ISSN: 2230-9926

Available online at http://www.journalijdr.com

IJDR

International Journal of Development Research
Vol. 16 Issue, 03, pp. 70191-70207, March, 2026
https://doi.org/10.37118/ijdr.30732.03.2026

RESEARCH ARTICLE **OPEN ACCESS**

FROM DISCLOSURE TO COGNITIVE TRANSPARENCY: TOWARD A BEHAVIORAL ARCHITECTURE OF REPORTING AS A DECISION-SHAPING SYSTEM – EVIDENCE FROM EGYPT

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ARTICLE INFO

Article History:
Received 14th December, 2025
Received in revised form
09th January, 2026
Accepted 26th February, 2026
Published online 30th March, 2026

Key Words:
Cognitive Transparency, Disclosure Architecture, Decision-Shaping System, Behavioral Accounting, Decision Quality, Institutional Trust, Emerging Capital Markets.

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ABSTRACT

Purpose: This study challenges the traditional assumption that expanding disclosure automatically improves transparency and decision quality. It introduces the concept of Cognitive Transparency, reconceptualizing disclosure not merely as an information-providing mechanism but as a decision-shaping system that influences how users interpret information, form judgments, and make decisions. The study therefore proposes a behavioral perspective that views reporting systems as cognitive architectures shaping decision processes rather than passive channels of information transmission. ***Methodology / Approach*:** The research develops a conceptual and empirical framework explaining how disclosure design affects decision outcomes through cognitive mechanisms. Drawing on behavioral accounting and cognitive information-processing theories, the framework models the relationships among cognitive clarity, cognitive load, interpretive alignment, decision confidence, and decision quality. The framework is empirically examined using data from firms included in the EGX30 index, representing the most active companies in the Egyptian capital market. Structural modeling techniques are employed to analyze how disclosure structures influence cognitive processing and decision outcomes. ***Findings:*** The findings indicate that disclosure effectiveness depends primarily on cognitive mechanisms rather than disclosure volume alone. Well-designed reporting structures enhance cognitive clarity while reducing cognitive load, thereby improving interpretive alignment among users. These processes strengthen decision confidence and ultimately lead to higher decision quality and stronger institutional trust. The results suggest that transparency emerges from the cognitive architecture of reporting systems, not merely from the availability of information. ***Originality and Implications*:** The study introduces Cognitive Transparency Theory, integrating disclosure research with behavioral accounting and cognitive decision theory. The findings provide regulators and reporting institutions with insights into how disclosure systems can be redesigned to enhance interpretability, reduce information asymmetry, and strengthen institutional trust, particularly within emerging capital markets.

Citation: Amin El Sayed Ahmed Lotfy. 2026. "From Disclosure to Cognitive Transparency: Toward a Behavioral Architecture of Reporting as a Decision-Shaping System – Evidence from Egypt". *International Journal of Development Research*, 16, (03), 70191-70207.

INTRODUCTION

Contextual Background: The Transformation of Transparency in Reporting: Over the past two decades, financial and administrative reporting systems have undergone significant transformation driven by regulatory expansion, digital reporting infrastructures, and increasing societal expectations regarding transparency and accountability. Organizations now operate within complex information environments characterized by continuous disclosure obligations, real-time reporting mechanisms, and multi-layered governance structures. Despite these developments, persistent institutional failures and declining public trust indicate that expanded disclosure has not consistently improved decision quality or institutional accountability (Leuz& Wysocki, 2016; Christensen *et al*., 2021). Recent research suggests that evaluating reporting effectiveness solely through disclosure quantity or regulatory compliance provides an incomplete understanding of transparency outcomes. Scholars increasingly emphasize the interaction between disclosed information and the cognitive capacities of information users. Reporting systems designed primarily to satisfy regulatory completeness may unintentionally undermine interpretability and decision usefulness when stakeholders face complex reporting structures and limited cognitive resources (Bloomfield, 2020; Bushee *et al*., 2023). These insights challenge a long-standing assumption in traditional disclosure theory that increasing publicly available information automatically improves transparency and decision outcomes. Empirical evidence indicates that expanded reporting requirements often produce highly technical and fragmented disclosures that satisfy regulatory checklists while remaining cognitively difficult for many stakeholders to interpret (Melloni *et al*., 2023; Roberts & Dillard, 2023). Behavioral research further demonstrates that information users operate under bounded rationality, limited attention, and time constraints. When confronted with complex disclosures, users frequently rely on simplified decision heuristics or process only a limited subset of available information

