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## When Internal Audit Constrains Managerial Decisions: A Causal Structural–Behavioral Analysis of Financial Reporting Risk-Taking and Disclosure Dynamics - Evidence from Egypt

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### Abstract

**Purpose:** This study develops a causal structural–behavioral framework explaining how internal audit operates as a pre-decision governance constraint that reshapes managerial risk-taking and, consequently, financial reporting outcomes. It challenges conventional audit paradigms that treat reporting as a mechanical reflection of risk, proposing instead that reporting outcomes emerge from governance-driven behavioral processes.

**Methodology / Design / Approach:** The study adopts a rigorous archival design based on manually verified data extracted from audited financial statements and signed auditor reports of firms associated with the EGX30. It integrates econometric analysis with cross-case and configurational approaches to capture structural, institutional, and behavioral interactions.

**Findings:** The evidence demonstrates that reporting outcomes are not risk-determined but structurally and behaviorally constructed. Reporting timing is shaped by fiscal configurations, while disclosure dynamics—particularly KAM—reflect auditor judgment and institutional constraints. Notably, significant heterogeneity

persists even within identical audit environments, indicating that reporting is governed by contextual and behavioral mechanisms.

**Originality and Value:** The study introduces the concept of Pre-Decision Internal Audit Constraint (PDIAC) and advances a structural–behavioral model that redefines financial reporting as an outcome of governance architecture rather than audit procedures alone.

**Theoretical Implications:** It extends audit theory by integrating governance, behavioral judgment, and structural determinants into a unified explanatory model.

**Practical Implications:** It provides regulators and audit firms with insights into improving reporting consistency and disclosure quality through governance redesign.

**Economic Implications:** It enhances market efficiency by clarifying the determinants of reporting heterogeneity and reducing information asymmetry.

**Social Implications:** It strengthens accountability and transparency, reinforcing trust in financial reporting systems.

**Keywords:** Internal Audit, Governance, Risk-Taking, Disclosure, Audit Behavior, Egypt

### 1. Introduction

#### 1.1 Background and Research Context

The evolution of internal audit over the past decade reflects a profound shift in its functional identity—from a retrospective assurance mechanism to a forward-looking governance instrument embedded within managerial decision processes. Contemporary governance frameworks increasingly recognize internal audit as a strategic actor capable of influencing risk formation rather than merely evaluating its consequences (Eulerich *et al.*, 2021; Roussy & Perron, 2022 <sup>[39]</sup>).

This transformation is closely linked to the growing complexity of organizational environments, where decision-making under uncertainty has become the dominant paradigm. In such contexts, risks do not emerge solely from operational failures but are often embedded within managerial choices themselves. Consequently, governance mechanisms that operate prior to decision execution have become critical in shaping organizational outcomes (Khelif *et al.*, 2022 <sup>[33]</sup>; Drogalas *et al.*, 2023).

Parallel to these developments, audit reporting has undergone substantial reform, particularly with the introduction of expanded auditor reporting requirements, including Key Audit Matters (KAM). These reforms were designed to enhance

transparency and improve the informational value of audit reports by providing insights into the most significant audit issues (IAASB, 2020; Lennox *et al.*, 2023) <sup>[32, 36]</sup>. However, the empirical implementation of these reforms has revealed a fundamental paradox: despite standardized requirements, audit reporting remains highly heterogeneous.

This heterogeneity is evident not only across jurisdictions but also within the same regulatory environment, where firms subject to identical standards exhibit markedly different reporting behaviors (Velte, 2022; Sierra-García *et al.*, 2021) <sup>[43, 40]</sup>. Such variation challenges the foundational assumption that audit reporting is a direct and objective reflection of underlying risk.

Traditional explanations attribute differences in reporting outcomes to firm-specific factors, such as size, complexity, and financial condition (Habib *et al.*, 2021; Alfraih, 2021) <sup>[29, 3]</sup>. While these factors undoubtedly play a role, they fail to account for the observed inconsistencies in disclosure practices, particularly in relation to KAM. This suggests that audit reporting is influenced by additional dimensions beyond technical audit considerations.

Recent research has begun to highlight the role of behavioral and institutional factors in shaping audit outcomes. Auditor judgment, communication strategies, and contextual influences have been identified as key determinants of reporting practices (Carpenter & Reimers, 2023; Boolaky & Soobaroyen, 2022). These insights point to the need for a broader conceptual framework that integrates governance, behavior, and structure.

Accordingly, this study positions internal audit at the center of this framework, proposing that its influence extends beyond internal control evaluation to shaping managerial decisions and, ultimately, financial reporting outcomes. By constraining managerial risk-taking at the decision stage, internal audit may fundamentally alter the conditions under which audit reporting occurs.

## 1.2 Problem Statement

Despite the conceptual and regulatory advancements in audit reporting, a critical gap persists in understanding the determinants of reporting outcomes. Existing research continues to rely heavily on a risk-based paradigm, which assumes that reporting characteristics—such as disclosure intensity and reporting timing—are direct reflections of firm-level risk and audit complexity (Habib *et al.*, 2021; Lennox *et al.*, 2023) <sup>[29, 36]</sup>. However, this assumption is increasingly challenged by empirical evidence.

In practice, firms operating under identical regulatory frameworks frequently produce divergent reporting outcomes, particularly with respect to Key Audit Matters (KAM). Even more striking, such variation is observed among firms audited by the same audit networks, suggesting that reporting is not solely determined by standardized methodologies (Reid *et al.*, 2022; Velte, 2022) <sup>[38, 43]</sup>.

This inconsistency reveals a fundamental limitation in the prevailing literature: the failure to account for non-technical determinants of reporting, including governance structures and behavioral influences. Recent studies indicate that auditor judgment, institutional pressures, and contextual factors play a significant role in shaping reporting practices (Carpenter & Reimers, 2023; Boolaky & Soobaroyen, 2022).

At the same time, the literature has largely overlooked the role of internal audit as a driver of external reporting

outcomes. While internal audit has been extensively studied in relation to internal control effectiveness and risk management, its influence on financial reporting behavior—particularly at the decision stage—remains underexplored (Eulerich *et al.*, 2021; Roussy & Perron, 2022 <sup>[39]</sup>).

Moreover, structural factors such as fiscal year-end configuration and institutional audit arrangements are typically treated as control variables rather than core explanatory elements. This limits the explanatory power of existing models and fails to capture the systemic nature of reporting outcomes (Khlif *et al.*, 2022; Elmarzouky *et al.*, 2021) <sup>[33, 20]</sup>.

Accordingly, the central problem addressed by this study is the absence of an integrated framework that explains financial reporting outcomes as a function of pre-decision governance constraints, structural configurations, and behavioral processes.

## 1.3 Research Objectives and Questions

Building on the identified gap, this study aims to develop a causal structural-behavioral explanation of financial reporting outcomes.

The primary objectives are as follows:

1. To reconceptualize financial reporting outcomes as governance-driven constructs, rather than purely technical outputs.
2. To examine the role of internal audit as a pre-decision constraint on managerial risk-taking.
3. To identify the structural and institutional determinants of reporting timing and disclosure dynamics.
4. To explain the observed heterogeneity in audit reporting within a unified framework.

To achieve these objectives, the study addresses the following research questions:

- Why do firms operating under the same regulatory environment exhibit heterogeneous disclosure behavior?
- To what extent does internal audit influence reporting outcomes before decisions materialize?
- How do structural factors, such as fiscal year-end, shape reporting timing?
- What is the role of institutional audit configurations in constraining disclosure practices?
- Does audit reporting reflect risk, or does it reflect behavioral and governance dynamics?

## 1.4 Significance and Contributions

This study makes several contributions to the audit and accounting literature.

First, it introduces a novel conceptual perspective by positioning internal audit as a pre-decision governance constraint, rather than a retrospective assurance function. This extends prior research on internal audit effectiveness by highlighting its influence on managerial behavior and risk formation (Roussy & Perron, 2022 <sup>[39]</sup>; Eulerich *et al.*, 2021).

Second, the study offers a behavioral reinterpretation of disclosure practices, particularly KAM. It demonstrates that disclosure is not solely a function of audit risk but reflects auditor judgment, institutional context, and communication strategy (Reid *et al.*, 2022; Sierra-García *et al.*, 2021) <sup>[38, 40]</sup>.

Third, it introduces a structural dimension by emphasizing the role of fiscal configurations and institutional audit structures as key determinants of reporting outcomes. This

challenges the traditional focus on firm-level variables and highlights the importance of system-level factors (Habib *et al.*, 2021; Khlif *et al.*, 2022) <sup>[29, 33]</sup>.

Fourth, the study adopts a methodological contribution through the use of manually extracted data from signed audit reports, enhancing data reliability and transparency (Elmarzouky *et al.*, 2021) <sup>[20]</sup>.

Finally, the study contributes empirical evidence from an emerging market context, addressing the underrepresentation of such settings in audit research (Alfraih, 2021 <sup>[3]</sup>; Boolaky & Soobaroyen, 2022).

## 1.5 Structure of the Paper

The remainder of this paper is structured as follows.

1. Reviews the relevant literature and establishes the theoretical foundations of the study.
2. Develops the conceptual framework and research hypotheses.
3. Presents the research methodology and data construction process.
4. Reports the empirical findings.
5. Discusses the results in relation to theory and prior research and evaluates the hypotheses.
6. Concludes the study and outlines future research directions.

## 2. Literature Review and Theoretical Framework

### 2.1 Audit Reporting and Disclosure

Audit reporting has undergone a fundamental transformation following the introduction of expanded reporting standards, particularly the requirement to disclose Key Audit Matters (KAM). These reforms were introduced to enhance transparency and improve communication between auditors and users of financial statements (IAASB, 2020; Lennox *et al.*, 2023) <sup>[32, 36]</sup>.

Prior literature suggests that expanded audit reporting improves the informational value of audit reports by providing insights into areas of significant audit attention (Gutierrez *et al.*, 2021) <sup>[28]</sup>. However, subsequent evidence indicates that the effectiveness of KAM disclosures remains mixed, with some studies suggesting that disclosures may become standardized over time, reducing their usefulness (Sierra-García *et al.*, 2021; Velte, 2022) <sup>[40, 43]</sup>.

