature Review Analyzation and Evaluation**

In this chapter, the researcher presents a selection of studies related to the research topic to identify their findings and utilize them in completing aspects of the current research, thus achieving communication and integration among research studies in this field, as follows:

The study by (Javad Oradi et al., 2020) examined the impact of managers' functional background in finance and administration (financial and administrative expertise) on improving financial reporting quality and mitigating audit risk. The study investigated the relationship between the financial background of CEOs and internal control weaknesses (ICW), using a sample of Iranian companies from 2007 to 2017. The study found a negative correlation between CEOs with financial expertise and internal control weaknesses. Moreover, it showed that the negative correlation between the CEO's financial expertise and ICW is stronger when the CEO is appointed from within the company.

This study also highlighted important implications for regulatory bodies regarding improving financial reporting quality and internal control effectiveness, especially in emerging markets. Its findings can be beneficial to auditors in assessing risks related to material weaknesses in internal control, as well as to shareholders and boards of directors when hiring a new CEO.

While the study of (Ling Lei Lisic et al., 2019) explores whether the accounting expertise of the audit committee enhances audit quality by encouraging auditors to disclose internal control weaknesses and take appropriate actions to improve internal control. Accounting expertise on the audit committee protects auditors from dismissal after issuing negative opinions on internal control. The likelihood of disclosing internal control weaknesses is lower when the audit committee has greater accounting expertise (measured by the proportion of accounting experts on the audit committee), i.e., when at least two audit committee members possess sufficient accounting and financial expertise.

The study of (Shijun Cheng et al., 2019) indicates that companies are less likely to disclose material weaknesses in the internal control system in a given year if an audit committee member on their board is also a board member of a company that disclosed material weaknesses in the internal control system (ICW) three years prior, as the previous experience of an audit committee member with adverse disclosure helps disseminate important ideas and acts as a catalyst for improvements in internal control practices within the company. It can be argued that previous management experience helps the company disclose control weaknesses without accompanying improvements.

Whereas the study of (Li He, et al., 2019) examines the impact of internal control weakness disclosure on stock prices. The study's analysis of the stock market reveals that investors react negatively and more significantly to amendments accompanying the internal control weakness report and its impact on financial statement preparation. The study's results indicate negative returns associated with the studied companies, as investors perceive amendments related to internal control weaknesses more negatively regardless of disclosure timing.

Furthermore, the study of (William G. et al., 2019) investigates the relationship between information technology-related internal control weaknesses (ITMWs) and earnings management. Previous research suggests that companies with internal control deficiencies are more likely to manage earnings. This study specifically examined the increasing impact of ITMWs on earnings management trends, based on a sample of 268 technology companies. It found a significant positive correlation between ITMWs and abnormal accruals that increase income. Additionally, the study found a positive relationship between the poor financial condition of some of these companies and weak internal control in these companies. These results have implications for investors and regulators.

Donelson et al., (2018) suggest that companies that only disclose positive news in their reports may face increased inspection and a higher likelihood of facing penalties from regulators and market participants if negative signs are discovered later. To avoid these risks, including litigation risks, companies disclose information about internal control weaknesses in their reports. Disclosing internal control weaknesses also impacts earnings quality and audit services related to internal control weaknesses, and this impact is evident only in cases of disclosing internal control weaknesses.

The study of (Mindzak and Zeng, 2018) measured the impact of hierarchical and gradual ownership structures on earnings management practices in Canada, where most Canadian companies exhibit hierarchical ownership structures. The study was conducted on a sample of Canadian companies from 2010 to 2015. The study concluded that earnings management is lower in Canadian companies characterized by gradual and hierarchical ownership structures compared to other companies. There is a significant positive correlation between earnings management and hierarchical and gradual ownership structures.

While the study of (Makni I. et al., 2017) suggest that although companies with internal control weaknesses or without them may have different incentives to prepare and report on internal control, they can all use voluntary disclosure to mitigate information asymmetry. Companies without any control weaknesses may have strong incentives to disclose internal control to reveal their earnings quality and differentiate themselves from companies with control weaknesses.

Regarding the role of audit committees in improving internal control quality, the study of (He X. et al., 2017) emphasized the necessity of audit committees within companies. Audit committees are considered a key factor in assessing the levels of governance applied in the company. Audit committees also play a crucial role in ensuring financial reporting quality, benefiting from accounting information, and reducing fraud, manipulation, and other opportunistic practices through overseeing internal control processes and resisting management pressure during the audit process. Therefore, audit committees are considered the most important pillars for achieving financial reporting quality as a link between the company's board of directors and the external auditor.

Moreover, the study of (Newton N. et al., 2017) tested the relationship between audit committee quality and internal control quality, finding a positive correlation between them. The study also identified factors affecting internal control weaknesses and factors motivating company management to disclose such weaknesses. The study concluded that companies with weak internal control lack financial and accounting expertise on their audit committees, and auditors lack independence in their work with frequent auditor changes.

While the study of (Yasser et al., 2017) measured the impact of ownership structure on earnings management in three countries: Australia as an advanced country and Malaysia and Pakistan as developing countries. The study used multiple regression analysis to test the research hypotheses, using a sample of companies listed on the Australian, Malaysian, and Pakistani stock exchanges from 2011 to 2013. The study concluded that there is a significant negative correlation between institutional and foreign ownership structures and earnings management in Pakistan, while there is a significant positive correlation between institutional and foreign ownership structures and earnings management in Australia. Whereas there is no correlation between institutional and foreign ownership structures and earnings management in Malaysia.
Additionally, the study of (Lee Jaehong et al., 2016) investigated whether material weaknesses in internal accounting control are negatively related to investment efficiency as weak internal control leads to information asymmetry between companies and external capital owners, and investment cannot be effectively monitored, leading to overinvestment or underinvestment. Weak internal control is often associated with low corporate governance, as low corporate governance makes it difficult to monitor managerial opportunistic behaviour, leading to abnormal investment such as overinvestment or underinvestment. The study's results indicate that weak internal control provides poor

monitoring of the manager, as it cannot restrict inefficient managerial investment decisions, and thus weak internal control is negatively related to investment efficiency.

Cai et al., (2015) suggest that the amount of information about material weaknesses in the internal control system (ICW) that experienced managers can convey can have stronger indirect effects when information about previous material weaknesses in the internal control system (ICW) is more objective and therefore more beneficial to related companies. Consequently, related companies are less likely to disclose material weaknesses in the internal control system if material weaknesses in the internal control system of the disclosing company are considered more widespread.

Whereas the study of (Haytham Ahmed, 2010) addressed the importance of management reporting on internal control effectiveness and the difficulties faced by management when reporting on internal control effectiveness, as well as the impact of reporting on internal control effectiveness on the role of the auditor and the stock market, through a field study that included audit firms, faculty members, investors, and financial managers in companies listed in the Egyptian stock exchange. The study concluded that there is prior knowledge of the Sarbanes-Oxley Act, especially the part related to reporting on internal control effectiveness, which helps in its application in the Egyptian environment. The study also indicated the absence of legislation in Egypt until now obligating company management or the auditor to prepare reports on internal control effectiveness.

**Based on the researcher's analysis of previous studies, the following is clear:**

* Most previous studies were conducted in foreign, developed environments that differ from the nature of the Egyptian environment, with varying results based on the nature of the environment in which they were applied.

* Most previous studies addressed the impact of a single variable on internal control weakness determinants, without seeking to study the impact of the interaction between multiple variables on internal control weakness disclosure.

* Previous studies did not clearly address the determinants of internal control weaknesses, which this current study aims to address by providing an empirical guide to measuring the impact of the integration of multiple study variables on internal control weakness disclosure.

* No single study - to the researcher's knowledge until the preparation of this research - was conducted in Egypt or the Arab world that addressed the impact of the interaction between audit committee characteristics, CEO financial expertise, and ownership structures on internal control weakness disclosure, making this study particularly important and a significant addition to the accounting literature and the Arab library.

## 3- Impact of Audit Committee Characteristics, CEO Experience, and Ownership Structure on Internal Control Weakness Disclosure

Audit committee characteristics and ownership structure contribute to enhancing internal control quality, which reflects positively on the reliability of financial reports and reduces the risk of inaccurate information. Additionally, the financial expertise of audit committee members and the CEO is crucial in reducing financial statement restatements and disclosing material internal control weaknesses. The importance of studying ownership structure is evident, as internal control weakness disclosure is influenced by ownership structure patterns, as illustrated by the following points:

### 3-1 Importance of Disclosing Internal Control Weaknesses

Several studies have indicated that one of the primary incentives for companies to provide voluntary disclosures is to reduce the cost of capital and debt by mitigating information asymmetry (Klam, B. et al., 2012) and to reduce agency costs in monitoring management behavior, especially when institutional investors have a desire to reduce potential litigation risks by voluntarily disclosing bad news to be differentiated between lower-quality companies in order to gain and maintain legitimacy and legitimize their continued existence. The study of (Li He Bharat et al., 2019) indicated that disclosing internal control weaknesses affects stock prices, as stock market analysis reveals that investors react more negatively to amendments accompanying the internal control weakness report and its impact on financial statement preparation. Also, the study of (Chalmers et al., 2018) indicated that disclosing internal control weaknesses has positive effects on improving the internal control process and provides valuable information for decision-makers.

It is also worth noting that companies with internal control weaknesses may have different incentives to prepare and report on internal control, but they can all use voluntary disclosure to mitigate information asymmetry. While companies without any internal control weaknesses may have strong incentives to disclose internal control to reveal their earnings quality and differentiate themselves from companies with control weaknesses (Johnstone, et al., 2011).