(Hirshleifer& Teoh, 2023; Libby *et al*., 2019). Under such conditions, expanded disclosure may paradoxically reduce transparency by increasing cognitive load and weakening users' ability to interpret information effectively. Consequently, recent interdisciplinary research increasingly views transparency not merely as an informational property of reporting systems but as a cognitive outcome shaped by the interaction between reporting design and human information processing (Schnackenberg & Tomlinson, 2016; Beattie, 2021). These issues are particularly relevant in emerging capital markets where differences in investor sophistication and reporting infrastructures may intensify informational inequalities (Omran &Bolbol, 2023; Hassan *et al*., 2022). Recognizing these challenges, the present study proposes a reconceptualization of transparency in financial reporting. Rather than viewing disclosure as a passive informational output, the study conceptualizes reporting as a decision-shaping system that structures how users interpret and utilize information. This perspective forms the foundation of the concept of Cognitive Transparency, emphasizing alignment between reporting design and human cognitive processes.

Research Problem Statement: Despite substantial progress in disclosure regulation and reporting standards, a fundamental paradox characterizes modern reporting environments: organizations disclose more information than ever before, yet stakeholders often struggle to interpret and use this information effectively. This paradox raises important questions regarding the true effectiveness of disclosure systems in supporting decision-making and institutional accountability. Traditional disclosure frameworks assume that information users behave as rational agents capable of processing large volumes of financial information. Within this perspective, transparency is primarily interpreted as information availability rather than usability for decision-making (Bushman & Smith, 2001; Leuz& Wysocki, 2016). However, behavioral accounting research shows that cognitive constraints significantly influence how disclosure information is interpreted (Hirshleifer, 2020; Libby & Luft, 2022). Empirical studies increasingly indicate that excessive or poorly structured disclosures can create information overload that reduces comprehension and impairs decision quality (Elliott *et al*., 2021; Bushee *et al*., 2023). Reporting complexity—arising from technical language, fragmented presentation, and dispersed narrative structures—may therefore limit transparency even when disclosures are technically accurate (Beattie *et al*., 2022). These challenges are particularly evident in emerging capital markets where differences in institutional development and investor sophistication may intensify information asymmetries (Omran &Bolbol, 2023). Accordingly, the central problem addressed in this study concerns the misalignment between disclosure practices and the cognitive processes through which stakeholders interpret information.

The study therefore addresses the following research question:

How can disclosure systems be redesigned to enhance cognitive understanding, improve decision quality, and strengthen institutional trust in complex information environments?

Research Objectives and Research Questions: Building on the limitations of conventional disclosure frameworks, this study develops a cognitively grounded perspective on transparency in financial reporting.

The research pursues four objectives:

1. Examine the conceptual limitations of traditional disclosure models.
2. Develop a theoretical framework integrating cognitive processing into reporting analysis.
3. Conceptualize transparency as a cognitive outcome of reporting design and information processing.
4. Empirically examine cognitive transparency using firms listed in the EGX30 index of the Egyptian Exchange.

Based on these objectives, the study addresses three research questions:

RQ1: Why does expanded disclosure often fail to improve decision quality and stakeholder understanding?
RQ2: How do cognitive processes mediate the relationship between reporting design and transparency outcomes?
RQ3: How can disclosure systems be redesigned to enhance decision usefulness and institutional trust?

Significance of the Study: The significance of this study lies in challenging the conventional assumption that transparency is primarily determined by information availability. Recent research suggests that this assumption overlooks the cognitive constraints faced by users in complex reporting environments (Hirshleifer& Teoh, 2023). By conceptualizing transparency as a cognitively constructed outcome, the study contributes to a more realistic understanding of reporting effectiveness and highlights the importance of designing reporting systems that balance informational completeness with cognitive usability (Roberts & Dillard, 2023).

Key Contributions of the Study: This study contributes to disclosure literature in several ways.

First, it introduces Cognitive Transparency, reconceptualizing disclosure as a cognitive system shaping interpretation and decision-making.
Second, it develops an integrated framework explaining how disclosure design influences decision outcomes through cognitive mechanisms including clarity, cognitive load, interpretive alignment, and decision confidence.
Third, the study provides empirical evidence from the EGX30 environment, expanding behavioral disclosure research into emerging capital markets.
Finally, the research offers practical insights for regulators and reporting professionals on how disclosure systems can improve interpretability and institutional trust (Hassan *et al*., 2022).