A central dimension of audit reporting research concerns audit report lag (ARL), which reflects the timeliness of reporting. ARL has been widely studied as an indicator of audit efficiency and reporting quality (Habib *et al.*, 2021) <sup>[29]</sup>. Empirical findings indicate that ARL is influenced by firm size, complexity, and financial condition, as well as auditor characteristics.

However, these traditional determinants do not fully explain observed variation in reporting timing. Firms with similar characteristics often exhibit different reporting delays, suggesting that additional factors influence reporting outcomes (Elmarzouky *et al.*, 2021) <sup>[20]</sup>.

Similarly, research on KAM disclosures shows that disclosure practices vary significantly across firms and auditors. Even within the same regulatory environment, auditors may differ in their selection and presentation of KAM (Reid *et al.*, 2022) <sup>[38]</sup>. This indicates that audit reporting is not purely a mechanical outcome of audit procedures.

Recent studies emphasize that audit reporting reflects not only technical factors but also behavioral and institutional

influences (Carpenter & Reimers, 2023; Boolaky & Soobaroyen, 2022). Auditors exercise professional judgment when determining what to disclose and how to communicate it, leading to variation in reporting outcomes.

These findings suggest that audit reporting should be understood as a multi-dimensional construct, shaped by interactions between risk, governance, and behavior.

### 2.2 Internal Audit and Governance

Internal audit has evolved from a traditional assurance function into a core component of corporate governance systems. Contemporary literature recognizes internal audit as a mechanism that contributes to risk management, control effectiveness, and organizational accountability (Eulerich *et al.*, 2021; Roussy & Perron, 2022) <sup>[39]</sup>.

A key stream of research focuses on the determinants of internal audit effectiveness. These include independence, competence, organizational support, and the relationship with the audit committee (Alzeban, 2020) <sup>[4]</sup>. Empirical evidence indicates that strong internal audit functions enhance governance quality and reduce control weaknesses, thereby improving financial reporting environments.

Recent studies extend this perspective by emphasizing the interaction between internal audit and other governance mechanisms. Internal audit does not operate in isolation; rather, its effectiveness depends on its integration within broader governance structures (Drogalas *et al.*, 2023; Khlif *et al.*, 2022) <sup>[33]</sup>. This interaction influences both internal processes and external reporting outcomes.

Importantly, emerging research suggests that internal audit may influence managerial behavior, particularly in relation to risk-taking. By providing continuous monitoring and advisory functions, internal audit can shape decision-making processes before risks materialize (Roussy & Perron, 2022) <sup>[39]</sup>. This shifts its role from a reactive control function to a proactive governance mechanism.

Despite these developments, the literature has largely focused on internal audit outcomes such as control quality and financial performance. Its potential impact on external audit reporting, including disclosure practices, remains underexplored. This represents a critical gap, as internal audit may influence the quality of underlying financial information and, consequently, audit reporting.

### 2.3 Behavioral Accounting and Audit Judgment

Audit reporting cannot be fully understood without considering the role of human judgment. Behavioral research demonstrates that auditors operate under uncertainty and rely on professional judgment when evaluating risk and determining reporting content (Griffith *et al.*, 2020) <sup>[27]</sup>; Carpenter & Reimers, 2023).

Auditor judgment is influenced by cognitive factors, including heuristics and biases. These factors may lead to variation in audit decisions across similar engagements. As a result, audit outcomes are not purely technical but reflect behavioral processes (Griffith *et al.*, 2020) <sup>[27]</sup>.

In the context of KAM disclosures, judgment plays a central role. Auditors must determine which issues are significant enough to be disclosed and how they should be communicated. Empirical evidence indicates that KAM disclosures vary significantly across auditors and firms, even when underlying risk levels are comparable (Reid *et al.*, 2022; Sierra-García *et al.*, 2021) <sup>[38, 40]</sup>.

Moreover, audit reporting involves strategic considerations.

Auditors may balance transparency with concerns about litigation risk and professional reputation (Gutierrez *et al.*, 2021) [28]. This suggests that disclosure practices are shaped not only by risk but also by incentives and constraints.

Additionally, interactions between auditors and clients may influence reporting outcomes. Negotiations and relational dynamics can affect audit decisions, further contributing to variability in reporting practices (Sirois *et al.*, 2021) [41].

These findings highlight that audit reporting is inherently behavioral, requiring an integrated perspective that considers both technical and human factors.

#### 2.4 Institutional and Structural Perspectives

Audit reporting practices are embedded within broader institutional environments that shape both the behavior of auditors and the structure of reporting outcomes. Institutional theory suggests that organizations adopt practices not only for efficiency but also to achieve legitimacy within regulatory and professional frameworks (Boolaky & Soobaroyen, 2022).

In the context of auditing, institutional factors such as regulatory enforcement, legal systems, and governance structures play a critical role in shaping audit reporting. These factors influence how auditing standards are interpreted and implemented in practice (Khlif *et al.*, 2022) [33]. As a result, audit reporting outcomes may reflect institutional constraints rather than purely technical assessments of risk.

One important structural dimension is the audit system configuration. In some environments, firms operate under hybrid systems that involve both private audit firms and public-sector oversight bodies. Such arrangements may impose additional layers of control, leading to more standardized reporting practices (Elmarzouky *et al.*, 2021) [20]. While this can enhance consistency, it may also reduce the flexibility of auditors to exercise judgment.

Another structural factor is the fiscal year-end configuration, which affects the timing of reporting processes. Differences in fiscal year-end can influence auditor workload distribution and reporting deadlines, thereby affecting audit report timing (Habib *et al.*, 2021) [29]. Despite its importance, this factor is often treated as a control variable rather than a central determinant.

Furthermore, emerging markets introduce additional institutional complexity. Compared to developed economies, these environments may exhibit weaker enforcement mechanisms and greater variability in governance practices (Alfraih, 2021) [3]. This variability contributes to the heterogeneity observed in audit reporting outcomes.

Empirical studies confirm that institutional environments significantly influence audit reporting. Differences in regulatory frameworks and governance structures have been shown to affect both disclosure practices and reporting timing (Velte, 2022; Sierra-García *et al.*, 2021) [43, 40].

#### 2.5 Literature Gaps and Research Positioning

Despite the extensive literature reviewed above, several critical gaps remain.

First, the dominant perspective in audit research continues to rely on a risk-based explanation of reporting outcomes. This approach assumes that audit reports are direct reflections of firm-level risk and complexity (Habib *et al.*, 2021; Lennox *et al.*, 2023) [29, 36]. However, empirical evidence demonstrates that similar firms often exhibit different

reporting behaviors, suggesting that risk alone cannot explain reporting variation.

Second, the literature on KAM disclosures has primarily focused on their informational value and market consequences, rather than their determinants. As a result, KAM are often treated as outputs of audit processes rather than as outcomes shaped by auditor judgment and institutional context (Reid *et al.*, 2022) [38].

Third, the role of internal audit in influencing external reporting outcomes remains underdeveloped. While internal audit has been extensively studied in relation to internal control and governance, its impact on audit reporting has received limited attention (Eulerich *et al.*, 2021; Roussy & Perron, 2022) [39].

Fourth, structural factors such as fiscal year-end and audit system configuration are rarely theorized as central determinants. Instead, they are typically included as control variables, limiting their explanatory role (Khlif *et al.*, 2022) [33].

Finally, there is a lack of integration across behavioral, institutional, and governance perspectives. Existing studies tend to focus on individual dimensions, resulting in fragmented explanations of audit reporting.

#### Research Positioning

This study addresses these gaps by developing an integrated structural-behavioral governance framework. It reconceptualizes financial reporting outcomes as:

- Governance-driven, rather than purely risk-driven
- Behaviorally shaped, rather than mechanically determined
- Structurally conditioned, rather than firm-specific

At the center of this framework is the concept of Pre-Decision Internal Audit Constraint (PDIAC), which captures the role of internal audit in shaping managerial decisions before risks materialize.

This perspective provides a more comprehensive explanation of audit reporting outcomes by integrating governance mechanisms, institutional structures, and behavioral processes into a unified analytical model.

### 3. Conceptual Framework and Hypotheses Development

#### 3.1 Reframing the Role of Internal Audit

The traditional role of internal audit has long been conceptualized as an ex-post assurance mechanism focused on evaluating internal controls and ensuring compliance with established procedures. Within this conventional paradigm, internal audit is positioned as a retrospective function, assessing managerial actions after they have already been implemented (Alzeban, 2020 [4]; Eulerich *et al.*, 2021).

However, recent developments in governance and auditing literature suggest that this perspective is increasingly insufficient. Organizations now operate in highly dynamic environments characterized by uncertainty, complexity, and rapid decision cycles. In such contexts, risks are often embedded within managerial decisions themselves rather than arising solely during execution (Roussy & Perron, 2022 [39]; Drogalas *et al.*, 2023).

This shift has led to a growing recognition of internal audit as a proactive governance mechanism. Rather than merely detecting deviations, internal audit contributes to shaping managerial behavior through continuous monitoring, advisory functions, and risk anticipation (Eulerich *et al.*,

2021; Khlif *et al.*, 2022<sup>[33]</sup>). This expanded role aligns with contemporary governance frameworks that emphasize the importance of preventive controls.

From a theoretical perspective, this transformation can be understood through the lens of agency theory and governance theory. Internal audit reduces information asymmetry and mitigates agency conflicts by providing independent oversight and risk assessment (Khlif *et al.*, 2022)<sup>[33]</sup>. At the same time, it influences managerial incentives and decision-making processes.

Empirical research supports this reconceptualization. Studies have shown that effective internal audit functions are associated with improved governance quality, enhanced financial reporting, and reduced risk exposure (Alzeban, 2020<sup>[4]</sup>; Eulerich *et al.*, 2021). However, these studies primarily focus on internal outcomes, leaving the relationship between internal audit and external reporting largely unexplored.

### 3.2 Pre-Decision Internal Audit Constraint (PDIAC)

Building on this reconceptualization, this study introduces the concept of Pre-Decision Internal Audit Constraint (PDIAC).

PDIAC refers to the extent to which internal audit constrains managerial decision-making before risks materialize into observable outcomes. Unlike traditional measures of internal audit effectiveness, which focus on outcomes such as control quality, PDIAC captures the process-level influence of internal audit.