On the other hand, the study of (Lisic, et al., 2017) identified factors that motivate companies to disclose internal control weaknesses. Considering that disclosing internal control weaknesses can send negative signals to the market, agency theory suggests that if a company fails to disclose internal control weaknesses, investors may perceive that managers are trying to hide bad news, and the company will be punished with a high cost of ownership or lower managerial compensation.

Conversely, if a company chooses to provide information about internal control weaknesses and addresses these weaknesses, investors will view voluntary disclosure of internal control weaknesses as a sign of management honesty and integrity, and a sign of the management's willingness to improve internal control (Gounopoulos, 2018). As a result, the market will stand by this company.

The researcher will classify factors that may have potential impacts on a company's decision to disclose internal control weaknesses into four elements: audit committee characteristics, ownership structure, CEO financial background, and other company characteristics (control variables), as follows:

**3-2 Impact of Audit Committee Characteristics on Internal Control Weakness Disclosure**

The audit committee is defined as an independent technical committee of the board of directors that focuses on the methodology and quality of the external audit, the quality of financial reports, and the interaction between internal and external audits and their independence. This committee has several functions, most importantly examining and auditing internal control procedures and issuing a written report outlining its opinion and recommendations, as well as examining and auditing the internal control management plan and its results. Therefore, the existence of an internal audit committee will lead to improved internal control, as the audit committee contributes to increasing internal control effectiveness in a way that enables it to fulfill its oversight responsibilities in preparing high-quality financial reports and protecting the interests of shareholders and stakeholders.

Regarding the role of the internal audit committee, the study of (Ling lei lisic, et al., 2019) provided evidence that companies with more effective audit committees, measured by the financial expertise of audit committee members, disclose internal control problems to a lesser extent. The study also found similar results, indicating that companies with high-quality audit committees are less likely to have internal control weaknesses. Bruynseels M., et al., (2016) added that audit committees with more competent members are more able to detect internal control weaknesses.

The study of (Cassel et al., 2018) showed that higher-quality audit committees are more likely to uncover internal control deficiencies. While the study of (Alavi, S., et al., 2017) indicated that internal control weaknesses can lead to potential weaknesses in accounting disclosure, and that a company which makes improvements to its internal control system shows an improvement in quality on a merit basis, and that its audit committee characteristics are closely related to internal control quality.

Whereas the study of (Fakhari et al., 2018) found that companies with audit committees with financial expertise (especially financial accounting skills) have a positive impact on the internal control system. The study also addressed the relationship between audit committee quality, auditor independence, and internal control weakness disclosure in companies after the SOX Act. The study found that companies with audit committees with financial expertise are less likely to have internal control problems.

Regarding the impact of accounting and financial expertise of audit committee members, Lingleilisic et al., (2019) indicated that audit committee members with similar specialized expertise similar to the auditors assess internal control like auditors, more than members with specific experiences less similar to auditors as the study found that financial and accounting expertise is strongly correlated with financial report effectiveness. Also, the study of (Bruynseels et al., 2016) conducted a study on a sample of companies with financial accounting expertise and non-financial expertise on their audit committee and found a positive response in reducing earnings management and in the stock market.

Moreover, the study of (Dewayanto et al., 2017) found that audit committee experience has a positive impact on internal control disclosure, and the study of (Faghani and Pahlavan, 2018) found that establishing effective internal control leads to a decrease in managerial opportunistic behavior and improved earnings quality. Additionally, other studies on the Tokyo Stock Exchange showed that the imposing internal control regulations and compliance with their requirements, such as forming an audit committee, was associated with a decrease in information uncertainty (Bazrafshan, 2015) and an increase in information transparency (Fakhari et al., 2018).

In Egypt, the audit committee is one of the most important corporate governance mechanisms, and undoubtedly, a high-quality audit committee with greater financial accounting and other financial expertise will be able to detect more internal control deficiencies, thus encouraging management to disclose internal control weaknesses.

Regarding the impact of an audit committee member serving on the board of directors of another company on disclosing internal control weaknesses in the company where they are an internal audit committee member (termed interconnected companies), the study of (Ji, X.D., et al., 2017) indicates that the motivation of managers' relationships, whether to improve internal control or report on internal control weaknesses (ICW), means that companies are less likely to disclose material weaknesses in the internal control system if they are interconnected through an audit committee member to a company that previously disclosed material weaknesses in the internal control system.

Also, regarding the impact of disclosure of internal control weaknesses on the relationship between interconnected companies, the study of (Gino et al., 2009) refers to psychological literature that shows that observing the actions of peers will make the action clearer, making it less likely to imitate those actions. Therefore, audit committees that become aware of disclosures of internal control weaknesses (ICW) in others (interconnected companies) are reminded of their fiduciary responsibility to adequately review and maintain internal control. Social theory suggests that observing the punishment of a peer for negative behavior strengthens social standards against that behavior and reduces the chances of imitation. Conversely, when negative behavior is specific, difficult to detect, or unpunished, the behavior appears socially acceptable and therefore applicable. Accordingly, it can be argued that disclosing internal control weaknesses (ICW) and their accompanying consequences reinforces the idea of companies associated with internal control weaknesses (Rice and Weber, 2012).

Consequently, when the consequences and potential remedies for disclosing internal control weaknesses (ICW) become clear, the board member's relationship with another company through audit committee membership helps transfer information to the latter company and shift the cost-benefit trade-off in Favor of improving internal control. The cost-benefit trade-off also explains why managers' relationships encourage reporting internal control weaknesses, as disclosures of internal control weaknesses have negative consequences for company disclosure, so companies may not always disclose internal control weaknesses (Lennox, 2017).

In light of the above, the following hypothesis can be formulated:

**Hypothesis One (H1): The financial and accounting expertise of audit committee members and the fact that one audit committee member is a board member in another company affect the likelihood of disclosing internal control weaknesses in the company.**

## 3-3 Impact of Ownership Structure on Internal Control Weakness Disclosure

Studying the relationship between the ownership structure of listed companies and the disclosure of internal control weaknesses for these companies is an important area in accounting, but it is a topic that has not received adequate attention from researchers in our Arab region, particularly in Egypt.

Therefore, the importance of studying ownership structure in joint-stock companies stems from its clear impact on various aspects of the company, especially internal control quality (Xiao Wang et al., 2016) and on the behavior of current and potential investors, as well as the behavior of many stakeholders within the company, such as board members, employees at various levels, or outside the company, such as lenders, labor unions, researchers, and various government and supervisory bodies.

Ownership structure can be viewed from multiple perspectives, most importantly: concentrated ownership, which means that ownership of a large percentage of a company's shares belongs to a limited number of owners, individuals or institutions, giving them direct or indirect control over the company and its related decisions. This control comes as a result of this limited number of owners owning all or part of the company's shares, granting them the right to vote and make decisions.

The emergence of agency theory led to the interest in internal control quality, as the separation of ownership from management led to the use of a group of professional managers. With these managers pursuing their self-interest at the expense of shareholders, financial reports began to lose quality and agency problems increased (Yasser Q.R., et al., 2017).

Ownership structure has been linked to internal control determinants as a result of its affection by agency problems. The agency problems arising from concentrated ownership differ from those arising from dispersed ownership, whether major shareholder ownership, managerial ownership, or institutional ownership, as the need to protect the interests of minority shareholders from the opportunistic behavior of management increases, and so the importance of high-quality disclosure of internal control weaknesses increases. The study of (Choi, 2018) indicated that two main types of ownership structures can be generally distinguished in joint-stock companies: concentrated ownership and dispersed ownership. Concentrated ownership refers to ownership concentrated in the hands of a limited number of shareholders who have the right to participate in the management and direction of the company's financial and operational policies. Concentrated ownership can be classified into concentrated ownership in the hands of (major shareholders, management, financial institutions, foreign investors, the state), while dispersed ownership refers to a large number of shareholders in the company who own a small number of the company's shares. This type of ownership has a weak impact on management decisions and behavior, leading to increased agency costs and problems resulting from the separation of ownership from management.

Concentrated ownership includes two types of structures: direct ownership structures, where major shareholders directly own company shares without any intermediary companies between major shareholders and the acquired or owned company, leading to identical voting rights for major shareholders. The second type of concentrated ownership structure is indirect ownership structures, where major shareholders own company shares indirectly through intermediary companies between major shareholders and the acquired or owned companies (Reda Sobhy, 2017).

The impact of disclosing internal control weaknesses depends on the choice of ownership structure, as high-quality disclosure by companies helps reduce information asymmetry and provide a better view of the company from the perspective of external investors, helping them discover operations aimed at achieving special benefits for managers or major shareholders. This reflects on internal control and on reducing the number of private benefits enjoyed by shareholders. The study of (Ashbaugh et al., 2017) indicated a positive correlation between concentrated institutional ownership and disclosure of weaknesses in internal control. The same study indicated that ownership structure is a factor affecting the disclosure of internal control weaknesses. State ownership weakens management control, and it is expected to be associated with more internal control weaknesses. Additionally, ownership concentration primarily by the state can weaken the internal control system, so state-concentrated ownership is expected to be positively associated with disclosing internal control weaknesses.

On the other hand, it is expected that an increase in the percentage of institutional shareholders will be negatively associated with disclosing internal control weaknesses, as an increase in the number of shares owned by institutions strengthens the power of external audit on management and internal control.