Research Impact Statement: By integrating behavioral accounting insights with empirical evidence from EGX30 firms, the study demonstrates how disclosure systems influence decision quality through cognitive mechanisms including clarity, cognitive load, interpretive alignment, and decision confidence. The proposed framework provides regulators and policymakers with a model for designing disclosure systems that enhance understanding and strengthen institutional trust in emerging markets.

Structure of the Study: The remainder of the study is organized as follows.

Chapter 2 reviews literature on disclosure, reporting complexity, and cognitive decision-making. Chapter 3 develops the theoretical foundation of Cognitive Transparency. Chapter 4 presents the research hypotheses. Chapter 5 describes the methodology and measurement approach. Chapter 6 reports and discusses empirical findings. Chapter 7 concludes with implications for policy and future research.

Critical Literature Review Rethinking Disclosure and Reporting: From Information Provision to Cognitive Processing

The Dominant Paradigm of Disclosure and Reporting Research: For decades, disclosure and financial reporting research has treated transparency primarily as a function of information availability. Within this paradigm, organizations are expected to improve transparency and market efficiency by expanding the quantity and scope of disclosed information. Early frameworks grounded in agency theory and information economics argued that disclosure reduces information asymmetry between managers and stakeholders, thereby improving governance and capital market outcomes (Bushman & Smith, 2001; Healy & Palepu, 2001). This view strongly influenced regulatory reforms and reporting standards. Standard-setters and

regulators progressively expanded disclosure requirements in the belief that more transparency would strengthen investor protection and decision-making. As a result, contemporary reports have become longer and more detailed than before (Christensen *et al*., 2021). However, recent research increasingly questions whether disclosure expansion alone improves transparency. Scholars argue that the relationship between disclosure volume and decision usefulness is more complex than previously assumed. Expanded reporting often produces technical and fragmented documents that are difficult for many stakeholders to interpret and use effectively (Leuz& Wysocki, 2016; Melloni *et al*., 2023). Accordingly, a growing literature suggests that transparency should be evaluated not only by the amount of disclosed information but also by how users process and interpret it. This shift reflects the growing influence of behavioral research in accounting and finance, which emphasizes users' cognitive constraints in complex decision settings (Hirshleifer& Teoh, 2023). Behavioral studies show that decision-makers operate under bounded rationality, limited attention, and time pressure, often relying on heuristics rather than fully processing all available information (Libby *et al*., 2019). In modern reporting environments that combine financial, sustainability, governance, and risk disclosures, transparency therefore depends not only on completeness but also on cognitive accessibility (Beattie, 2021; Bushee *et al*., 2023).

Disclosure Quantity and the Limits of Information Expansion: The assumption that more disclosure automatically improves transparency has been widely debated. While earlier studies often linked disclosure expansion to lower information asymmetry, more recent research offers a more qualified view. Studies of disclosure length and reporting complexity suggest that the benefits of additional disclosure decline beyond a certain threshold. When reports become excessively long or technical, users may struggle to identify decision-relevant information (Elliott *et al*., 2021). This has led to growing interest in the concept of disclosure overload, where the volume of information impairs users' ability to process and interpret disclosures. Experimental evidence shows that excessive disclosure may reduce comprehension, lower decision confidence, and increase reliance on simplified decision strategies (Bloomfield, 2020). Importantly, overload arises not only from quantity but also from structure and presentation. Fragmented narratives, technical terminology, and dispersed information structures impose heavier cognitive demands than coherent explanatory frameworks (Beattie *et al*., 2022). Moreover, large volumes of simultaneous disclosure may dilute key signals, making critical insights harder to detect (Melloni *et al*., 2023). These findings challenge the regulatory emphasis on disclosure completeness alone and redirect attention toward reporting design, interpretability, and cognitive usability (Roberts & Dillard, 2023).