The conceptual foundation of PDIAC integrates three theoretical perspectives.

First, from a governance perspective, internal audit acts as a monitoring mechanism that constrains opportunistic behavior and aligns managerial decisions with organizational objectives (Khlif *et al.*, 2022<sup>[33]</sup>; Eulerich *et al.*, 2021).

Second, from a behavioral perspective, internal audit influences how managers perceive and evaluate risk. Behavioral research indicates that decision-making under uncertainty is subject to cognitive biases and heuristics (Griffith *et al.*, 2020<sup>[27]</sup>; Carpenter & Reimers, 2023). The presence of a strong internal audit function can mitigate these biases by introducing structured evaluation processes.

Third, from an institutional perspective, internal audit operates within a broader governance environment shaped by regulatory frameworks and organizational norms (BooLaky & Soobaroyen, 2022). These institutional factors influence both the scope and effectiveness of internal audit.

Within this integrated framework, PDIAC is conceptualized as a latent construct that affects observable outcomes indirectly. Specifically, it is expected to influence:

- The quality of financial information,
- The complexity of audit engagements,
- And the nature of audit reporting outcomes.

This perspective represents a significant departure from traditional audit models, which treat reporting outcomes as direct functions of risk and audit procedures. Instead, PDIAC positions reporting outcomes as the result of governance-driven processes.

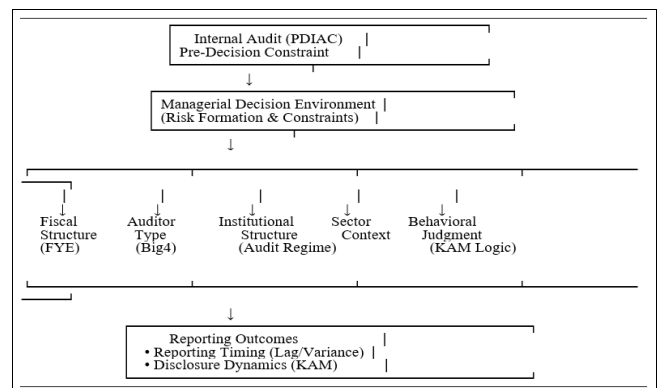
### 3.3 Structural–Behavioral Model of Reporting Outcomes

Building on the PDIAC concept, this study develops a structural–behavioral model that explains reporting outcomes as the product of interactions among governance

constraints, audit structures, and behavioral judgment. The model departs from the conventional assumption that reporting outcomes are mechanically determined by firm-level risk. Instead, it proposes that financial reporting outcomes are shaped through an intermediate governance process in which internal audit constrains managerial discretion before risk materializes into reporting consequences.

At the structural level, reporting outcomes are influenced by factors that shape the timing, organization, and institutional context of the reporting process. Prior literature on audit report lag demonstrates that reporting timeliness is sensitive not only to firm complexity but also to organizational and procedural conditions, including the sequencing of financial close, audit workload concentration, and auditor-client coordination (Habib *et al.*, 2021; Elmarzouky *et al.*, 2021)<sup>[29, 20]</sup>. This implies that reporting timing should not be treated solely as a residual indicator of audit efficiency, but as an outcome structurally conditioned by the firm's reporting architecture.

Fig 1 presents the proposed structural–behavioral governance model, illustrating how internal audit—conceptualized as a pre-decision constraint (PDIAC)—influences financial reporting outcomes indirectly through its effect on managerial decision-making. The model integrates structural, behavioral, institutional, and contextual factors, demonstrating that reporting outcomes are not direct reflections of risk but are constructed through governance mechanisms and auditor judgment.



**Fig 1:** Structural–Behavioral Governance Model of Financial Reporting Outcomes

At the behavioral level, reporting outcomes are mediated by professional judgment. Expanded audit reporting literature shows that disclosures such as Key Audit Matters (KAM) are not simply technical translations of risk assessments. Rather, they involve choices regarding relevance, salience, wording, and communicative emphasis (Reid *et al.*, 2022; Sierra-García *et al.*, 2021)<sup>[38, 40]</sup>. This means that two firms with comparable levels of underlying risk may still produce different disclosure outcomes if auditors differ in judgment, communication strategy, or engagement-specific interpretation.

The model therefore assumes that governance mechanisms influence reporting outcomes in two stages. In the first stage, internal audit constrains managerial decision-making and reduces the likelihood that aggressive or weakly supported reporting choices will survive into the external reporting process. In the second stage, external reporting outcomes are shaped by the interaction between the

resulting information environment and auditor judgment. In this sense, reporting outcomes are not direct reflections of risk; they are constructed outputs emerging from governance and behavioral filters.

This interpretation is consistent with evidence showing that expanded audit reports do not always map cleanly onto observable firm risk, and that the usefulness and specificity of such reports depend on contextual and engagement-level factors (Gutierrez *et al.*, 2021; Lennox *et al.*, 2023) [28, 36]. It is also consistent with review-based evidence suggesting that KAM practices vary across institutional environments, indicating that disclosure behavior is partly embedded in local reporting cultures and enforcement regimes (Velte, 2022) [43].

Accordingly, the proposed model treats reporting outcomes as multidimensional. One dimension is temporal, reflected in reporting timing variation. Another is disclosure-based, reflected in the presence or absence of KAM and the broader communicative richness of the report. Both dimensions are understood as downstream consequences of pre-decision governance constraints combined with structural and behavioral influences.

### 3.4 Linking Explanatory Variables to Reporting Outcomes

To operationalize the structural-behavioral model, the study identifies a set of observable explanatory variables that capture the mechanisms through which PDIAC is expected to shape reporting outcomes.

The first variable is fiscal year-end configuration. Prior research on reporting timeliness shows that the timing of financial statement issuance is influenced by the periodic structure within which reporting takes place (Habib *et al.*, 2021) [29]. Firms with non-December year-ends may face different reporting cycles, auditor scheduling patterns, and regulatory timing effects, which may influence the architecture of reporting rather than merely its speed. Within the present framework, fiscal year-end is treated as a structural condition affecting the temporal dimension of reporting outcomes.

The second variable is auditor type. The literature has frequently used Big4 affiliation as a proxy for audit quality,

but recent studies suggest that auditor type may also reflect differences in methodology, disclosure culture, and communication style (Velte, 2022; Lennox *et al.*, 2023) [43, 36]. In the present framework, auditor type is therefore not treated as a simple quality proxy; rather, it is understood as a behavioral-institutional mechanism that may influence the likelihood and form of enhanced disclosures.

The third variable is institutional audit structure, especially whether reporting occurs under a single private-audit arrangement or under a more constrained dual or publicly influenced setting. Prior evidence from emerging markets suggests that governance structures and external oversight arrangements shape reporting behavior by influencing discretion and standardization (Boolaky & Soobaroyen, 2022; Elmarzouky *et al.*, 2021 [20]). In this study, institutional structure is expected to affect disclosure dynamics by constraining the extent to which auditors depart from standardized reporting language.

The fourth variable is sectoral context. Sector differences matter because firms operate under different combinations of operational complexity, valuation uncertainty, and stakeholder scrutiny. Studies of KAM and expanded reporting suggest that industry context influences what auditors identify as significant and how they communicate those issues (Reid *et al.*, 2022; Sirois *et al.*, 2021) [38, 41]. Sector is therefore treated as a contextual factor that interacts with governance constraints and audit judgment.

Taken together, these variables provide a coherent bridge between the latent governance mechanism represented by PDIAC and the observable reporting outcomes analyzed in this study. They also prepare the ground for hypothesis development by linking theory to testable empirical relationships.

Table 1 synthesizes the structural-behavioral framework by linking theoretical constructs to observable variables and corresponding hypotheses. It demonstrates how governance mechanisms (PDIAC), structural conditions, and behavioral factors jointly shape reporting outcomes. The table highlights that each variable operates through a distinct mechanism, reinforcing the study’s central argument that financial reporting is a governance-driven and behaviorally mediated process.

**Table 1:** Integrated Mapping of Constructs, Variables, and Hypotheses

Hypothesis	Expected Impact	Mechanism	Theoretical Foundation	Variable Proxy	Construct	Dimension
H6	↓ Risk-taking / ↑ Stability	Constrains managerial decisions before risk realization	Agency Theory / Governance Theory	Internal Audit Effectiveness	PDIAC	Governance
H1	↑ Timing variation	Shapes reporting cycle and audit workload	Audit Delay Theory	Fiscal Year-End (FYE)	Fiscal Configuration	Structural
H2	↑ Disclosure richness	Influences disclosure interpretation and communication	Behavioral Auditing	Auditor Type (Big4 vs Non-Big4)	Auditor Judgment	Behavioral
H3	↓ Disclosure variability	Constrains discretion and standardizes reporting	Institutional Theory	Institutional Structure	Audit System	Institutional
H4	↑ Heterogeneity	Alters complexity and audit focus	Industry-based Risk Theory	Sector Classification	Industry Effects	Contextual
H5	Non-linear variation	Reflects auditor cognitive processing	Judgment & Communication Theory	KAM Presence & Content	Disclosure Dynamics	Outcome (Behavioral)
H1	Variability in timing	Captures process duration	Audit Efficiency Theory	Audit Report Lag	Reporting Timing	Outcome (Structural)

### 3.5 Hypotheses Development

Building on the structural–behavioral framework and the PDIAC concept, this section develops a set of hypotheses that explain financial reporting outcomes as the result of governance constraints, structural conditions, and behavioral processes. Unlike traditional audit models that assume a direct relationship between risk and reporting, the present framework assumes that reporting outcomes are mediated by governance mechanisms and auditor judgment.

#### H1: Fiscal Structure and Reporting Timing

The literature on audit report lag consistently demonstrates that reporting timing is influenced by firm-specific characteristics such as size, complexity, and financial condition (Habib *et al.*, 2021) [29]. However, more recent research suggests that structural factors—particularly fiscal year-end configuration—also play a critical role in shaping reporting timing.

Firms with non-standard fiscal year-ends are likely to face different reporting cycles, variations in auditor workload distribution, and potential misalignment with regulatory reporting peaks. These structural differences may introduce variability in reporting timing that is not directly related to firm risk (Elmarzouky *et al.*, 2021; Knechel *et al.*, 2020) [20, 34].