Ashbaugh et al., (2017) also explained that companies in the United States with a larger number of institutional shareholders have greater incentives to correct internal control weaknesses due to increased monitoring, auditing, and litigation threats from outside.

In light of the above, the second hypothesis is:

**Hypothesis Two (H2): The concentration of ownership by major**
**shareholders affects the likelihood of disclosing internal control weaknesses in Egyptian joint-stock companies.**

**3-4 CEO Financial Expertise**

The literature on strategic management indicates that CEOs enhance their preferences and tendencies within the organization and devote more attention to events that interest them more. (Baatwah et al., 2015) added that the previous job experience of CEOs forms a large part of their administrative capabilities and the choices they make.

In recent years, companies have shown a greater tendency to hire CEOs with financial backgrounds (Kalelkar & Khan, 2016). Additionally, the importance of financial expertise for CEOs has been empirically proven, as (Jiang et al., 2013) indicate that CEOs with financial expertise follow a more conservative strategy in performing their tasks.

The study of (Matsunaga et al., 2013) added that companies managed by CEOs with financial expertise tend to provide more conservative reports, while (Lin Y. et al., 2014) mentioned that companies that employ CEOs with financial expertise maintain lower liquidity, have better access to capital markets, and show less sensitivity to changes in cash flows. Additionally, (Hui and Matsunaga, 2015) indicate that CEOs with financial expertise support better disclosure practices.

Previous literature indicates that the financial expertise of CEOs reduces the risk of poor performance and company failure, as well as reducing material errors in internal control (Kalelkar & Khan, 2016). The study of (Salehi, et al., 2018) added that the impact of CEOs, specifically their role in preparing financial reports and internal control, can be enhanced when they are financial experts. Specifically, if the board of directors has appointed CEOs with financial or accounting knowledge, financial scandals can be prevented. Additionally, financial expertise improves the ability of CEOs, leading to a lower likelihood of receiving a modified opinion on internal control, as companies with experienced CEOs have stronger internal control systems (Hamed K. et al., 2017). Moreover, subordinates may take their ethical commitment from the reputation of managers (Li He, 2019). Therefore, reputational concerns prevent financially experienced CEOs from bypassing internal control or engaging in financial reporting misconduct.

Furthermore, previous studies have found that CEOs with financial expertise are negatively associated with earnings management (Gounopoulos & Pham, 2018), delayed financial reporting (Baatwah et al., 2015), and audit fees (Kalelkar & Khan, 2016), indicating a relationship between CEO financial expertise and financial reporting quality and internal control weakness risks. Effective internal control is another important factor linked to financial reporting quality (Bardhan et al., 2015).

Due to the need for management to have and maintain effective internal control, it is expected that financially experienced CEOs will invest in building and maintaining strong internal control systems, helping them improve the quality of their financial reports and reduce customer risks.

Additionally, CEOs who have worked for the company before being appointed as CEOs develop better relationships with key subordinates, leading to better performance in facing internal problems (Brockman et al., 2019). However, over the past decade, there has been a growing trend towards hiring externally experienced financial CEOs, as the study by (Javad et al., 2020) indicated evidence of the effects of appointing CEOs (from within the company versus from outside the company) on company performance.

Some previous studies, such as (Ashbaugh et al., 2017) and (Hamed K. et al., 2017), used auditors' opinions on internal control effectiveness in disclosing internal control weaknesses (ICW). Based on these previous studies, CEOs with financial expertise were identified as those with accounting qualifications or experience working as an accountant, auditor, or financial manager, or other accounting-related positions.

In light of the above, the third hypothesis can be formulated as follows:

**Hypothesis Three (H3): The financial expertise of the CEO affects the likelihood of disclosing internal control weaknesses in Egyptian joint-stock companies.**

**3-5 Impact of Other Company Characteristics (Control Variables) on Internal Control Weakness Disclosure**

The study of (Rice and Weber, 2012) indicated that disclosing internal control weaknesses in the United States is one of the requirements of the SOX Act, as it is positively related to business complexity and negatively related to company size and profitability.

While the study of (Ashbaugh et al., 2017) explained that companies with more complex operations, higher accounting risks, and fewer resources are more likely to improve internal control, as well as smaller, less profitable companies, are more likely to disclose internal control weaknesses.

Additionally, the study of (Doyle et al., 2007a) explained that material weaknesses in internal control are more likely to exist in smaller, younger, financially weaker, more complex companies that are growing rapidly or undergoing restructuring.

Specifically, we expect the likelihood of companies disclosing internal control weaknesses to be negatively related to company size, as smaller companies have fewer resources to improve their control, while larger companies have more resources to invest in internal control, resulting in less internal control weakness and thus less likely to disclose internal control weaknesses (Xu-Dong

Ji, 2015). The study of (Javad et al., 2020) indicated that the likelihood of disclosing material weaknesses in the internal control system (ICW) or errors in information is affected by company size and differences in operating conditions.

It is also expected that company age will be negatively related to internal control weaknesses, as younger companies are more likely to have weaknesses in internal control procedures.

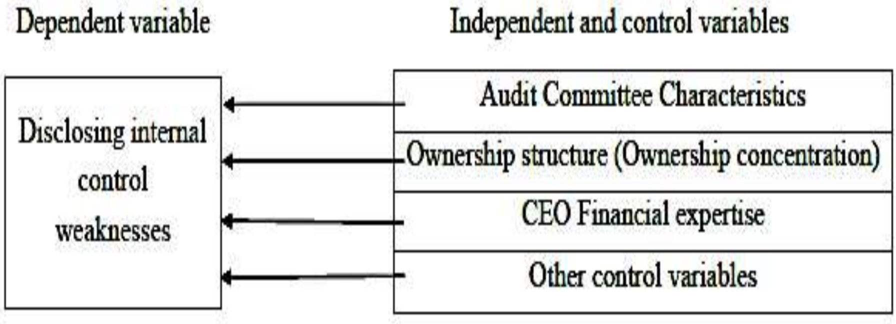
Additionally, leverage, growth, risk, and business complexity are positively related to disclosing internal control weaknesses. Companies with high leverage, more growth opportunities, more complex business structures, are more likely to have internal control weaknesses.

Furthermore, it is expected that company financial performance will be negatively related to disclosing internal control weaknesses, as better-performing companies will have more financial resources to implement appropriate internal controls and therefore face fewer internal control problems (Doyle et al., 2007a).

It is also expected that companies with good corporate governance quality will suffer less internal control weaknesses. The study of (Li He et al., 2019) indicated that high-quality external auditors can play a positive role in improving the quality of voluntary disclosure for their clients, specifically regarding the disclosure of internal control weaknesses. They found that companies audited by Big Four accounting firms are more likely

to disclose internal control weaknesses because these firms are better able to identify client control problems and have incentives related to litigation to pressure clients to disclose these problems.
**Therefore, the likelihood of disclosing internal control weaknesses is affected by some control variables such as size, age, leverage, growth and audit quality**.
Based on the previous independent and control variables, the fourth hypothesis is as follows:
**Hypothesis Four (H4): The combined effect of audit committee characteristics, CEO financial expertise, ownership structure, and other control variables increases the impact on disclosing internal control weaknesses in Egyptian joint-stock companies.**
Based on the above, the relationship between the independent and control variables and the dependent variable can be represented as follows:

**Figure (1): The relationship between independent and control variables and the dependent variable**




## 4- Methodology of the Applied Study

The main objective of this applied study is to test the hypotheses related to the study. Through this study, the researcher measures the impact of audit committee characteristics, CEO experience, and ownership structure on the disclosure of internal control weaknesses in Egyptian companies listed on the Egyptian Stock Exchange. This is done through the following points:

### 4-1 Study Population and Sample

The study population consists of joint-stock companies listed on the Egyptian Stock Exchange. A sample of these companies was selected during the period from 2018 to 2019. The selection of the sample was subject to the following criteria:

* The sample companies must be listed on the Egyptian Stock Exchange and among the most traded and active during the study period. This characteristic is available in the companies of the

EGX 100 index, which measures the performance of the most active 100 companies in the Egyptian market, including companies of the EGX 30 and EGX 70 indices, where the EGX 100 index measures the change in closing prices of companies without weighting them by market capitalization.

* The company must be performing its business in the period from 2018 to 2019.

* The company must have published financial and non-financial reports during the study period, and these reports must contain sufficient data to calculate the study variables.

* The company's shares must not have been suspended from trading for a period exceeding six months during the study period, and the company must not have been subject to delisting or merger during the study period.

* The company must have a website and publish its reports and financial statements on this website on an on-going basis.

* Joint-stock companies belonging to the financial sector were excluded to avoid the undesirable impact of extreme values, as accounting practices, risks, and characteristics of financial companies differ significantly from those of other companies.

The application of the previous criteria resulted in the selection of 38 joint-stock companies listed on the Egyptian Stock Exchange to represent the study sample, as shown in the following table:

**Table 1: Companies in the Study Sample**

| No. | Sector | Sample Size | Total Views |
|---|---|---|---|
| 1 | Manufacturing | 12 | 71 |
| 2 | Agriculture | 4 | 23 |
| 3 | Construction | 11 | 60 |
| 4 | Mining | 5 | 30 |
| 5 | Transportation | 2 | 12 |
| 6 | Wholesale and Retail Trade | 4 | 23 |
| | Total | 38 | 219 |

**Source: Financial statements, board of directors' reports, and internal sources of the sample companies.**

The researcher relied on the financial statements, explanatory notes, board of directors' reports, and other internal reports of the selected sample companies (for the years 2018 and 2019) to collect data and information. This data was obtained through the companies' websites, Argaam.com, (WWW.Mubasher.Info), (www.egidegypt.com), and the Egyptian Exchange website (www.egx.com.eg).