Complexity and Cognitive Processing in Financial Reporting: A central theme in recent disclosure research concerns how reporting complexity shapes cognitive processing. Financial reports often contain dense numerical information, technical terminology, and multiple cross-references. While such complexity may reflect economic reality, it can also create major barriers to interpretation (Li, 2008). Research in behavioral finance and accounting shows that greater reporting complexity increases cognitive load and reduces users' ability to analyze information effectively. Excessive cognitive load may lead to decision fatigue and heavier reliance on heuristics (Hirshleifer, 2020). This is consistent with bounded rationality theory, which suggests that individuals possess limited cognitive resources and therefore allocate attention selectively in complex environments (Simon, 1997). As complexity rises, the gap between information availability and actual understanding may widen. Stakeholders may formally have access to relevant information while lacking the capacity to interpret it effectively (Libby & Luft, 2022). Evidence from capital markets further suggests that complex disclosures may increase information asymmetry by disproportionately benefiting sophisticated users with stronger analytical capabilities (Hassan *et al*., 2022). Hence, cognitive accessibility emerges as a critical dimension of transparency.

Behavioral Perspectives on Disclosure Interpretation: Behavioral accounting research has fundamentally challenged the rational-user assumption embedded in traditional disclosure models. Classical frameworks often assume that users process information objectively and efficiently. In practice, however, decision-makers operate under bounded rationality, limited attention, and cognitive biases that shape interpretation (Kahneman, 2011; Hirshleifer& Teoh, 2023). Behavioral studies show that users rarely process disclosure information comprehensively. Instead, they rely on heuristics, mental shortcuts, and selective attention when interpreting complex reports (Gigerenzer&Gaissmaier, 2011). These strategies help users cope with complexity but may also distort judgment. Experimental evidence confirms that disclosure presentation significantly influences interpretation. Elliott *et al*. (2021) show that investors often focus on salient narrative cues and headline figures rather than analyzing full statements. Kachelmeier and Valentine (2020) similarly demonstrate that framing and contextual presentation shape users' interpretations of disclosures. Research on attention allocation also shows that users prioritize prominent or easily interpretable information while neglecting more complex disclosures embedded in lengthy reports (Peng & Xiong, 2006). Consequently, disclosure effectiveness depends not only on content but also on how information aligns with users' attention patterns and cognitive capacities (Hales *et al*., 2016). Behavioral research further indicates that interpretation varies across stakeholder groups. Professional investors and analysts may be able to process complex disclosures, whereas non-professional users often struggle to extract meaningful insights from highly technical reports (Ertimur *et al*., 2012). Thus, systems that appear transparent in regulatory terms may still remain inaccessible to large user segments. These findings reinforce the importance of integrating behavioral insights into disclosure research.

Reporting Design and Interpretive Guidance: Beyond behavioral constraints, reporting design plays a critical role in disclosure effectiveness. Contemporary research increasingly recognizes that the organization, presentation, and contextualization of information significantly shape how users interpret disclosures (Beattie, 2021). Modern reports extend beyond standardized statements and notes to include governance, sustainability, risk, and narrative disclosures. Although this broadens representation of organizational performance, it also increases reporting complexity (Eccles & Krzus, 2018). Research highlights the value of interpretive guidance, including explanatory narratives, contextual framing, and visual structuring that help users understand the meaning of reported information. When reports provide clear explanations and coherent information hierarchies, users are more likely to correctly interpret data and incorporate it into their decisions (Bentley *et al*., 2019). By contrast, fragmented structures make it difficult for stakeholders to construct coherent mental models of performance (Roberts & Sanderson, 2020). Narrative reporting has therefore become an important instrument for improving communication. It can contextualize numbers, explain strategic developments, and clarify uncertainty, thereby improving interpretation and assessment of future prospects (Merkl-Davies & Brennan, 2017). Yet narratives also create risks, since managers may use them strategically for impression management (Cho *et al*., 2015). The literature therefore emphasizes the need to combine informational completeness with interpretive transparency and communicative clarity without sacrificing neutrality.

Trust Formation and Perceived Transparency: Institutional trust is a central outcome in contemporary disclosure research. Transparency initiatives are often justified by the claim that better disclosure enhances trust, yet evidence suggests the relationship is not straightforward. Trust depends not only on how much information is disclosed but also on whether stakeholders perceive disclosures as credible, clear, and relevant (Schnackenberg & Tomlinson, 2016). When disclosures appear excessively complex or strategically ambiguous, they may be interpreted as signals of opacity rather than openness. Research in accounting and public administration shows that stakeholders evaluate transparency through both informational and relational dimensions. Informational transparency concerns the availability of relevant information, whereas relational transparency

concerns perceived sincerity and openness in communication (Cuadrado-Ballesteros *et al*., 2017). Trust perceptions are also shaped by prior beliefs about institutional credibility; where prior trust is weak, extensive disclosure may still fail to improve perceptions (Rawlins, 2008). Conversely, clear and accessible reporting may strengthen legitimacy and confidence in governance processes (Roberts, 2009). Transparency thus emerges as a relational construct shaped by both disclosure practices and stakeholder perceptions.