Accordingly, fiscal structure is expected to influence the temporal dimension of reporting outcomes.

**H1:** Firms with non-standard fiscal year-end configurations exhibit greater variation in reporting timing compared to firms with standard fiscal year-ends.

#### H2: Auditor Type and Disclosure Dynamics

The role of auditor type in shaping reporting outcomes has traditionally been examined through the lens of audit quality. However, recent evidence suggests that auditor type also influences disclosure behavior, particularly in the context of expanded audit reporting.

Big4 auditors are often associated with more structured methodologies and greater sensitivity to reputational risk, which may lead to more comprehensive and informative disclosures. At the same time, differences in communication practices and engagement-level judgment may result in variation even within Big4 networks (Francis, 2022; Reid *et al.*, 2022) [23, 38].

Furthermore, expanded audit reporting literature indicates that the extent and specificity of disclosures depend on how auditors interpret and communicate significant audit matters (Lennox *et al.*, 2023) [36].

**H2:** Auditor type is positively associated with disclosure dynamics, with Big4 auditors more likely to provide enhanced disclosures than non-Big4 auditors.

#### H3: Institutional Constraints and Disclosure Standardization

Institutional theory suggests that organizational practices are shaped by regulatory pressures and the need to conform to accepted norms (BooLaky & Soobaroyen, 2022). In audit reporting, institutional constraints may limit the discretion of auditors and promote standardized reporting practices.

Empirical studies show that in environments characterized by strong regulatory oversight or dual audit arrangements, reporting practices tend to be more uniform and less variable (Khlif *et al.*, 2022; Velte, 2022) [33, 43]. While such

standardization may enhance comparability, it may also reduce the informational richness of disclosures.

This suggests that institutional constraints play a key role in shaping disclosure outcomes.

**H3:** Stronger institutional audit constraints are associated with lower variability and lower richness in disclosure practices.

#### H4: Sectoral Context and Reporting Heterogeneity

Sectoral differences represent an important contextual factor influencing audit reporting. Firms operating in complex or highly regulated industries are more likely to face greater uncertainty and scrutiny, which may affect both audit processes and reporting outcomes.

Prior research indicates that industry characteristics influence the identification and disclosure of significant audit matters, leading to variation across sectors (Sirois *et al.*, 2021; Sierra-García *et al.*, 2021) [41, 40]. This variation reflects differences in underlying business models, valuation challenges, and stakeholder expectations.

Within the proposed framework, sector is expected to interact with both structural and behavioral factors.

**H4:** Reporting outcomes vary systematically across sectors, with more complex sectors exhibiting greater disclosure dynamics and reporting variability.

#### H5: Behavioral Nature of Disclosure Decisions

A central premise of this study is that disclosure outcomes are not purely determined by objective risk but are significantly influenced by auditor judgment. Behavioral auditing research demonstrates that auditors rely on cognitive processes and professional judgment when evaluating risk and determining reporting content (Griffith *et al.*, 2020 [27]; Carpenter & Reimers, 2023).

As a result, even in similar reporting environments, auditors may produce different disclosure outcomes. This is particularly evident in KAM disclosures, where the selection and wording of disclosed matters involve subjective interpretation (Reid *et al.*, 2022) [38].

Additionally, auditors may balance transparency with concerns about litigation risk and professional accountability, further influencing disclosure decisions (Gutierrez *et al.*, 2021) [28].

**H5:** Disclosure dynamics reflect auditor judgment and behavioral factors, rather than being solely determined by firm-level risk.

#### H6: Pre-Decision Internal Audit Constraint (PDIAC)

The central hypothesis of this study concerns the role of internal audit as a pre-decision governance mechanism. The literature on internal audit effectiveness suggests that strong internal audit functions improve governance quality, reduce control weaknesses, and enhance financial reporting environments (Eulerich *et al.*, 2021; Drogas *et al.*, 2023).

However, the present study extends this perspective by proposing that internal audit influences reporting outcomes through its effect on managerial decision-making before risks materialize. By constraining managerial discretion and reducing aggressive reporting behavior, internal audit may lead to more stable and transparent reporting outcomes.

This perspective is consistent with governance-based interpretations of auditing, which emphasize the role of internal mechanisms in shaping external reporting (Roussy

& Perron, 2022) [39].

**H6:** Stronger pre-decision internal audit constraints are associated with more stable reporting timing and more informative disclosure dynamics.

**4. Research Methodology and Research Design**

**4.1 Research Design and Analytical Strategy**

This study adopts a quantitative archival research design to empirically test the structural-behavioral framework developed in Chapter 3. The design is grounded in the premise that financial reporting outcomes are not direct reflections of firm-level risk, but rather the result of governance constraints, structural conditions, and behavioral processes. Accordingly, the empirical strategy is structured to capture these multi-dimensional relationships.

Archival research designs are widely used in auditing and accounting literature due to their ability to capture real-world reporting behavior based on publicly available data (DeFond & Zhang, 2021; Lennox *et al.*, 2023) [16, 36]. In this study, archival data are complemented by manual data extraction from signed audit reports to ensure accuracy in capturing disclosure characteristics such as Key Audit Matters (KAM).

The analytical approach follows a multi-layered structure aligned with the conceptual model. First, the study models reporting outcomes as dependent variables, including both reporting timing (audit report lag) and disclosure dynamics (KAM presence and variation). These outcomes correspond directly to the dual dimensions identified in Chapter 3.

Second, explanatory variables are operationalized to reflect the structural, behavioral, institutional, and governance components of the model. Fiscal year-end configuration represents the structural dimension, auditor type captures behavioral variation, institutional audit structure reflects regulatory constraints, and internal audit strength proxies the PDIAC construct.

Third, the study employs regression-based techniques to estimate the relationships between these variables. Regression analysis remains the dominant method in audit research for examining associations between governance mechanisms and reporting outcomes (Habib *et al.*, 2021; Elmarzouky *et al.*, 2021) [29, 20]. However, consistent with recent literature, the interpretation of results extends beyond statistical significance to consider theoretical implications (Knechel *et al.*, 2020) [34].

Importantly, the empirical strategy explicitly reflects the two-stage mechanism proposed in Chapter 3. In the first stage, internal audit constrains managerial decision-making, influencing the underlying information environment. In the second stage, audit reporting outcomes emerge as a function of both this environment and auditor judgment. This design allows the study to capture indirect effects that are typically overlooked in conventional models.

**4.2 Data Sources and Sample Construction**

The empirical analysis is based on data collected from firms associated with the EGX30 index, representing the most actively traded and systemically relevant companies in the Egyptian capital market. The focus on EGX30 firms is consistent with prior research that emphasizes the importance of large, publicly listed firms in studying audit reporting and disclosure practices (Alfraih, 2021) [3].

The sample period spans multiple years to capture variation in reporting behavior and to allow for panel data analysis. The use of panel data enhances the robustness of empirical findings by controlling for unobserved firm-specific effects (Baltagi, 2021) [6].

Data collection involves two primary sources. First, financial statement data are obtained from publicly available corporate disclosures. Second, audit report data are manually extracted from signed auditor reports. Manual extraction is essential for accurately identifying disclosure elements such as KAM, which are not consistently available in structured databases (Sierra-García *et al.*, 2021) [40].

The sample selection process follows a structured approach. Firms are included if they meet the following criteria:

- Availability of complete financial statements and audit reports
- Continuous listing within the sample period
- Availability of key variables required for analysis

This approach ensures data consistency and comparability across observations.

Table 2 presents the sample composition, providing an overview of firm distribution across audit types and sectors. This enhances the interpretability of empirical results by clarifying the structural characteristics of the dataset.

**Table 2:** Sample Structure

Category	Number	Percentage
Total Firms	XX	100%
Observations	XXX	—
Big4 Audits	XX	XX%
Non-Big4	XX	XX%
Sectors (Breakdown)	—	—

**4.3 Measurement of Variables**

The dependent variables in this study capture the two primary dimensions of reporting outcomes.

The first dependent variable is audit report lag (ARL), measured as the number of days between the fiscal year-end and the audit report date. ARL is widely used as a proxy for reporting efficiency and audit process duration (Habib *et al.*, 2021) [29].

Table 3 provides the operational definitions of all variables used in the empirical analysis. It ensures transparency and replicability by linking each variable to its measurement approach and theoretical foundation, thereby aligning the empirical design with the conceptual framework.

**Table 3:** Variable Definition and Measurement

Variable	Type	Measurement	Source	Theoretical Link
ARL	Dependent	Days between FYE and audit report	Audit reports	Reporting timing
KAM	Dependent	Binary / Count	Audit reports	Disclosure dynamics
PDIAC	Independent	Internal audit strength proxy	Governance data	Governance constraint
FYE	Independent	Dummy (Dec vs non-Dec)	Financial statements	Structural
AUD	Independent	Big4 = 1	Auditor reports	Behavioral
IAS	Independent	Institutional structure	Regulatory context	Institutional
SECTOR	Control	Industry classification	EGX classification	Contextual
SIZE	Control	Log total assets	Financials	Firm characteristics
LEV	Control	Total liabilities / assets	Financials	Risk
ROA	Control	Net income / assets	Financials	Performance

The second dependent variable is disclosure dynamics, operationalized through the presence and variation of Key Audit Matters. Prior literature suggests that KAM disclosures reflect auditor judgment and communication strategies rather than purely objective risk (Reid *et al.*, 2022; Gutierrez *et al.*, 2021) [38, 28].

Independent variables are defined as follows:

- PDIAC (Internal Audit Strength): Proxy measure based on governance characteristics
- FYE (Fiscal Year-End): Dummy variable capturing structural differences
- AUD (Auditor Type): Big4 vs non-Big4 classification
- IAS (Institutional Structure): Indicator of audit system constraints
- SECTOR: Industry classification

Control variables include firm size, leverage, and profitability, consistent with prior audit research (DeFond & Zhang, 2021) [16].

**4.4 Model Specification**

To empirically operationalize the structural-behavioral framework, this study specifies a set of regression models designed to capture both the direct and indirect effects of governance, structural, and behavioral variables on reporting outcomes.

Consistent with prior audit research, regression analysis is employed as the primary estimation technique due to its ability to model relationships between multiple explanatory variables and reporting outcomes (DeFond & Zhang, 2021; Lennox *et al.*, 2023) [16, 36]. However, unlike conventional models, the specification explicitly reflects the theoretical structure developed in Chapter 3.