The data on the disclosure of internal control weaknesses (ICW) for the companies was classified into eighteen internal control areas, as suggested by the 2010 Internal Control Implementation Guidelines (XU-Dong Ji, et al., 2015). The disclosed ICW areas was classified into two types: accounting-related ICW areas and non-accounting-related ICW areas.

The accounting-related ICW areas include the following six areas: financing and investment, purchasing, asset management, sales, financial reporting, and budgeting. These areas have a direct impact on the company's assets, liabilities, revenues, and expenses.

On the other hand, non-accounting-related ICW areas are the other twelve internal control areas, which include: organizational structure, strategy development, human resources management (HR), social responsibility, organizational culture, research and development, construction projects, insurance, external sources, contract management, internal reporting systems, and information technology systems. These areas have an indirect impact on the company's final results.

The researcher analyzed the content of the internal control reports of the sample companies in terms of the internal control elements (18 elements) and whether or not the companies disclosed elements of internal control weaknesses, as shown in the following table:

**Table 2: Disclosure Rates of Internal Control Weakness Elements in the Sample Companies**

| ICW Score | No. of Firms | % | ICW Score | No. of Firms | % |
|---|---|---|---|---|---|
| 0 | 16 | 42% | 10 | 1 | 3% |
| 1 | 3 | 8% | 11 | - | - |
| 2 | 2 | 5% | 12 | 1 | 3% |
| 3 | 2 | 5% | 13 | 1 | 3% |
| 4 | 1 | 3% | 14 | - | - |
| 5 | 1 | 3% | 15 | - | - |
| 6 | 2 | 5% | 16 | - | - |
| 7 | 4 | 9% | 17 | 1 | 3% |
| 8 | 2 | 5% | 18 | - | - |
| 9 | 1 | 3% | Total Firms | 38 | 100% |

**Source: The financial statements, board of directors' reports, and internal sources of the sample companies.**

The preceding table reveals that 42% of the companies issued Internal Control Reports (ICRs) without disclosing any internal control weaknesses (ICW Score of 0). This percentage differs from that found in a study conducted by (Chen et al., 2016) in the United States (29%) and significantly differs from the corresponding figure in a study of (Ji et al., 017) in China (52%).

On average, 58% of companies that submitted ICRs disclosed weaknesses in some internal control elements. These weaknesses were distributed across the eighteen internal control elements in varying proportions, as detailed in the following table.

**Table 3: Areas of Internal Control Weaknesses**

| ICW Areas (Accounting-Related) | Scores | % | ICW Areas (Non-Accounting-Related) | Scores | % |
|---|---|---|---|---|---|
| 1- Financing and Investment | 22 | 10% | 7- Organizational Structure | 45 | 20% |
| 2- Purchasing | 14 | 6% | 8- Strategy Development | 2 | 1% |
| 3- Asset Management | 16 | 7% | 9- Human Resources Management | 33 | 15% |
| 4- Sales | 17 | 9% | 10- Social Responsibility | 10 | 5% |
| 5- Financial Reporting | 27 | 12% | 11- Organizational Culture | 2 | 1% |
| 6- Budgeting | 9 | 4% | 12- Research and Development | 1 | 0.5% |
| Total Accounting-Related ICW | 105 | 48% | 13- Construction Projects | 2 | 1% |
| | | | 14- Insurance | 2 | 1% |
| | | | 15- External Sources | 1 | 0.5% |
| | | | 16- Contract Management | 2 | 1% |
| | | | 17- Internal Reporting Systems | 9 | 4% |
| | | | 18- Information Technology Systems | 5 | 2% |
| | | | Total Non-Accounting-Related ICW | 114 | 52% |
| | | | Total ICW | 219 | 100% |

**Source: The financial statements, board of directors' reports, and internal sources of the sample companies.**

Table 3 indicates that among the eighteen internal control weakness (ICW) areas, organizational structure had the highest disclosure rate at 20%. This suggests that many companies lack a robust management oversight mechanism. The second most common ICW area was human resource management (15%), encompassing weaknesses in employee selection, hiring, and training. This was followed by financial reporting, then investment and financing, with disclosure rates of 12% and 10%, respectively. Additionally, purchasing, asset management, sales, and budgeting exhibited weaknesses. Overall, accounting-related ICW disclosures accounted for 48% of the total ICW disclosures, while non-accounting-related disclosures made up 52%.

## 4-2 Analysis of the Applied study Results and Hypothesis Testing

### 4-2-1 Study Variables

In this section of the study, the researcher defines the variables and the proposed models for measuring them:

* **Dependent variable:** The probability of disclosing internal control weaknesses (ICW) in the companies' internal control reports.

* **Independent variables:**

* Financial expertise or accounting background of audit committee members:

Some of the committee members may have expertise as investment bankers or financial analysts. This is measured by the number of committee members with financial or accounting expertise.

* Audit committee member serving as a board member in another company:

This explores whether the likelihood of disclosing material weaknesses in internal control (ICW) is influenced by a company having an audit committee member who is also a board member of another company that has previously disclosed material weaknesses. We begin by classifying each firm in the sample as a disclosing firm if it reports a material weakness in internal control ICW related to period t. Next, we define the post-disclosure period of the disclosing firm as the next three years, t + 1 to t + 3, and the pre-disclosure period as t – 2 to t. (Shijun Cheng, 2019)

* Financial expertise of the CEO:

Some studies suggest a link between the CEO's financial expertise (CEO-EXP) and internal control weaknesses (ICW).It indicates that CEO financial experience is associated with fewer internal control weaknesses (ICW). They found that the quality of internal control is greater in companies that have a CEO with financial experience compared to companies that do not have a CEO with financial experience.

* Ownership concentration by major shareholders:

Some studies indicate the effect of concentration of ownership on disclosure of internal control weakness, as concentration of ownership is associated with fewer internal control weaknesses, and this explains that large shareholders play a dominant role in supervision because they enjoy a majority of voting rights, and therefore they can influence on the disclosure of internal control weakness or not.

* Other control variables:

The study of (Sharma et al., 2012) indicated that the probability of disclosing material weaknesses in the internal control system ICW is affected by the size of the company. It is also expected that the age of the company will be negatively related to internal control weaknesses, as the younger the company is, the greater the likelihood of there being weaknesses in internal control procedures. Financial leverage and growth are also expected to be related to (ICW) disclosure, as companies with high financial leverage and companies that have more growth opportunities are more likely to have weak internal control and thus more disclosures about weak internal control weaknesses. It is also expected that there will be a relationship between the rate of return on assets and internal control weaknesses.

The dependent variable, the independent variables, and the previously mentioned control variables can be measured through the following table:

**Table 4: Measurement of the study variables**

| Variable Name | Variable Code | Measurement Methodology |
|---|---|---|
| **Dependent Variable:** Disclosure of Internal Control Weaknesses | ICWD | Dummy variable: 1 if the company disclosed internal control weaknesses in its reports, 0 otherwise |
| **Independent Variables** | | |
| Audit Committee Financial and Accounting Expertise | AC-EXP | Percentage of committee members with accounting, finance, or economics background |
| Post-Disclosure Interlock | PDI | Dummy variable: 1 if an audit committee member is a board member of another company that previously disclosed internal control weaknesses, 0 otherwise |
| CEO Financial Expertise | CEO-EXP | Dummy variable: 1 if the CEO has prior financial or accounting experience, 0 otherwise |
| Concentration of Ownership by major Shareholders | OWN-CON | Dummy variable: 1 if three shareholders own more than 50% of the company's shares and none of them owns less than 5%, 0 otherwise |
| **Control Variables** | | |
| Audit Firm Size | BIG 4 | Dummy variable: 1 if the company is audited by one of the Big Four accounting firms, 0 otherwise |

| Variable Name | Variable Code | Measurement Methodology |
|---|---|---|
| Firm Size | SIZE | Natural logarithm of average total market value of assets |
| Leverage | LEV | Ratio of total liabilities to total assets in the balance sheet of the company |
| Firm Age | AGE | Number of years the company has been in operation |
| Growth | GROW | Change in total sales revenue divided by total sales revenue |
| Return on Assets | ROA | Net income after taxes divided by total assets |
| Previous Year Loss | LOSS t-1 | Dummy variable: 1 if there was a loss in the previous year, 0 otherwise |

## 4-2-2 Study Models

To achieve the study's objectives and test the research hypotheses, a model was developed for each hypothesis to measure the impact of the independent variables on the dependent variable as follows:

**The first empirical model**: To measure the effect of the financial and accounting expertise of audit committee members and a member of the audit committee serving as a board member in another company on the probability of disclosing internal control weaknesses in the company.

This model can be statistically represented as follows:

$$ICWD\ I,t = \beta 0 + \beta 1(\ AC\text{-}EXP\ I,t) + \beta 2\ (PDI\ \ I,t) + \ + \beta 3\ (SIZE\ \ I,t) + \beta 4(LEV\ \ I,t) + \beta 5(ROA\ \ I,t) + \beta 6\ (AGE\ \ I,t) + \beta 7(BIG\ 4\ \ I,t) + \beta 8(\ GROW\ \ I,t\ ) + \beta 9(\ Loss\ \ I,t\text{-}1) + \varepsilon it$$

Where:

ICWD I,t: Represents the probability of disclosure of internal control weakness for the company i during the year t.