Administrative and Public Sector Reporting Insights: Although much disclosure research focuses on corporate reporting, public sector research offers important insights into broader transparency challenges. Governments and public institutions have expanded performance reporting, budgetary disclosures, and policy evaluation documents to improve accountability and democratic oversight (Oulasvirta&Saliterer, 2019). However, empirical studies suggest that these initiatives often generate information proliferation rather than better accountability. Public reports commonly contain technical indicators and administrative data that are difficult for stakeholders to interpret without specialized expertise (Lapsley *et al*., 2010). Similar to corporate settings, users frequently report difficulties caused by technical language, fragmented structures, and the absence of contextual explanations (van Helden & Reichard, 2019). These findings underscore a central limitation of traditional transparency reforms: expanding disclosure does not automatically enhance understanding when reporting systems ignore users' cognitive capabilities. Public sector experience also highlights stakeholder diversity. Unlike capital markets, where professional intermediaries often interpret disclosures, public sector audiences include citizens with widely varying expertise and informational needs (Cucciniello *et al*., 2017). This diversity strengthens the case for user-centered reporting frameworks that prioritize interpretability, clarity, and contextual guidance.

Critiques of Compliance-Based Disclosure Systems: Another major theme in recent literature concerns critiques of compliance-oriented disclosure systems. Regulatory requirements and accounting standards are essential for consistency and comparability, but they may also encourage organizations to prioritize formal compliance over communicative effectiveness. Studies suggest that compliance-driven environments often produce standardized reporting formats characterized by repetitive language and technical complexity (Boiral, 2013). In such settings, organizations may focus on satisfying regulatory expectations rather than facilitating stakeholder understanding. This has been described as symbolic transparency, where large volumes of information are disclosed to demonstrate compliance without necessarily improving comprehension (Michelon *et al*., 2015). The literature also highlights the role of boilerplate disclosures, which use standardized narrative language without offering meaningful firm-specific insight (Brown & Tucker, 2011). In addition, compliance-based systems may encourage defensive disclosure practices aimed at reducing legal or reputational risk rather than improving decision usefulness (Healy & Palepu, 2001). These critiques suggest that existing frameworks often emphasize procedural compliance more than substantive interpretability.

Toward a Human-Centered View of Reporting: The limitations identified in disclosure research have stimulated increasing interest in human-centered reporting. Such approaches emphasize designing reporting systems that align with human cognition and decision behavior. Human-centered frameworks seek to balance informational completeness with cognitive accessibility. Rather than maximizing disclosure volume, they prioritize clarity, relevance, and interpretability (Stone & Lodhia, 2019). Research in information design suggests that hierarchical organization, visual summaries, and narrative explanations can significantly improve users' ability to interpret complex information and construct coherent mental models (Tufte, 2001). Digital reporting technologies also offer new opportunities to improve usability. Interactive platforms and visualization tools allow users to explore information in more flexible and intuitive ways than traditional static reports (Vasarhelyi *et al*., 2015). These developments support a broader shift toward viewing reporting as a communication system rather than merely a compliance mechanism. Within this perspective, transparency is both a governance responsibility and an ethical commitment to communicate information in understandable and decision-relevant ways.

Literature Synthesis and Research Gap: The literature reviewed in this chapter yields three main insights. First, while traditional disclosure research emphasizes information availability, recent studies increasingly highlight the role of cognitive processes in shaping how information is interpreted and used. Second, expanded disclosure does not automatically improve transparency; excessive disclosure and reporting complexity may instead create overload that weakens interpretation. Third, reporting design, contextualization, and behavioral decision processes are central to disclosure effectiveness. Despite these advances, the literature remains fragmented across disclosure quantity, behavioral decision-making, reporting design, and trust formation. What remains missing is an integrated theoretical perspective that conceptualizes transparency as a cognitive outcome emerging from the interaction between reporting design and human information processing. This study addresses that gap by developing Cognitive Transparency Theory, which reconceptualizes financial and administrative reporting as a decision-shaping system influencing stakeholder understanding, judgment, and trust. The following chapter presents the theoretical foundations of this framework and the conceptual model guiding the empirical analysis.