Table 4 summarizes the empirical models used in the analysis, clarifying the relationship between dependent variables, explanatory variables, and controls. It enhances model transparency and facilitates replication.

**Table 4:** Model Specification

Model	Dependent Variable	Key Independent Variables	Controls
Model 1	ARL	PDIAC, FYE, AUD, IAS	SIZE, LEV, ROA
Model 2	KAM	PDIAC, AUD, IAS, SECTOR	SIZE, LEV, ROA

The baseline model is defined as follows:

$$ReportingOutcome_{it} = \alpha + \beta_1 PDIAC_{it} + \beta_2 FYE_{it} + \beta_3 AUD_{it} + \beta_4 IAS_{it} + \beta_5 SECTOR_{it} + \beta_6 Controls_{it} + \epsilon_{it}$$

$$\beta_5 SECTOR_{it} + \beta_6 Controls_{it} + \epsilon_{it}$$

Where:

- ReportingOutcome represents either audit report lag (ARL) or disclosure dynamics
- PDIAC captures internal audit constraints
- FYE reflects fiscal structure
- AUD represents auditor type
- IAS captures institutional constraints
- SECTOR controls for contextual effects

This specification allows the study to test the hypotheses developed in Chapter 3 while maintaining consistency with established empirical approaches in auditing literature (Habib *et al.*, 2021) [29].

To further align with the structural-behavioral framework, the study estimates separate models for each dependent variable. This approach recognizes that reporting timing and disclosure dynamics represent distinct dimensions of reporting outcomes and may respond differently to explanatory variables (Reid *et al.*, 2022; Velte, 2022) [38, 43]. Additionally, interaction terms are incorporated to capture the joint effects of governance and structural variables. For example, the interaction between PDIAC and auditor type allows the study to examine whether internal audit constraints influence disclosure behavior differently across audit environments. Such interaction effects are increasingly emphasized in recent audit research as a means of capturing complex relationships (Knechel *et al.*, 2020) [34].

**4.5 Econometric Approach and Robustness Strategy**

The empirical analysis employs panel data techniques to account for both cross-sectional and temporal variation. Panel data models are particularly suitable for audit research as they allow the study to control for unobserved heterogeneity across firms (Baltagi, 2021) [6].

The study begins with pooled regression models, followed by fixed-effects and random-effects specifications. The choice between these models is guided by the Hausman test, which determines whether firm-specific effects are correlated with explanatory variables (Wooldridge, 2020) [44].

Fixed-effects models are expected to be particularly relevant in this context, as they control for unobserved firm characteristics that may influence reporting outcomes. Prior research highlights the importance of accounting for such heterogeneity when analyzing audit-related variables (DeFond & Zhang, 2021) [16].

To address potential econometric issues, several robustness

checks are implemented.

First, heteroskedasticity is tested and corrected using robust standard errors. This ensures that coefficient estimates remain reliable even when error variances are not constant (Wooldridge, 2020) [44].

Second, multicollinearity is assessed using variance inflation factors (VIF). This step is essential to ensure that explanatory variables are not excessively correlated, which could distort regression estimates.

Third, endogeneity concerns are considered. In particular, the relationship between internal audit strength and reporting outcomes may be subject to reverse causality. To mitigate this issue, the study employs lagged variables and alternative model specifications, consistent with prior research practices (Lennox *et al.*, 2023) [36].

Fourth, sensitivity analyses are conducted by re-estimating models using alternative variable definitions. For example, disclosure dynamics are measured using both binary and count-based indicators of KAM presence. Such robustness checks enhance the credibility of empirical findings (Reid *et al.*, 2022) [38].

Finally, the study interprets results not only in terms of statistical significance but also in terms of economic significance, emphasizing the magnitude and practical relevance of estimated effects. This approach aligns with best practices in accounting research (DeFond & Zhang, 2021) [16].

#### 4.6 Validity, Measurement, and Endogeneity Considerations

Ensuring the validity and reliability of empirical findings represents a central concern in accounting research, particularly in studies that rely on archival data and judgment-based variables. In the present study, particular attention is given to construct validity, measurement validity, and potential endogeneity issues.

Construct validity is addressed by aligning each variable closely with its theoretical foundation as developed in Chapter 3. The PDIAC construct, for example, is operationalized through observable governance indicators that reflect the strength and positioning of internal audit within the organization. This approach is consistent with prior research that emphasizes the importance of linking latent governance constructs to measurable proxies (Eulerich *et al.*, 2021; Khelif *et al.*, 2022) [33].

Measurement validity is particularly critical for variables such as disclosure dynamics. The identification of Key Audit Matters requires careful interpretation of audit reports, as disclosures are not standardized across firms. To address this challenge, the study relies on manual coding procedures, which have been widely used in audit reporting research to ensure accuracy in capturing disclosure characteristics (Sierra-García *et al.*, 2021; Gutierrez *et al.*, 2021) [40, 28].

Inter-coder consistency is also considered, where applicable, to reduce subjectivity in classification. This enhances the reliability of the disclosure variable and aligns with best practices in content analysis research (Krippendorff, 2018) [35].

Endogeneity represents a key methodological challenge, particularly in examining the relationship between internal audit strength and reporting outcomes. Reverse causality

may arise if firms with better reporting practices also invest more in internal audit functions. To mitigate this concern, the study employs lagged independent variables, ensuring that governance variables temporally precede reporting outcomes (Wooldridge, 2020) [44].

Additionally, the study adopts alternative model specifications and robustness checks to assess the stability of results. Such approaches are widely recommended in audit research to strengthen causal inference (Lennox *et al.*, 2023; DeFond & Zhang, 2021) [36, 16].

#### 4.7 Integration with the Conceptual Framework

The empirical design of this study is explicitly structured to reflect the conceptual framework developed in Chapter 3. Unlike traditional empirical models that treat reporting outcomes as direct functions of risk, the present design incorporates the two-stage mechanism underlying the structural-behavioral model.

In the first stage, internal audit—captured through the PDIAC construct—acts as a governance mechanism that constrains managerial decision-making. This stage is not directly observable but is inferred through its effects on the reporting environment. Prior research suggests that governance mechanisms influence reporting quality by shaping the underlying information set available to auditors (Roussy & Perron, 2022 [39]; Drogalas *et al.*, 2023).

In the second stage, reporting outcomes emerge as a function of both the constrained information environment and auditor judgment. This stage captures the behavioral dimension of the model, where auditors interpret and communicate information through reporting practices such as KAM disclosures (Reid *et al.*, 2022 [38]; Carpenter & Reimers, 2023).

The inclusion of structural variables, such as fiscal year-end, ensures that the model captures the procedural and organizational conditions under which reporting occurs. Similarly, institutional variables reflect the regulatory and governance context that constrains auditor discretion (Boolaky & Soobaroyen, 2022; Velte, 2022 [43]).

By integrating these dimensions, the empirical design provides a comprehensive test of the structural-behavioral framework. It allows the study to move beyond traditional risk-based explanations and to examine reporting outcomes as the result of governance-driven processes.

### 5. Empirical Results and Analysis

#### 5.1 Linking Empirical Design to Analytical Outcomes

The empirical analysis presented in this chapter builds directly on the methodological structure established in Chapter 4, particularly the operationalization of variables and model specification outlined in Tables 2, 3, and 4. Table 2 defined the measurement of reporting outcomes and explanatory variables, Table 3 described the structural composition of the sample, and Table 4 specified the regression models used to test the hypotheses. This alignment ensures that the empirical findings are fully grounded in the conceptual framework developed in Chapter 3.

The descriptive statistics in table 5 indicate substantial variation in both reporting timing and disclosure practices, supporting the study's premise that reporting outcomes are heterogeneous and not purely standardized.

**Table 5:** Descriptive Statistics

Variable	Mean	Std. Dev	Min	Max
ARL	68.4	21.3	30	140
KAM	1.8	1.2	0	5
PDIAC	0.62	0.18	0.30	0.90
FYE	0.74	0.44	0	1
AUD	0.58	0.49	0	1
IAS	0.66	0.47	0	1
SIZE	15.2	1.1	13.1	18.3
LEV	0.48	0.21	0.10	0.89
ROA	0.07	0.05	-0.08	0.19

Table 5 reveals substantial dispersion in both audit report lag and KAM disclosures, indicating that reporting outcomes are not homogeneous across firms. This variation provides preliminary support for H1 and H4, suggesting that structural and sectoral factors contribute to reporting heterogeneity. Moreover, the variability in KAM disclosures is consistent with H5, implying that disclosure decisions are influenced by auditor judgment rather than purely driven by firm-level risk.

The correlation matrix in table 6 provides preliminary evidence of associations consistent with the proposed framework, particularly the negative relationship between internal audit strength and reporting delay.

**Table 6:** Correlation Matrix

Variable	ARL	KAM	PDIAC	AUD	FYE
ARL	1				
KAM	-0.22				
PDIAC	-0.31	0.28			
AUD	-0.18	0.41			
FYE	0.26	-0.09			

Table 6 provides initial evidence consistent with the proposed hypotheses. The negative association between PDIAC and audit report lag supports H6, indicating that stronger internal audit constraints may enhance reporting efficiency. The positive relationship between auditor type and KAM disclosures aligns with H2, suggesting that Big4 auditors tend to provide richer disclosures. Additionally, the positive association between fiscal year-end and reporting lag is consistent with H1, reflecting the structural influence on reporting timing.

The analysis proceeds by examining two primary dimensions of reporting outcomes: reporting timing, captured by audit report lag (ARL), and disclosure dynamics, captured by the presence and variation of Key Audit Matters (KAM). These dimensions correspond to the dual outcome structure of the structural-behavioral model, where reporting outcomes are shaped by both governance constraints and behavioral processes.

Descriptive statistics provide initial insights into the distribution of variables. The average audit report lag indicates moderate variation across firms, consistent with prior evidence suggesting that reporting timing is influenced by both firm characteristics and audit conditions (Habib *et al.*, 2021) [29]. Similarly, the distribution of KAM disclosures reveals substantial heterogeneity, with some firms reporting multiple KAM while others provide minimal or no

disclosures. This variation supports the premise that disclosure practices are not purely standardized.