AC.EXP I,t: Represents the financial and accounting expertise of the audit committee members of the company i during the year t.
PDI I,t: Represents the extent to which a member of the audit committee of company i during year t, holds a position as a member of the board of directors of another company during the same year or the previous three years.
Size represents the size of the company, Lev represents leverage, ROA represents return on assets, GROW represents the growth rate, and AGE represents the age of the company in years, and BIG 4 represents the extent to which one of the big four companies audits the accounts of company i during year t, Loss t-1 represents losses of the previous year, where i refers to each company (38 companies); t = financial years 2018-2019.
**The second empirical model:** To measure the impact of ownership concentration of major shareholders on the probability of disclosing internal control weakness in the company.
And this model can be statistically represented as follows:

$$ICWD\ I,t = \beta 0 + \beta 1(\ OWN.\ CON.\ \ I,t) + \beta 2\ (SIZE\ I,t)+ \beta 3(LEV\ I,t) + \beta 4(ROA\ I,t)+ \beta 5\ (AGE\ I,t) + \beta 6(BIG4\ \ I,t) + \beta 7(\ GROW\ \ I,t\ ) + \beta 8(\ Loss\ \ I,t\text{-}1 + \varepsilon it$$

Where OWN.CON. I,t represents the ownership concentration ratio for company i in year t.
**The third empirical model:** To measure the impact of the CEO's financial expertise on the probability of disclosing internal control weaknesses in the company.

And this model can be statistically represented as follows:

$$ICWD\ I,t = \beta 0 + \beta 1(CEO.EXP\ I,t) + \beta 2\ (SIZE\ I,t) + \beta 3(LEV\ I,t) + \beta 4(ROA\ I,t) + \beta 5\ (AGE\ I,t) + \beta 6(BIG4\ I,t) + \beta 7(GROW\ I,t) + \beta 8(Loss\ I,t\text{-}1 + \varepsilon it$$

Where CEO.EXP represents the financial experience of the CEO of company i in year t.

**The fourth empirical model:** To measure the impact of the interaction between audit committee characteristics, CEO financial experience, and major shareholder ownership concentration on the likelihood of disclosing internal control weaknesses.

And this model can be statistically represented as follows:

$$ICWD\ I,t = \beta 0 + \beta 1(AC.EXP\ I,t) + \beta 2\ (PDI\ I,t) + \beta 3\ (CEO.EXP\ I,t) + \beta 4\ (OWN.CON\ I,t) + + \beta 5\ (SIZE\ I,t) + \beta 6(LEV\ I,t) + \beta 7(ROA\ I,t) + \beta 8\ (AGE\ I,t) + \beta 9(BIG4\ I,t) + \beta 10(GROW\ I,t) + \beta 11(Loss\ I,t\text{-}1 + \varepsilon it$$

**4-2-3 Statistical Analysis of Study Data**

Appropriate statistical methods were used to analyze the data using the statistical software package Statistical Package for Social Science (SPSS), version (18) as this software is widely used in applied and social science research. The selection of appropriate analysis methods was carefully considered to test the study hypotheses as follows:

### 4-2-3-1 Descriptive Statistics of Study Variables

Descriptive statistics were used to obtain insights into the study sample using mean, standard deviation, correlation, and linear regression analysis between variables.

**Table 5: Descriptive Statistics**

| Variable | Mean | Std. | Median | N. of Obs. |
|---|---|---|---|---|
| ICWD | 0.403 | 0.214 | 0.315 | 219 |
| AC-EXP | 0.617 | 0.231 | 0.608 | 219 |
| PDI | 0. 325 | 0.261 | 0.285 | 219 |
| CEO-EXP | 0.594 | 0.386 | 0.462 | 219 |
| OWN-CON | 0. 583 | 0.236 | 0.576 | 219 |
| Size | 32.647 | 3.654 | 30.241 | 219 |
| Lev | 2.136 | 1.752 | 1.201 | 219 |
| ROA | 0.502 | 0.252 | 0.483 | 219 |
| GROW | 0.184 | 0.602 | 0. 083 | 219 |
| AGE | 0.353 | 0.213 | 0.336 | 219 |
| BIG4 | 1.516 | 0.301 | 0.412 | 219 |
| Loss t-1 | 2.078 | 1.002 | 0.031 | 219 |

Table 5 above presents a descriptive statistical analysis of the independent and dependent variables (Descriptive Statistics). The table shows the mean and standard deviation for each variable. The mean of the financial and accounting experience of the audit committee members was (0.617) with a standard deviation of (0.231), indicating a significant impact of the financial and accounting experience of audit committee members on the disclosure of internal control weaknesses, which is higher than the average. On the other hand, the impact of an audit committee member holding a position as a board member in another company was less than the average (0.325) with a standard deviation of (0.261). Meanwhile, there was a clear impact of the CEO's financial experience (0.594) and the concentration of ownership by major shareholders (0.583) on the disclosure of internal control weaknesses. The degree of impact of the control variables also varied. It was found that there was a clear impact of company size (mean of 32.647), leverage (mean of 2.136), previous year losses (mean of 2.078), and audit quality (mean of 1.516). Other control variables had various impacts, most of which were weak and some were moderate on the degree of disclosure of internal control weaknesses for the sample of companies selected during the study period.

**4-2-3-2 Testing the Correlation Relationship between Study Variables**

- **Multicollinearity Test**

To test the suitability of the current study data for regression analysis assumptions and to test the validity of the hypotheses, the researcher used the Variance Inflation Factor (VIF) to determine whether the degree of multicollinearity between the study variables was high. The researcher found that the degree of multicollinearity between the study variables was low, as the highest value of the VIF obtained in the study models was 1.783 for the ownership structure concentration variable (OWN-CON), which confirms the absence of multicollinearity between the explanatory variables in the study models, allowing the use of the ordinary least squares (OLS) method to estimate the regression parameters.

- **Calculation of Correlation Coefficients (Correlation Matrix)**

To test the study hypotheses, correlation coefficients (Correlation Matrix) were calculated between the study variables to determine the degree of correlation between the independent variables and the dependent variable under study. Pearson's correlation coefficient was used to determine the strength and direction of the relationship between the independent and dependent variables. This is shown in the following table that shows the correlation matrix for the study variables:

**Table 6: Correlation Coefficients between Study Variables**

| Variables | ICWD | AC-EXP | PDI | CEO-EXP | OWN-CON | Size | Lev. | ROA | GROW | AGE | BIG4 | Loss t-1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ICWD | 1.000 | | | | | | | | | | | |
| AC-EXP | -0.531** | 1.000 | | | | | | | | | | |
| PDI | -0.121* | 0.242* | 1.000 | | | | | | | | | |
| CEO-EXP | -0.510** | 0.431** | 0.482** | 1.000 | | | | | | | | |
| OWN-CON | -0.504 ** | 0.312** | 0.121* | 0.462** | 1.000 | | | | | | | |
| Size | -0.413** | 0.441** | 0.132* | 0.452** | 0.443** | 1.000 | | | | | | |
| Lev. | -0.347** | 0.112 | 0.011 | 0.014* | -0.241** | -0.127** | 1.000 | | | | | |
| ROA | -0.327** | 0.325** | 0.110* | 0.382** | 0.331** | 0.402** | -0.031* | 1.000 | | | | |
| GROW | 0.101* | 0.003 | 0.011 | 0.014 | 0.219* | 0.313* | -0.213* | 0.461** | 1.000 | | | |
| AGE | 0.361* | 0.240* | 0.003 | 0.010 | 0.008 | 0.251* | -0.231* | 0.422** | 0.232* | 1.000 | | |
| BIG4 | -0.382** | 0.431** | 0.013 | 0.021 | 0.201* | 0.422** | -0.012 | 0.241* | 0.007 | 0.231* | 1.000 | |
| Loss t-1 | 0.235* | -0.210* | -0.013* | -0.212* | -0.143* | -0.332* | 0.303* | -0.231** | -0.242* | -0.112 | -0.201* | 1.000 |

**. Correlation is significant at the 0.01 level . *. Correlation is significant at the 0.05 level

The table above shows a significant negative correlation between the dependent variable (ICWD), which represents the disclosure of internal control weaknesses, and the independent variables such as the experience of audit committee members (-0.531**), CEO experience (-0.510**), and ownership concentration (-0.504**). On the other hand, there is a weak negative impact of an audit committee member holding a position as a board member in another company on internal control weaknesses, with a lower level of significance. Similarly, there is a negative relationship between the dependent variable, the disclosure of internal control weaknesses (ICWD), and some control variables such as (Size, Lev, ROA, BIG4) with high levels of significance. However, there is a moderate positive relationship between the dependent variable and company age, growth rate, and previous year losses at a significance level of less than 5%. This indicates a strong correlation between the study's independent variables and some control variables with the dependent variable, which is the disclosure of internal control weaknesses.

It is also noted that there is a positive relationship between the financial and accounting experience of audit committee members and all independent and control variables with a high level of significance, except for (LEV, GROW) where there is no relationship between them, and there is a negative relationship with (LOSS t-1) at a significance level of less than 5%.

Similarly, there is a weak relationship between the degree to which an audit
committee member holds a position as a board member in another company (PDI) and some of them is not significant, except for the relationship between (PDI) and (CEO-EXP) where there is a positive relationship with high significance, and there is a negative relationship between (PDI) and (LOSS t-1) at a significance level of less than 5%.