Cognitive Transparency Model in Disclosure and Hypotheses Development

Cognitive Transparency in Disclosure Systems: Recent developments in financial reporting and administrative disclosure have revealed an important paradox: although disclosure requirements have expanded significantly, improvements in decision quality and institutional trust have not always followed (Beyer *et al*., 2023; Leuz, 2024). This suggests that transparency cannot be understood solely in terms of disclosure volume, but must also be evaluated according to how information is cognitively processed and structurally embedded within organizational systems. The concept of cognitive transparency emerges from this recognition. Rather than viewing disclosure as a static communication output, cognitive transparency treats disclosure as a systemic informational architecture shaping how actors interpret, prioritize, and respond to reported information. In complex organizational settings, disclosure functions not merely as a reporting mechanism but as a structural interface between institutions and stakeholders (Barker & Eccles, 2023). Its effectiveness therefore depends on whether reporting systems support coherent interpretation rather than merely increasing informational density. Traditional disclosure theory has emphasized reducing information asymmetry between managers and stakeholders (Healy & Palepu, 2001; Verrecchia, 2001). However, recent research suggests that disclosure and transparency are linked in more complex ways. Information environments characterized by excessive complexity may produce interpretive ambiguity rather than clarity (Bloomfield, 2022; Christensen *et al*., 2021).

Modern organizations operate within interdependent informational networks where financial disclosures, governance reports, operational statements, and regulatory filings form an interconnected disclosure ecosystem. In such environments, disclosure outcomes depend not only on individual reporting decisions but also on how disclosures interact across organizational boundaries (Bushee *et al*., 2023). Because organizations are embedded in networks of suppliers, financial institutions, regulators, and strategic partners, disclosures by one entity may influence interpretation across multiple connected actors (Acemoglu *et al*., 2015; Battiston *et al*., 2016). Within these networks, transparency becomes a systemic property rather than an isolated organizational attribute. Cognitive transparency depends on the structural organization of disclosure systems and the informational pathways through which stakeholders interpret information. When these systems are fragmented or poorly structured, stakeholders may struggle to derive meaningful interpretations despite

high levels of formal disclosure. This view is consistent with research emphasizing the importance of information architecture in shaping transparency outcomes (Ben-Amar &McIlkenny, 2023). Cognitive transparency therefore provides a framework for analyzing disclosure as a dynamic informational system rather than a static reporting activity.

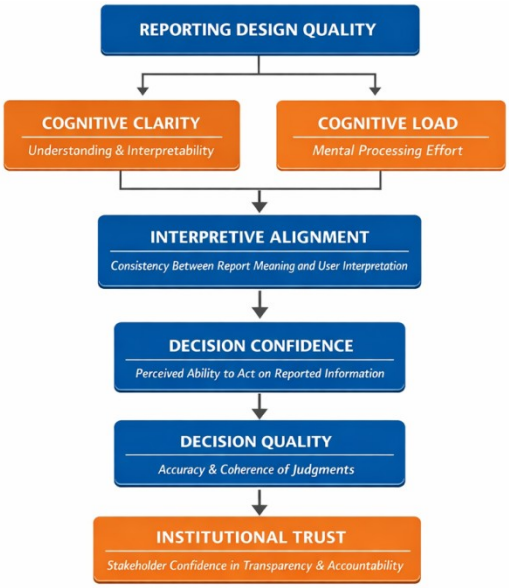

Figure 1. Depicts Cognitive Transparency Architecture in financial Disclosure Systems