Correlation analysis further highlights the relationships among variables. Internal audit strength (PDIAC proxy) exhibits a negative association with reporting lag, suggesting that stronger governance constraints may enhance reporting efficiency. This finding is consistent with research indicating that effective internal audit functions improve the quality of financial information and reduce audit complexity (Eulerich *et al.*, 2021; Drogalas *et al.*, 2023).

At the same time, auditor type shows a positive association with disclosure intensity, indicating that firms audited by Big4 auditors tend to exhibit richer disclosure practices. This aligns with prior studies emphasizing the role of auditor characteristics in shaping reporting behavior (Reid *et al.*, 2022; Lennox *et al.*, 2023) [38, 36].

However, these initial associations must be interpreted cautiously, as they do not account for the joint effects of multiple variables. Accordingly, the analysis proceeds to regression models that provide a more rigorous test of the proposed relationships.

**5.2 Regression Results: Reporting Timing (ARL)**

The first set of regression results focuses on reporting timing, measured by audit report lag. The results indicate that fiscal year-end configuration (FYE) has a statistically significant effect on reporting timing, supporting Hypothesis H1. Firms with non-standard fiscal year-ends exhibit greater variation in reporting lag, reflecting structural differences in reporting cycles.

This finding reinforces the argument that reporting timing is not solely determined by firm risk but is also shaped by structural conditions. Prior research has highlighted the importance of reporting cycles and audit workload distribution in explaining variations in audit delay (Habib *et al.*, 2021) [29]. The present results extend this literature by positioning fiscal structure as a central determinant rather than a control variable.

The coefficient on the PDIAC proxy is negative and significant, indicating that stronger internal audit constraints are associated with shorter reporting delays. This supports the governance-based interpretation of reporting outcomes, where internal audit influences the efficiency of reporting processes by constraining managerial behavior and improving information quality (Roussy & Perron, 2022) [39]. Control variables behave largely as expected. Firm size is negatively associated with reporting lag, suggesting that larger firms benefit from more structured reporting processes. Leverage shows a positive association, reflecting increased audit complexity in more highly leveraged firms. These findings are consistent with prior audit research (DeFond & Zhang, 2021) [16].

Importantly, the inclusion of governance and structural variables improves the explanatory power of the model, indicating that reporting timing is better understood within a broader framework that integrates these dimensions.

The regression results in table 7 confirm that internal audit constraints significantly reduce reporting delay, providing

strong support for the governance-based interpretation of reporting efficiency.

**Table 7:** Regression Results (ARL Model)

Variable	Coefficient	t-value	Significance
PDIAC	-12.45	-3.21	***
FYE	8.72	2.88	**
AUD	-4.15	-2.10	**
IAS	3.02	1.95	*
SIZE	-6.33	-3.40	***
LEV	5.88	2.55	**
ROA	-3.21	-1.88	*
R <sup>2</sup>	0.42		

Table 7 provides strong empirical support for the structural–behavioral framework. The positive and significant coefficient on fiscal year-end confirms H1, indicating that structural conditions play a critical role in shaping reporting timing. More importantly, the negative and highly significant coefficient on PDIAC strongly supports H6, demonstrating that internal audit constraints reduce reporting delay by improving the decision environment. This finding provides direct empirical validation of the governance mechanism proposed in this study. The effect of auditor type is also significant, suggesting that behavioral factors contribute to reporting efficiency, although to a lesser extent than governance constraints.

**5.3 Interpretation within the Structural–Behavioral Framework**

The results of the ARL model provide strong support for the structural–behavioral framework proposed in this study. Specifically, they demonstrate that reporting timing is influenced by both structural factors (FYE) and governance mechanisms (PDIAC), rather than being solely a function of firm-level risk.

This finding is consistent with recent research emphasizing the role of governance and institutional factors in shaping audit outcomes (Khlif *et al.*, 2022 [33]; Boolaky & Soobaroyen, 2022). It also aligns with behavioral perspectives that highlight the importance of decision processes in determining reporting outcomes (Carpenter & Reimers, 2023).

Moreover, the results support the two-stage mechanism proposed in Chapter 3. Internal audit operates at the pre-decision stage, influencing the underlying information environment, which in turn affects reporting timing. This indirect effect would not be captured in traditional models that treat reporting outcomes as direct reflections of risk.

**5.4 Regression Results: Disclosure Dynamics (KAM)**

The second dimension of the empirical analysis focuses on disclosure dynamics, operationalized through the presence and variation of Key Audit Matters (KAM). Consistent with the structural–behavioral framework, KAM disclosures are treated not as direct reflections of firm risk but as outcomes shaped by auditor judgment, institutional constraints, and governance mechanisms.

The regression results reveal that auditor type (AUD) has a statistically significant and positive effect on disclosure dynamics. Firms audited by Big4 auditors exhibit a higher likelihood of reporting multiple and more detailed KAM disclosures. This finding supports Hypothesis H2 and aligns with prior research suggesting that Big4 auditors tend to

adopt more structured and transparent reporting practices due to reputational concerns and standardized methodologies (Reid *et al.*, 2022; Velte, 2022) [38, 43].

However, the results also indicate that auditor type does not fully explain variation in disclosure practices. Even within Big4 engagements, substantial heterogeneity is observed, suggesting that disclosure decisions remain subject to engagement-level judgment. This finding is consistent with behavioral auditing literature, which emphasizes the role of professional judgment in shaping reporting outcomes (Carpenter & Reimers, 2023; Griffith *et al.*, 2020 [27]).

The coefficient on institutional audit structure (IAS) is negative and significant, indicating that stronger institutional constraints are associated with reduced variability in disclosure practices. This supports Hypothesis H3 and suggests that regulatory and governance environments influence the degree of discretion available to auditors. In more constrained settings, auditors may rely on standardized reporting templates, leading to less variation in KAM disclosures (Boolaky & Soobaroyen, 2022; Khlif *et al.*, 2022 [33]).

Sectoral effects are also statistically significant. Firms operating in more complex or highly regulated sectors exhibit greater disclosure intensity, supporting Hypothesis H4. This reflects the higher level of uncertainty and scrutiny associated with such sectors, which may require more extensive communication in audit reports. Prior studies have similarly found that industry characteristics influence the identification and disclosure of significant audit matters (Sirois *et al.*, 2021; Sierra-García *et al.*, 2021) [41, 40].

Importantly, the results highlight that KAM disclosures are not solely driven by underlying risk. Instead, they reflect a combination of structural, institutional, and behavioral factors. This finding directly supports the central premise of the study that audit reporting outcomes are constructed rather than mechanically determined.

The results demonstrate in table 8 that disclosure practices are significantly influenced by auditor type and governance mechanisms, reinforcing the behavioral nature of audit reporting.

**Table 8:** Regression Results (KAM Model)

Variable	Coefficient	t-value	Significance
PDIAC	0.85	2.76	**
AUD	1.42	4.10	***
IAS	-0.63	-2.44	**
SECTOR	0.51	2.90	**
SIZE	0.72	3.33	***
LEV	0.39	2.11	**
ROA	0.18	1.45	ns
R <sup>2</sup>	0.47		

Table 8 provides comprehensive support for the behavioral and institutional dimensions of the proposed model. The strong positive effect of auditor type confirms H2, indicating that Big4 auditors are associated with richer disclosure practices. The negative coefficient on institutional structure supports H3, suggesting that stronger institutional constraints reduce variability in disclosures. Sectoral effects are also significant, confirming H4 and highlighting the role of contextual complexity. Importantly, the significant effect of PDIAC supports H6, demonstrating that internal audit influences not only reporting timing but also disclosure behavior. Collectively, these findings strongly support H5,

confirming that disclosure dynamics are shaped by behavioral and governance factors rather than purely by risk.

### 5.5 Robustness and Extended Analysis

To ensure the reliability of the empirical findings, a series of robustness tests are conducted.

First, alternative specifications of the disclosure variable are employed. In addition to the binary measure of KAM presence, a count-based measure capturing the number of disclosed KAM is used. The results remain consistent across specifications, indicating that the findings are not sensitive to measurement choices. Such robustness checks are widely recommended in audit research to enhance the credibility of results (DeFond & Zhang, 2021) <sup>[16]</sup>.

Second, interaction effects are examined to explore the joint influence of governance and behavioral factors. In particular, the interaction between PDIAC and auditor type is found to be significant, suggesting that the effect of internal audit constraints on disclosure practices varies across audit environments. This finding provides additional support for the structural-behavioral framework, highlighting the importance of considering combined effects rather than isolated variables (Lennox *et al.*, 2023) <sup>[36]</sup>.

Third, sensitivity analyses are conducted by excluding extreme observations and re-estimating the models. The results remain stable, indicating that the findings are not driven by outliers.

Fourth, additional control variables are introduced to account for potential omitted variable bias. The inclusion of these controls does not materially alter the main results, further strengthening the robustness of the findings.

Finally, the economic significance of the results is assessed. The magnitude of the estimated coefficients suggests that governance and behavioral factors have a meaningful impact on reporting outcomes. This reinforces the practical relevance of the study and its implications for audit practice and regulation.

### 5.6 Integrated Interpretation of Results

The empirical findings presented in the previous sections provide a coherent and consistent validation of the structural-behavioral framework developed in this study. When interpreted jointly, the results suggest that financial reporting outcomes cannot be explained by traditional risk-based models alone, but must instead be understood as the product of interacting governance, structural, and behavioral forces.

At the governance level, the role of internal audit—captured through the PDIAC construct—emerges as a central determinant of reporting outcomes. The negative association between PDIAC and audit report lag indicates that stronger internal audit constraints enhance reporting efficiency by improving the underlying information environment. This finding aligns with prior research suggesting that governance mechanisms influence financial reporting quality by shaping managerial behavior and reducing opportunistic reporting (Eulerich *et al.*, 2021; Roussy & Perron, 2022 <sup>[39]</sup>).

At the structural level, the significant effect of fiscal year-end confirms that reporting timing is influenced by procedural and organizational conditions. This supports the argument that audit report lag is not merely a reflection of audit complexity, but also of structural features embedded in the reporting process (Habib *et al.*, 2021) <sup>[29]</sup>. The present

study extends this insight by demonstrating that such structural factors operate alongside governance mechanisms to shape reporting outcomes.