There is also a positive significant relationship between the independent variable of CEO experience (CEO-EXP) and all independent and control variables except for the control variables (LEV, LOSS t-1), and the same applies to the independent variable of ownership concentration by major shareholders, where there is a positive significant relationship with all independent and control variables except for the control variables (LEV, LOSS t-1).

### 4-2-4 Testing the Validity of the Study Hypotheses

### 4-2-4-1 Testing the Validity of the First Hypothesis

The first hypothesis relates to measuring the impact of audit committee characteristics on the likelihood of disclosing internal control weaknesses. The first hypothesis states:

**Hypothesis 1 (H1): The financial and accounting expertise of audit committee members and the fact that one audit committee member is a board member in another company**

**affect the likelihood of disclosing internal control weaknesses in the company.**

The impact of the independent variables on the dependent variable is measured through the first applied model, and this relationship can be represented statistically as follows:

ICWD I,t = β0 + β1( AC-EXP I,t) + β2 (PDI I,t)+ + β3 (SIZE I,t)+ β4(LEV I,t) + β5(ROA I,t)+ β6 (AGE I,t) + β7(BIG 4 I,t) + β8( GROW I,t ) + β9( Loss I,t-1) + εit

The researcher used the Ordinary Least Squares (OLS) method to formulate the regression model (the first empirical model) to measure the impact of audit committee characteristics on the probability of disclosing internal control weaknesses as a dependent variable.

**Table 7: The results of the multiple linear regression analysis (according to the first model).**

| Dependent variable | Internal control weakness disclosure ICWD | | | | |
|---|---|---|---|---|---|
| | Unstandardized Coefficients | | standardized Coefficients | T- Test | |
| Independent variables | B | Std. Error | Beta | T | P. value |
| Constant | 0.032 | 0.014 | | 2.568 | 0.021 |
| AC-EXP | -0.397 | 0.008 | -0.111 | -7.538** | 0.000 |
| PDI | -0.207 | 0.011 | -0.231 | -3.021 | 0.041 |
| SIZE | -0. 236 | 0.012 | -0.236 | -4.007** | 0.000 |
| LEV | 0.023 | 0.035 | 0.197 | 2.475* | 0.030 |
| ROA | -0.176 | 0.018 | -0.312 | -2.094* | 0.040 |
| GROW | 0.317 | 0.014 | 0.273 | 2.648* | 0.029 |

| | | | | | |
|---|---|---|---|---|---|
| **AGE** | **0.018** | **0.013** | **0.258** | **1.569** | **0.052** |
| **BIG 4** | **-0.218** | **0.032** | **-0.217** | **-3.001*** | **0.048** |
| **Loss t-1** | **0.346** | **0.013** | **0.375** | **3.265*** | **0.043** |
| **Summary of the results of the regression model according to the first model (testing the validity of the first hypothesis)** | **Multiple correlation coefficient R = 0.724** | | | | |
| | ***Coefficient of determination R2=0.327*** | | | | |
| | ***Adjusted coefficient of determination Adjust R2=0.284*** | | | | |
| | **F value extracted from analysis of variance (ANOVA) = 132.764 P. value= 0.000** | | | | |
| | **Std . Error = 0.18** | | | | |

**Predictors: (Constant), AC-EXP, PDI, SIZE, LEV, ROA, GROW, AGE, BIG 4, Losst-1, Dependent Variable: ICWD**

**Source: Prepared by the researcher based on the analysis of SPSS output.**

The researcher found from the previous table that the value of the adjusted coefficient of determination (Adjusted $R^2$ = 0.284) reflects the explanatory power of the regression model, showing the impact of audit committee characteristics, such as financial and accounting experience and one of the committee members holding a board membership in another company, on internal control weaknesses, amounting to (28.4%). As for the overall significance of the model used, it can be identified through the analysis of variance (ANOVA), where the calculated F-value (132.764) is much higher than the tabulated F-value at a high significance level (0.000), indicating the high significance of the model used in the study and thus its suitability for achieving the study objectives.

Regarding the relationship between the independent and control variables and the disclosure of internal control weaknesses, the regression results in the previous table number (7) showed the following:

1- There is a negative relationship between the financial and accounting experience of audit committee members and one of the committee members holding a board membership in another company (independent variables) and internal control weaknesses. Audit committees with significant financial and accounting experience and with a member holding a board membership in another company that previously disclosed internal control weaknesses are less likely to have weaknesses in internal control. This is indicated by the negative signs of the regression coefficients (β1, β2) and their probability values (Sig. = 0.000, 0.041), which shows the impact of the variables (AC-EXP, PDI) on internal control weaknesses in the sample of the Egyptian companies, which is consistent with some studies in developed countries such as the studies of (SHIJUN CHENG et al., 2019 and Ling, et al., 2019) which confirm that the accounting and financial experience of audit committee members and one of the committee members holding a board membership in another company had a significant negative impact on the emergence of internal control weaknesses.
2- There is an impact of control variables on the disclosure of internal control weaknesses as follows:

- There is a negative relationship between company size (SIZE) and internal control weaknesses, as large companies have the investment resources that enable them to improve internal control, which results in a decrease in internal control weaknesses, and thus large companies are less likely to experience weaknesses in internal control.
- There is a positive relationship between leverage (LEV) and internal control weaknesses, as companies with high leverage have weaknesses in internal control and are therefore more likely to experience weaknesses in internal control.
- There is a negative relationship between (ROA) and internal control weaknesses, and therefore a lower probability of internal control weaknesses, which means that the lower the company's profitability, the greater the likelihood of internal control weaknesses.
- There is a negative relationship between (BIG 4) and internal control weaknesses, as companies whose accounts are audited by the Big Four firms are less likely to experience weaknesses in internal control.
- There is a positive relationship between (Grow, AGE, Loss t-1) and internal control weaknesses, so the higher the growth rate or the younger the company or the more losses it has in the previous year, the greater the likelihood of internal control weaknesses.

In light of the above, the regression model can be formulated to measure the impact of audit committee characteristics on the disclosure of internal control weaknesses for the sample companies as follows:

ICWD I,t = 0.032 - 0.397 ( AC-EXP I,t) - 0.207 (PDI I,t) - 0.236 (SIZE I,t)+ 0.023 (LEV I,t) - 0.176 (ROA I,t) + 0.317 ( GROW I,t )+ 0.018 (AGE I,t) - 0.218 (BIG 4 I,t) + 0.346 ( Loss I,t-1) + $\varepsilon$it

Based on the aforementioned findings, we can accept the first hypothesis, which states that the financial and accounting experience of audit committee members and one of the audit committee members holding a board membership in another company has a significant impact on the probability of disclosing Internal control weaknesses.

**4-2-4-2 Testing the validity of the Second Hypothesis**

The second hypothesis states:

**H2: The concentration of ownership by major shareholders affects the likelihood of disclosing internal control weaknesses in Egyptian joint-stock companies.**

The impact of the independent variables on the dependent variable is measured through the second empirical model to measure this relationship, which is:

ICWD I,t = $\beta$0 + $\beta$1( OWN. CON. I,t) + $\beta$2 (SIZE I,t)+ $\beta$3(LEV I,t) + $\beta$4(ROA I,t)+ $\beta$5 (AGE I,t) + $\beta$6(BIG4 I,t) + $\beta$7( GROW I,t ) + $\beta$8( Loss I,t-1 + $\varepsilon$it

The impact of ownership concentration by major shareholders on the probability of disclosing internal control weaknesses can be illustrated in the following table:

**Table 8: Results of the multiple linear regression analysis (according to the second model)**

| **Dependent variable** | **Internal control weakness disclosure ICWD** | | | | |
|---|---|---|---|---|---|
| | **Unstandardized Coefficients** | | **standardized Coefficients** | **T- Test** | |
| **Independent variables** | **B** | **Std. Error** | **Beta** | **T** | **P. value** |
| **Constant** | **0.029** | **0.014** | | **2.568** | **0.021** |
| **OWN-CON** | **-0.257** | **0.013** | **-0.169** | **-5.473**** | **0.000** |
| **SIZE** | **-0. 236** | **0.012** | **-0.236** | **-4.007**** | **0.000** |
| **LEV** | **0.023** | **0.035** | **0.197** | **2.475*** | **0.030** |
| **ROA** | **-0.176** | **0.018** | **-0.312** | **-2.094*** | **0.040** |
| **GROW** | **0.317** | **0.014** | **0.273** | **2.648*** | **0.029** |
| **AGE** | **0.018** | **0.013** | **0.258** | **1.569** | **0.052** |
| **BIG 4** | **-0.218** | **0.032** | **-0.217** | **-3.001*** | **0.048** |
| **Loss t-1** | **0.346** | **0.013** | **0.375** | **3.265*** | **0.043** |
| **Summary of the results of the regression model according to the second model (testing the validity of the second hypothesis** | **Multiple correlation coefficient R = 0.768** | | | | |
| | ***Coefficient of determination R2=0.224*** | | | | |
| | ***Adjusted coefficient of determination Adjust R2=0.194*** | | | | |
| | **F value extracted from analysis of variance (ANOVA) = 106.738**<br>**P. value= 0.000** | | | | |
| | **Std . Error = 0.19** | | | | |

**Predictors: (Constant), OWN-CON, SIZE, LEV, ROA,GROW,AGE,BIG 4,Losst-1, Dependent Variable: ICWD**
**Source: Prepared by the researcher based on the analysis of SPSS output.**

The previous table shows that the adjusted coefficient of determination (Adjusted $R^2 = 0.194$) indicates that this model explains 19.4% of the variables influencing the disclosure of internal control weaknesses in the sample companies. Regarding the overall significance of the model used, it can be identified through the analysis of variance (ANOVA), where the calculated F-value is 106.738, which is much higher than the tabulated F-value at a high significance level (0.000). This indicates the high significance of the model used in the study and thus its suitability for achieving the study objectives.