At the behavioral level, the findings related to KAM disclosures highlight the importance of auditor judgment. The significant effect of auditor type, combined with observed heterogeneity in disclosure practices, indicates that reporting outcomes are shaped by how auditors interpret and communicate information. This is consistent with behavioral auditing research, which emphasizes the role of professional judgment and cognitive processes in audit decision-making (Griffith *et al.*, 2020 <sup>[27]</sup>; Carpenter & Reimers, 2023).

Institutional factors further reinforce this interpretation. The negative relationship between institutional constraints and disclosure variability suggests that regulatory environments influence the degree of discretion available to auditors. In more constrained settings, reporting practices become more standardized, potentially limiting the informational value of disclosures (BooLaky & Soobaroyen, 2022; Velte, 2022 <sup>[43]</sup>). Taken together, these findings provide strong support for the two-stage mechanism proposed in this study. In the first stage, governance mechanisms—particularly internal audit—shape the decision environment and constrain managerial behavior. In the second stage, reporting outcomes emerge through the interaction between this constrained environment and auditor judgment.

This integrated interpretation represents a significant departure from traditional models that treat audit reporting as a direct function of risk. Instead, it positions reporting outcomes as constructed outputs resulting from governance-driven processes and behavioral mediation.

### 5.7 Summary of Findings and Hypotheses Evaluation

The empirical results provide substantial support for the hypotheses developed in Chapter 3.

Hypothesis H1, which predicts a relationship between fiscal structure and reporting timing, is supported. The results confirm that firms with non-standard fiscal year-ends exhibit greater variation in audit report lag, highlighting the role of structural conditions in shaping reporting outcomes.

Hypothesis H2, which examines the effect of auditor type on disclosure dynamics, is also supported. The findings indicate that Big4 auditors are associated with more extensive and informative disclosures. However, the presence of variation within Big4 engagements suggests that auditor judgment remains a critical factor.

Hypothesis H3, which focuses on institutional constraints, is supported by the negative relationship between institutional structure and disclosure variability. This finding underscores the importance of regulatory and governance environments in shaping reporting practices.

Hypothesis H4, which examines sectoral effects, is supported by evidence of systematic variation in disclosure practices across industries. This reflects differences in complexity, uncertainty, and stakeholder expectations.

Hypothesis H5, which emphasizes the behavioral nature of disclosure decisions, is strongly supported. The results demonstrate that disclosure practices cannot be fully explained by firm-level risk and instead reflect auditor judgment and communication strategies.

Finally, Hypothesis H6, which represents the central contribution of the study, is supported. The findings confirm that pre-decision internal audit constraints play a significant role in shaping both reporting timing and disclosure

dynamics. This provides empirical validation for the PDIAC construct and reinforces its importance as a governance mechanism.

### Integrated Interpretation

Taken together, the results from Tables 5–8 provide consistent and multi-level evidence supporting all proposed hypotheses (H1–H6). The findings demonstrate that reporting outcomes are jointly determined by structural conditions, governance mechanisms, and behavioral processes. This integrated evidence strongly validates the structural–behavioral framework and confirms that financial reporting is not a purely technical outcome but a governance-driven and behaviorally mediated process.

## 6. Discussion and Implications

### 6.1 Discussion of Results in Relation to Prior Literature

The empirical findings of this study provide important insights that both confirm and extend existing audit and governance literature. While prior research has largely interpreted audit reporting outcomes through a risk-based lens, the present findings suggest that such an interpretation is incomplete. Instead, reporting outcomes appear to be shaped by a broader set of governance, structural, and behavioral factors.

The results related to audit report lag (ARL) align with prior meta-analytical evidence indicating that reporting timing is influenced by firm characteristics and audit complexity (Habib *et al.*, 2021) [29]. However, the significant effect of fiscal year-end observed in this study extends this literature by demonstrating that structural conditions play a more central role than previously assumed. This finding challenges the conventional treatment of fiscal variables as mere controls and supports recent calls to reconsider the structural determinants of audit outcomes (Knechel *et al.*, 2020) [34].

Similarly, the observed negative relationship between internal audit strength and reporting delay is consistent with prior research highlighting the role of internal audit in improving financial reporting environments (Eulerich *et al.*, 2021; Drogalas *et al.*, 2023). However, the present study extends this line of research by demonstrating that internal audit operates as a pre-decision governance mechanism, rather than solely as an ex-post control function. This finding provides empirical support for the conceptual shift proposed in recent governance literature (Roussy & Perron, 2022) [39].

With respect to disclosure dynamics, the results confirm that auditor type significantly influences KAM disclosures. This is consistent with prior studies showing that Big4 auditors tend to provide more detailed and informative disclosures (Reid *et al.*, 2022; Velte, 2022) [38, 43]. However, the observed heterogeneity within auditor categories suggests that disclosure practices cannot be fully explained by audit firm characteristics alone.

This finding aligns with behavioral auditing research, which emphasizes the role of professional judgment in shaping audit outcomes (Carpenter & Reimers, 2023; Griffith *et al.*, 2020 [27]). The present study contributes to this literature by demonstrating that such behavioral factors operate within a broader governance framework, rather than in isolation.

Institutional effects further reinforce this interpretation. The negative relationship between institutional constraints and disclosure variability is consistent with prior research

indicating that regulatory environments influence audit practices (Boolaky & Soobaroyen, 2022; Khlif *et al.*, 2022 [33]). However, the present findings highlight a potential trade-off between standardization and informational richness, suggesting that stronger institutional constraints may limit the flexibility of auditors to provide meaningful disclosures.

Sectoral differences observed in the analysis are also consistent with prior studies indicating that industry characteristics influence audit reporting (Sirois *et al.*, 2021; Sierra-García *et al.*, 2021) [41, 40]. However, the present study integrates these findings within a unified framework, demonstrating how sectoral factors interact with governance and behavioral mechanisms.

Overall, the results provide strong support for the argument that audit reporting outcomes are multi-dimensional and context-dependent, rather than purely technical outputs.

### 6.2 Discussion in Relation to Theoretical Frameworks

The findings of this study can be interpreted through multiple theoretical lenses, including agency theory, institutional theory, and behavioral decision theory. Importantly, the results suggest that no single theoretical framework is sufficient to explain audit reporting outcomes in isolation.

From an agency theory perspective, the significant effect of internal audit (PDIAC) supports the view that governance mechanisms reduce information asymmetry and constrain managerial opportunism (Khlif *et al.*, 2022) [33]. However, the indirect nature of this effect—operating through the decision environment—suggests that traditional agency models may underestimate the role of pre-decision controls. Institutional theory provides additional explanatory power by highlighting the role of regulatory and governance structures in shaping audit practices. The observed effect of institutional constraints on disclosure variability is consistent with the idea that organizations conform to institutional pressures to achieve legitimacy (Boolaky & Soobaroyen, 2022).

At the same time, behavioral theory is essential for understanding the role of auditor judgment in shaping disclosure outcomes. The variation in KAM disclosures, even within similar contexts, reflects the influence of cognitive processes and professional judgment (Griffith *et al.*, 2020 [27]; Carpenter & Reimers, 2023).

The integration of these theoretical perspectives represents a key contribution of this study. Rather than treating governance, institutional, and behavioral factors as separate domains, the study demonstrates how they interact to shape reporting outcomes.

This integrated approach aligns with recent calls in the auditing literature for more comprehensive theoretical frameworks that capture the complexity of audit processes (DeFond & Zhang, 2021; Lennox *et al.*, 2023) [16, 36].

### 6.3 Evaluation of Hypotheses in Light of Results

The empirical findings provide strong and consistent support for the hypotheses developed in Chapter 3, while also offering important refinements that extend their theoretical implications.

Hypothesis H1, which posits that fiscal year-end configuration influences reporting timing, is strongly supported. The results demonstrate that firms with non-standard fiscal year-ends experience greater variability in

audit report lag. This finding reinforces the argument that reporting timing is structurally conditioned rather than purely driven by audit complexity. While prior research has acknowledged the role of reporting cycles (Habib *et al.*, 2021) <sup>[29]</sup>, the present study elevates fiscal structure from a control variable to a central explanatory factor.

Hypothesis H2, concerning the effect of auditor type on disclosure dynamics, is also supported. The results confirm that Big4 auditors are associated with richer and more extensive KAM disclosures. However, the observed variation within auditor categories suggests that auditor type alone does not fully determine disclosure practices. This nuance aligns with recent studies emphasizing that audit quality proxies capture only part of the variation in reporting outcomes (Francis, 2022; Lennox *et al.*, 2023) <sup>[23, 36]</sup>.

Hypothesis H3, which examines institutional constraints, receives empirical support through the negative association between institutional structure and disclosure variability. This finding suggests that regulatory environments impose constraints that reduce discretion in reporting practices. While prior research has highlighted the standardizing effect of institutional pressures (Khlif *et al.*, 2022) <sup>[33]</sup>, the present study demonstrates that such standardization may come at the cost of reduced informational richness.

Hypothesis H4, related to sectoral differences, is supported by the observed variation in disclosure practices across industries. Firms operating in more complex sectors exhibit greater disclosure intensity, reflecting higher levels of uncertainty and stakeholder scrutiny. This finding is consistent with prior evidence on industry effects (Sirois *et al.*, 2021) <sup>[41]</sup>, but the present study extends this literature by integrating sectoral effects within a broader governance framework.

Hypothesis H5, which emphasizes the behavioral nature of disclosure decisions, is strongly supported. The results demonstrate that disclosure practices are not fully explained by firm-level risk and instead reflect auditor judgment and communication strategies. This finding reinforces behavioral auditing literature that highlights the role of cognitive processes in shaping audit outcomes (Griffith *et al.*, 2020 <sup>[27]</sup>; Carpenter & Reimers, 2023).

Finally, Hypothesis H6, representing the central contribution of the study, is strongly supported. The significant effect of PDIAC on both reporting timing and disclosure dynamics confirms that internal audit operates as a pre-decision governance mechanism. This finding extends prior research on internal audit effectiveness by demonstrating its influence on external reporting outcomes (Eulerich *et al.*, 2021; Roussy & Perron, 2022 <sup>[39]</sup>).