The previous table also revealed a negative relationship between ownership concentration and internal control weaknesses, as indicated by the negative sign of the regression coefficient ($\beta1$) and its probability value (Sig. = 0.000). This indicates that ownership concentration in the hands of major shareholders imposes constraints on managerial opportunism and improves the quality of internal control, which is consistent with the studies of (Xiao Wang, et al., 2016 and Mindzak J. 2018).

As for the control variables, their impact on internal control weaknesses did not change from what was previously mentioned in the statistical analysis of the first hypothesis. It was found that some control variables have a negative relationship with internal control weaknesses and thus with the disclosure of internal control weaknesses, while some of these control variables have a positive relationship with internal control weaknesses, i.e., they contribute to the emergence of weaknesses in internal control.

The regression model to measure the impact of ownership concentration by major shareholders on the disclosure of internal control weaknesses in the sample companies can be formulated as follows:

$$ICWD_{I,t} = 0.029 - 0.257\ (OWN\text{-}CON_{I,t}) - 0.236\ (SIZE_{I,t}) + 0.023\ (LEV_{I,t}) - 0.176\ (ROA_{I,t}) + 0.317\ (GROW_{I,t}) + 0.018\ (AGE_{I,t}) - 0.218\ (BIG4_{I,t}) + 0.346\ (Loss_{I,t-1}) + \varepsilon_{it}$$

Based on the preceding analysis, the second hypothesis, which posits that there is a significant impact of ownership concentration on the disclosure of internal control weaknesses in Egyptian joint-stock companies, is approved.

**4-2-4-3 Testing the validity of the Third Hypothesis**

The third hypothesis states:

**H3: The financial expertise of the CEO affects the likelihood of disclosing internal control weaknesses in Egyptian joint-stock companies.**

The impact of the independent variable (CEO's financial experience) on the dependent variable (internal control weaknesses) is measured through the third empirical model to measure this relationship. This model can be statistically represented as follows:

ICWD I,t = β0 + β1( CEO.EXP I,t) + β2 (SIZE I,t)+ β3(LEV I,t) + β4(ROA I,t)+ β5 (AGE I,t) + β6(BIG4 I,t) + β7( GROW I,t ) + β8( Loss I,t-1 + εit

Where CEO.EXP represents the financial experience of the CEO in company i during year t.

The impact of the CEO's financial experience on the disclosure of internal control weaknesses can be measured through the following table:

**Table 9: Results of the multiple linear regression analysis (according to the third model)**

| Dependent variable | Internal control weakness disclosure ICWD | | | | |
|---|---|---|---|---|---|
| | Unstandardized Coefficients | | standardized Coefficients | T- Test | |
| Independent variables | B | Std. Error | Beta | T | P. value |
| Constant | 0.033 | 0.014 | | 2.568 | 0.021 |
| CEO-EXP | -0.298 | 0.017 | -0.159 | -6.195** | 0.000 |
| SIZE | -0. 236 | 0.012 | -0.236 | -4.007** | 0.000 |
| LEV | 0.023 | 0.035 | 0.197 | 2.475* | 0.030 |
| ROA | -0.176 | 0.018 | -0.312 | -2.094* | 0.040 |
| GROW | 0.317 | 0.014 | 0.273 | 2.648* | 0.029 |
| AGE | 0.018 | 0.013 | 0.258 | 1.569 | 0.052 |
| BIG 4 | -0.218 | 0.032 | -0.217 | -3.001* | 0.048 |
| Loss t-1 | 0.346 | 0.013 | 0.375 | 3.265* | 0.043 |
| Summary of the results of the regression model according to the third model (testing the validity of the third hypothesis | Multiple correlation coefficient R = 0.783 | | | | |
| | *Coefficient of determination R2=0.238* | | | | |
| | *Adjusted coefficient of determination Adjust R2=0.204* | | | | |
| | F value extracted from analysis of variance (ANOVA) = 109.201 P. value= 0.000 | | | | |
| | Std . Error = 0.21 | | | | |

**Predictors: (Constant), CEO-EXP, SIZE, LEV, ROA,GROW,AGE,BIG 4,Losst-1, Dependent Variable: ICWD**
**Source: Prepared by the researcher based on the analysis of SPSS output**

The researcher found from the previous table that the adjusted coefficient of determination (Adjusted $R^2 = 0.204$) reflects the explanatory power of the regression model. Regarding the overall significance of the model used, it can be identified through the analysis of variance (ANOVA), where the calculated F-value is 109.201, which is much higher than the tabulated F-value at a high significance level (0.000), indicating the high significance of the model used in the study and thus its suitability for achieving the study objectives.

Table 9 details the correlation between the CEO's financial experience and internal control weaknesses. The negative relationship between the CEO's financial experience coefficient (CEO-EXP) and internal control weaknesses (ICW) at a significance level of (0.000) indicates that the relationship between the financial experience of CEOs and internal control weaknesses is statistically significant. This suggests that CEOs with financial experience are associated with fewer internal control weaknesses. These results provide evidence supporting our hypothesis that the quality of internal control is higher in companies with a CEO who has financial experience compared to companies with a CEO who lacks financial experience.

This is evident from the negative sign of the regression coefficient ($\beta1$) and its

probability value (Sig. = 0.000), which means that if the CEO has financial and accounting experience, it will negatively affect internal control weaknesses, as the company will have fewer internal control weaknesses. This is consistent with the study of Ji et al., 2017).

As for the control variables, their impact on internal control weaknesses did not change from what was previously mentioned in the statistical analysis of the first hypothesis. It was found that some control variables have a negative relationship with internal control weaknesses and thus with the emergence of weaknesses in internal control, while some of these control variables have a positive relationship with internal control weaknesses and thus with the probability of increasing the emergence of weaknesses in internal control.

The regression model to measure the impact of the CEO's financial experience on the probability of disclosing internal control weaknesses in the sample companies can be formulated as follows:

$$ICWD\ I,t = 0.033 - 0.298\ (CEO\text{-}EXP\ I,t) - 0.236\ (SIZE\ I,t) + 0.023\ (LEV\ I,t) - 0.176\ (ROA\ I,t) + 0.317\ (GROW\ I,t) + 0.018\ (AGE\ I,t) - 0.218\ (BIG\ 4\ I,t) + 0.346\ (Loss\ I,t\text{-}1) + \varepsilon it$$

Based on the preceding analysis, the third hypothesis, which posits that there is a significant impact of the CEO's financial experience on the disclosure of internal control weaknesses in Egyptian joint-stock companies, is approved.

**4-2-4-4 Testing the validity of the Fourth Hypothesis**

The fourth hypothesis states:

**H4: The combined effect of audit committee characteristics, CEO financial expertise, ownership structure, and other control variables increases the impact on disclosing internal control weaknesses in Egyptian joint-stock companies.**

The combined impact of the independent variables on the dependent variable is measured through the fourth empirical model to measure this relationship. This model can be statistically represented as follows:

$$ICWD_{I,t} = \beta 0 + \beta 1(AC.EXP_{I,t}) + \beta 2(PDI_{I,t}) + \beta 3(CEO.EXP_{I,t}) + \beta 4(OWN.CON_{I,t}) + + \beta 5(SIZE_{I,t}) + \beta 6(LEV_{I,t}) + \beta 7(ROA_{I,t}) + \beta 8(AGE_{I,t}) + \beta 9(BIG4_{I,t}) + \beta 10(GROW_{I,t}) + \beta 11(Loss_{I,t-1} + \varepsilon it$$

The researcher used the Ordinary Least Squares (OLS) method to formulate the regression model (the fourth empirical model) to measure the combined effect of audit committee characteristics, CEO experience, ownership concentration of major shareholders, and control variables on the probability of disclosing internal control weaknesses (as a dependent variable).