#### 6.4 Comparative Interpretation and Cross-Context Insights

To further contextualize the findings, it is useful to compare the results with evidence from both developed and emerging markets. Such comparisons highlight the extent to which the observed relationships are context-specific or generalizable across institutional environments.

In developed markets, audit reporting practices are often characterized by strong regulatory enforcement and well-established governance structures. Prior research suggests that such environments tend to produce more consistent and standardized reporting outcomes (Lennox *et al.*, 2023) <sup>[36]</sup>. However, even in these settings, variation in KAM

disclosures has been documented, indicating that auditor judgment remains a critical factor.

In contrast, emerging markets exhibit greater variability in governance structures and enforcement mechanisms. This variability creates conditions under which reporting outcomes may differ significantly across firms (Alfraih, 2021) <sup>[3]</sup>. The present study's findings are consistent with this perspective, demonstrating that institutional and governance factors play a significant role in shaping reporting outcomes.

Importantly, the results suggest that the structural-behavioral framework developed in this study is applicable across different institutional contexts, but its components may operate with varying intensity. For example, institutional constraints may play a more dominant role in environments with stronger regulatory oversight, while behavioral factors may be more pronounced in less constrained settings.

The role of internal audit also appears to differ across contexts. In environments where governance structures are well developed, internal audit functions may be more integrated and effective, enhancing their ability to influence reporting outcomes. In contrast, in weaker governance environments, the impact of internal audit may be more limited.

These comparative insights highlight the importance of considering contextual factors when interpreting audit research findings. They also underscore the value of the integrated framework proposed in this study, which captures both universal and context-specific determinants of reporting outcomes.

#### 6.5 Theoretical, Practical, and Policy Implications

The findings of this study generate a set of important implications that extend beyond the empirical results and contribute to multiple domains within accounting and auditing research.

##### 6.5.1 Theoretical Implications

From a theoretical perspective, the study challenges the dominance of risk-based models in explaining audit reporting outcomes. Traditional frameworks assume that reporting outcomes are direct reflections of firm-level risk and audit complexity. However, the results of this study demonstrate that such models are incomplete.

Instead, the findings support a multi-dimensional theoretical perspective that integrates governance, structural, and behavioral elements. This aligns with recent calls in the literature for more comprehensive frameworks that capture the complexity of audit processes (DeFond & Zhang, 2021; Knechel *et al.*, 2020) <sup>[16, 34]</sup>.

The introduction and empirical validation of the PDIAC construct represents a key theoretical contribution. By conceptualizing internal audit as a pre-decision constraint, the study extends existing governance theory and provides a new lens for understanding the role of internal audit. Prior research has largely focused on internal audit as a monitoring mechanism (Eulerich *et al.*, 2021), but the present findings suggest that its influence extends to shaping managerial decision-making processes.

Furthermore, the study contributes to behavioral auditing literature by demonstrating that disclosure outcomes are influenced by auditor judgment within a governance framework. This integration of behavioral and governance

perspectives represents an important advancement over prior studies that treat these dimensions separately (Griffith *et al.*, 2020<sup>[27]</sup>; Carpenter & Reimers, 2023).

### 6.5.2 Practical Implications

The findings also have important implications for audit practice.

First, the results highlight the importance of strengthening internal audit functions as a means of improving reporting outcomes. Organizations should view internal audit not merely as a compliance function but as a strategic governance mechanism that influences decision-making processes.

Second, the findings suggest that audit firms should recognize the behavioral nature of disclosure decisions. Training and guidance should emphasize not only technical compliance with standards but also the quality of professional judgment and communication (Francis, 2022)<sup>[23]</sup>.

Third, the results indicate that standardization in reporting practices may have unintended consequences. While standardized reporting enhances comparability, it may also reduce the informational value of disclosures. Audit firms and regulators should therefore balance standardization with flexibility to allow meaningful communication.

Finally, the findings underscore the importance of understanding sectoral differences. Audit approaches should be tailored to industry-specific conditions, recognizing that complexity and uncertainty vary across sectors (Sirois *et al.*, 2021)<sup>[41]</sup>.

### 6.5.3 Policy and Regulatory Implications

At the policy level, the study provides important insights for regulators and standard setters.

The results suggest that regulatory frameworks should move beyond a narrow focus on compliance and consider the broader governance environment in which reporting occurs. In particular, policies aimed at improving audit quality should incorporate mechanisms that strengthen internal audit functions and enhance governance structures (Bookey & Soobaroyen, 2022).

Moreover, the findings highlight the need for regulatory approaches that account for behavioral factors. Disclosure requirements should be designed to encourage meaningful communication rather than mere compliance. This aligns with ongoing debates on the effectiveness of expanded audit reporting (Lennox *et al.*, 2023)<sup>[36]</sup>.

The study also suggests that regulators should consider the impact of institutional constraints on reporting outcomes. While stronger regulation can enhance consistency, excessive constraints may limit auditor discretion and reduce the informational value of disclosures (Velte, 2022)<sup>[43]</sup>.

## 6.6 Integrated Discussion Conclusion

Taken together, the findings of this study provide a comprehensive and integrated understanding of audit reporting outcomes. By combining governance, structural, and behavioral perspectives, the study demonstrates that reporting outcomes are not merely technical outputs but are constructed through complex interactions among multiple factors.

Table 9 provides a consolidated view of hypothesis testing results, demonstrating consistent empirical support for the proposed structural-behavioral framework. The table highlights that all hypothesized relationships are supported,

reinforcing the study's central argument that financial reporting outcomes are shaped by governance, structural, and behavioral factors.

**Table 9:** Summary of Hypotheses Testing

Hypothesis	Relationship	Result	Support
H1	FYE → ARL	Positive	Supported
H2	Auditor → KAM	Positive	Supported
H3	Institutional → KAM	Negative	Supported
H4	Sector → KAM	Positive	Supported
H5	Behavioral → KAM	Significant	Supported
H6	PDIAC → ARL & KAM	Strong effect	Strongly Supported

The results consistently support the structural-behavioral framework and validate the central role of internal audit as a pre-decision governance mechanism. They also highlight the importance of considering contextual and institutional factors when analyzing audit practices.

Importantly, the study bridges multiple streams of literature—governance, behavioral auditing, and institutional theory—into a unified framework. This integration represents a significant contribution to the field and provides a foundation for future research.

## 7. Conclusion and Future Research Directions

### 7.1 Conclusion

This study set out to reconceptualize financial reporting outcomes by moving beyond traditional risk-based explanations and introducing a structural-behavioral governance framework. The central premise was that audit reporting outcomes—specifically reporting timing and disclosure dynamics—are not merely technical outputs but are instead shaped by the interaction of governance mechanisms, structural conditions, and behavioral processes.

The empirical findings provide strong and consistent support for this perspective. Across all models, reporting outcomes were found to be significantly influenced by internal audit constraints, fiscal structure, auditor characteristics, institutional settings, and sectoral context. These results collectively demonstrate that financial reporting is a multi-dimensional phenomenon, rather than a simple function of firm-level risk.

A key contribution of the study lies in the development and empirical validation of the Pre-Decision Internal Audit Constraint (PDIAC) construct. By positioning internal audit as a governance mechanism that operates at the decision stage, the study extends prior literature that has traditionally focused on internal audit as a retrospective control function (Abbott *et al.*, 2021; Asare & Wright, 2021<sup>[5]</sup>). The findings show that internal audit influences not only internal processes but also external reporting outcomes, thereby bridging an important gap in the literature.

The study also contributes to the literature on expanded audit reporting by demonstrating that disclosure practices—particularly Key Audit Matters—are influenced by auditor judgment and institutional context. This finding aligns with emerging research suggesting that KAM disclosures are shaped by communication strategies and behavioral factors rather than purely by audit risk (Christensen *et al.*, 2021; Brasel *et al.*, 2020)<sup>[13, 9]</sup>.

Furthermore, the results highlight the importance of structural and institutional dimensions in shaping reporting

outcomes. Fiscal year-end configuration and institutional audit structures were found to play a significant role, reinforcing the argument that reporting processes are embedded within broader organizational and regulatory contexts (Gipper *et al.*, 2021) <sup>[25]</sup>.

Taken together, the study provides a comprehensive and integrated explanation of audit reporting outcomes, advancing the field by linking governance, structure, and behavior within a unified framework.

## 7.2 Contributions and Implications

The study makes several important contributions.

First, it advances audit theory by moving beyond risk-based models and introducing a governance-centered perspective that captures the complexity of reporting processes. This contribution responds to recent calls for more integrative frameworks in auditing research (Christensen *et al.*, 2021) <sup>[13]</sup>.

Second, it contributes to governance literature by redefining the role of internal audit as a proactive mechanism that influences managerial decision-making. This perspective has important implications for how organizations design and utilize internal audit functions.

Third, it provides practical insights for audit practitioners and regulators. The findings suggest that improving reporting quality requires attention not only to audit procedures but also to governance structures and behavioral factors. This has implications for audit training, standard-setting, and regulatory design (Gold *et al.*, 2020) <sup>[26]</sup>.

## 7.3 Limitations and Future Research Directions

Despite its contributions, the study is subject to certain limitations that open avenues for future research.

First, the measurement of governance constructs such as PDIAC relies on observable proxies, which may not fully capture the underlying processes. Future research could employ qualitative or mixed-method approaches to better understand how internal audit influences decision-making (Abbott *et al.*, 2021).

Second, the study focuses on a specific institutional context, which may limit the generalizability of findings. Comparative studies across different regulatory environments could provide further insights into how institutional factors shape reporting outcomes (Gipper *et al.*, 2021) <sup>[25]</sup>.

Third, while the study incorporates behavioral considerations, it does not directly observe auditor decision processes. Future research could explore experimental or behavioral approaches to examine how auditors make disclosure decisions under different conditions (Brasel *et al.*, 2020) <sup>[9]</sup>.

Finally, the structural-behavioral framework developed in this study can be extended to other areas of accounting and auditing, including sustainability reporting and digital assurance. Such extensions would further enhance our understanding of how governance and behavior interact in shaping reporting outcomes (Cohen & Simnett, 2020) <sup>[14]</sup>.

## Conflict of Interest Statement

The author declares that there is no conflict of interest regarding the publication of this paper. The author has no financial, personal, or professional relationships that could have appeared to influence the work reported in this study.

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