## Table 10: Results of the multiple linear regression analysis (according to the fourth model)

| Dependent variable | Internal control weakness ICWD | | | | |
|---|---|---|---|---|---|
| | Unstandardized Coefficients | | standardized Coefficients | T- Test | |
| Independent variables | B | Std. Error | Beta | T | P. value |
| Constant | 0.041 | 0.009 | | 3.554 | 0.027 |
| AC-EXP | -0.315 | 0.006 | -0.143 | -6.463** | 0.000 |
| PDI | -0.197 | 0.016 | -0.248 | -2.915 | 0.037 |
| CEO-EXP | -0.324 | 0.016 | -0.184 | -4.893 | 0.000 |
| OWN-CON | -0.296 | 0.019 | -0.239 | -3.974 | 0.000 |
| SIZE | -0. 236 | 0.012 | -0.236 | -4.007** | 0.000 |
| LEV | 0.023 | 0.035 | 0.197 | 2.475* | 0.030 |
| ROA | -0.176 | 0.018 | -0.312 | -2.094* | 0.040 |
| GROW | 0.317 | 0.014 | 0.273 | 2.648* | 0.029 |
| AGE | 0.018 | 0.013 | 0.258 | 1.569 | 0.052 |
| BIG 4 | -0.218 | 0.032 | -0.217 | -3.001* | 0.048 |
| Loss t-1 | 0.346 | 0.013 | 0.375 | 3.265* | 0.043 |
| Summary of the results of the regression model according to the fourth model (testing the validity of the fourth hypothesis | Multiple correlation coefficient R = 0.768 | | | | |
| | *Coefficient of determination R2=0.633* | | | | |
| | *Adjusted coefficient of determination Adjust R2=0.614* | | | | |
| | F value extracted from analysis of variance (ANOVA) = 197.381 P. value= 0.000 | | | | |
| | Std . Error = 0.23 | | | | |

**Predictors: (Constant), AC-EXP,PDI,CEO-EXP,OWN-CON SIZE, LEV, ROA,GROW,AGE,BIG 4,Losst-1,**
**Dependent Variable: ICWD**

**Source: Prepared by the researcher based on the analysis of SPSS output**

From the previous table, the researcher found that the adjusted coefficient of determination (Adjusted $R^2 = 0.614$) reflects the strong explanatory power of the regression model, meaning that the combined effect of the independent and control variables influences the disclosure of internal control weaknesses by 61.4%. Regarding the overall significance of the model used, it can be identified through the analysis of variance (ANOVA), where the calculated F-value is (197.381), which is much higher than the tabulated F-value at a high significance level (0.000), indicating the high significance of the model used in the study and thus its suitability for achieving the study objectives.

Table 10 details the correlation between the independent variables and internal control weaknesses, with a correlation coefficient of (0.768), indicating a strong relationship between the study variables. The negative relationship between all independent variables and internal control weaknesses (ICW) at a significance level of (0.000) indicates that the negative relationship between the independent variables and internal control weaknesses is statistically and economically significant, suggesting that the combined effect of the financial and accounting experience of audit committee members, CEO financial experience, ownership structure, and other control variables negatively affects internal control weaknesses, i.e., is associated with fewer internal control weaknesses (ICW).

The table shows that the regression coefficients (β1, β2, β3, β4) are all negative and have a probability value of (Sig. = 0.000), which means that there is a negative relationship between these independent variables and internal control weaknesses. These results are consistent with previous studies of (Lisic, L. L. et al., 2017) and (SHIJUN CHENG et al., 2019).

As for the control variables, their impact on internal control weaknesses did not change from what was previously mentioned in the statistical analysis of the previous hypotheses. It was found that some control variables have a negative relationship with weaknesses in internal control and thus a lower probability of weaknesses appearing in internal control reports (ICR), while some of these control variables have a positive relationship with internal control weaknesses and thus a higher probability of weaknesses appearing in internal control reports (ICR).

These results provide evidence supporting our hypothesis that the quality of internal control is higher in companies with an audit committee that has financial and accounting expertise, a CEO with financial experience, and concentrated ownership compared to companies that do not have such characteristics.

The regression model to measure the combined effect of audit committee characteristics, CEO experience, ownership concentration of major shareholders (as independent variables) on the probability of disclosing internal control weaknesses (as a dependent variable) in the sample companies can be formulated as follows:

$$ICWD\ I,t = 0.041 – 0.315(AC.EXP\ I,t) - 0.197\ (PDI\ I,t)- 0.324\ (CEO.EXP\ I,t)- 0.296\ (OWN.CON\ I,t)-0.236\ (SIZE\ I,t)+ 0.023(LEV\ I,t) -0.176\ (ROA\ I,t)+ 0.018\ (AGE\ I,t) - 0.218(BIG4\ I,t) + 0.317(GROW\ I,t) + 0.346(Loss\ I,t-1 + \varepsilon it$$

Based on the preceding analysis, the fourth hypothesis, which posits a strong and significant impact of audit committee characteristics, CEO experience, and ownership concentration by major shareholders on the disclosure of internal control weaknesses in Egyptian joint-stock companies, is approved.

Furthermore, our results confirm the validity of all four hypotheses (H1, H2, H3, and H4), demonstrating that the probability of disclosing internal control weaknesses (ICW) is influenced by audit committee characteristics, ownership structure, CEO financial experience, and company economic characteristics. This confirms the alignment of the empirical aspect of the study with the theoretical aspects and the results of some previous studies in foreign countries.

**5- Results, Recommendations, and Future Research**

Based on the findings of the research conducted by the researcher on both the theoretical and empirical aspects, the researcher arrived at a set of results, recommendations, and suggestions for future research related to this topic, as follows:

## 5-1 The study Results

The most significant findings of the study are as follows:

- This study aims to measure the impact of certain variables on the disclosure of internal control weaknesses in Egypt, in addition to identifying the economic effects of voluntary disclosure of internal control weaknesses. The disclosure of internal control weaknesses is influenced by many variables, most notably the financial and accounting expertise of the audit committee, the financial experience of the CEO, ownership concentration of major shareholders, in addition to some company characteristics such as company size, growth rate, auditor firm size, and company age.
- It is possible to distinguish between two main types of ownership structures in joint-stock companies: concentrated ownership and dispersed ownership. The first type includes ownership by major shareholders, ownership by financial institutions, managerial ownership, and state ownership, while the second type refers to the dispersion of ownership among a large number of company shareholders.
- The results of the empirical study support the four hypotheses, which state that the characteristics of the audit committee, ownership concentration of major shareholders, and the financial experience of the CEO all have an impact on the disclosure of internal control weaknesses, and that the

combined effect of all these elements increases the degree of impact on the disclosure of internal control weaknesses.

- Connected companies are less likely to disclose material weaknesses in internal control (ICW) if there are connections, through an audit committee member, to another company that has previously disclosed material weaknesses in its own internal control (ICW).
- The evidence provided by this study shows that information related to companies' internal control weaknesses is useful for investors in making appropriate investment decisions in the Egyptian environment, despite the differences in institutional settings between Egypt and some Western countries. All investors have a common desire to invest in companies with fewer internal control problems and a higher potential to generate future profits.
- In this study, we assume that if a company decides to voluntarily disclose internal control weaknesses, it will disclose all internal control weaknesses in the issued ICR report.
- Companies are more likely to be identified as having internal control weaknesses if they do not have audit committees with accounting and financial expertise.
- Companies audited by Big-4 auditors have fewer ICW.

- There is a significant negative correlation between ownership structure (concentration of ownership by major shareholders) and the number of ICW.
- The relationship between the financial experience of CEOs and ICW is statistically and significantly negative, indicating that the financial experience of the CEO is associated with a smaller number of ICW.
- CEOs with financial experience who are appointed from within the company can significantly improve company performance by reducing ICW due to their knowledge of the company's financial and internal control processes.
- The results of this study are consistent with previous research that shows that larger companies have more resources to establish an effective internal control system and are more likely to have more controlled processes and procedures for financial reporting.
- This study has important implications for regulators regarding the importance of improving the quality of financial reporting and the effectiveness of internal control in providing reliable financial information to investors, especially in emerging markets. The results can help regulators and policymakers around the world in developing future financial reporting policies. In addition, our results may be useful for auditors when assessing risks related to internal control weaknesses for their clients, as well as for

shareholders and boards of directors when contracting with a new CEO.

- This study is one of the few studies that provides empirical evidence of the impact of these variables on internal control weaknesses and the economic consequences of disclosing internal control weaknesses in the Egyptian environment.
- The results of this study show that there are positive outcomes associated with the disclosure of internal control weaknesses, even in a different regulatory environment such as Egypt, where we find that the quality of internal control in companies can lead to high-quality financial reports, which in turn improve the quality of earnings.
- The results of the study indicate that the experiences of the previous manager (manager's experience) outside the company affect the work of audit committees within the company. One logical reason is that the manager's previous experience with reverse disclosure helps to disseminate important ideas and acts as a catalyst for making improvements in internal control practices and financial reporting.
- The non-disclosure of ICW by auditors does not necessarily mean that the company does not have internal control problems.
- Since most internal control systems are designed to protect the financial reporting process, it follows that internal control

weaknesses reduce the quality of financial reporting and that improvements in internal control improve the quality of financial reporting.

- Investors are more sensitive to internal control weaknesses related to accounting and financial aspects than to other non-accounting aspects.

## 5-2 The recommendations

In light of the previous results, the researcher recommends the following:

- Companies should be committed to disclosing internal control weaknesses, as non-disclosure of internal control weaknesses may have negative effects on the company. Investors may see this as an attempt by managers to hide bad news, which negatively affects the company's share price on the stock market.
- It is necessary to pay attention to activating the study variables in Egyptian companies, such as activating the quality of audit committees and selecting a CEO with previous experience, especially financial experience, in addition to choosing the appropriate ownership structure to increase the quality of internal control, given the importance of these variables in increasing the quality of internal control and thus protecting investors' money.

## 5-3 Future Research

In light of the results and recommendations of the study, there are some research directions that future researchers can address related to this study, most importantly:

- The possibility of expanding the characteristics of CEOs, where future studies can take a step forward to continue investigating the relationship between CEO characteristics other than financial experience (such as race, national culture, personality, appointment from within or outside the company) and internal control weaknesses.
- The accounting implications of internal control weaknesses on the risk of stock price crashes in the Egyptian market can be addressed.
- Future research can conduct a comparative study to measure the impact of the independent variables included in the study between Egypt and another country to understand the impact of the environment on measuring these variables with the possibility of adding other variables, such as the independence of external auditors and the selection of foreign managers in companies, as these variables are expected to become the subject of future research.

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