Structural Interdependence in Disclosure Networks: Organizations do not operate in informational isolation. Modern economic systems are characterized by dense financial, operational, and institutional interdependencies. In such environments, disclosure decisions generated by one organization often influence how other actors interpret information, a pattern well documented in research on systemic risk and financial contagion (Acemoglu *et al*., 2015; Elliott *et al*., 2014). Structural interdependence arises when organizations share informational channels or operational relationships. Financial institutions may depend on common counterparties, supply-chain actors may share logistics infrastructures, and public organizations may coordinate disclosure through regulatory frameworks. Under such conditions, disclosure information produced by one entity may propagate through multiple layers of the network, influencing the decision environments of others. This implies that disclosure systems should be analyzed as network structures rather than isolated reporting mechanisms. In networked environments, the impact of disclosure depends not only on its content but also on the structural position of the disclosing organization (Battiston *et al*., 2016; Jackson, 2022). Network research shows that some actors occupy positions of structural prominence that allow them to influence informational flows across much of the network, functioning as informational hubs whose disclosures shape the expectations of multiple stakeholders (Barabási, 2016). In financial markets, for instance, disclosures issued by systemically important firms often generate reactions extending far beyond the firm itself. Investors, regulators, and supply-chain partners may interpret such disclosures as signals of broader economic conditions or systemic vulnerabilities (Glasserman& Young, 2016). Network-based approaches therefore emphasize structural connectivity, centrality, and exposure patterns in understanding informational transmission (Newman, 2018; Schweitzer *et al*., 2020). Within the cognitive transparency framework, structural interdependence is central to how stakeholders interpret disclosure information. Concentrated disclosure networks may allow signals from central actors to dominate interpretation, while decentralized structures may create fragmented informational environments. Integrating disclosure theory with network analysis thus helps explain how structural properties shape interpretive outcomes.

Systemic Exposure in Disclosure Networks: In complex organizational environments, disclosure does not simply transfer information from firms to stakeholders; it creates informational exposure across interconnected actors. Exposure refers to the extent to which signals produced by one organization influence the interpretive frameworks of others within the network (Glasserman& Young, 2016; Elliott *et al*., 2014). Within financial markets and supply networks, exposure often reflects structural dependencies. Firms occupying central positions may generate signals that affect the expectations and decision environments of multiple stakeholders simultaneously (Battiston *et al*., 2016; Acemoglu *et al*., 2015). Informational signals may propagate through financial ties, supply-chain relationships, alliances, or regulatory structures, producing effects that extend beyond the original reporting context (Barabási, 2016). Research in financial network theory shows that exposure patterns often display strong asymmetries: certain actors accumulate disproportionately large exposure positions because of their central roles (Jackson, 2022). These actors become informational anchors whose disclosures shape broader expectations. In terms of cognitive transparency, this means transparency is shaped not only by the clarity of individual reports but also by how informational exposure is distributed across organizational networks. When exposure is highly concentrated, interpretive dominance may emerge, allowing a small number of actors to shape informational narratives across the system (Newman, 2018; Schweitzer *et al*., 2020). This provides the basis for the first hypothesis: if exposure structures dominate informational interpretation, then the cognitive consequences of disclosure will be driven primarily by structurally central actors.

Nonlinear Amplification in Disclosure Systems: Another important characteristic of interconnected disclosure systems is nonlinear amplification. Traditional disclosure models often assume linear information flows: firms disclose, stakeholders interpret, and decisions follow. Yet research in complex systems shows that informational dynamics in networks often behave nonlinearly (Helbing, 2013; Schweitzer *et al*., 2020). Nonlinear amplification occurs when relatively small informational signals generate disproportionately large interpretive reactions due to structural interdependencies. This is especially common in financial systems, where interconnected exposures can transform localized shocks into broader systemic responses (Glasserman& Young, 2016). Within disclosure networks, amplification may arise through several channels. Signals generated by central actors may spread rapidly because of high connectivity; stakeholders may interpret specific disclosures as indicators of broader systemic conditions; and informational cascades may emerge as actors adjust their interpretations based on the reactions of others (Acemoglu *et al*., 2015; Battiston *et al*., 2016). These dynamics indicate that disclosure systems should be understood as adaptive informational networks. The effects of disclosure cannot be predicted solely from report content, but must be analyzed in light of the structural properties of the networks through which signals circulate. Empirical evidence shows that disclosures from systemically important firms often trigger reactions extending beyond the originating organization, as market participants treat them as signals of wider developments (Ben-Amar & McIlkenny, 2023). Within the cognitive transparency framework, strong amplification mechanisms mean that small disclosure signals may produce major interpretive shifts, especially when they originate from prominent actors. This provides the theoretical basis for the second hypothesis.

Dynamic Centrality in Disclosure Networks: Network structures are not static. The positions occupied by organizations within informational networks change as economic relationships evolve, regulatory frameworks develop, and actors enter or exit institutional environments. These changes alter the distribution of informational influence across organizations (Barabási, 2016; Newman, 2018). Centrality refers to the relative importance of an actor within a network. Organizations in highly central positions often exert strong influence over the flow of informational signals. However, structural shocks, reforms, and strategic realignments may alter these positions and reconfigure informational influence. Dynamic centrality is

particularly relevant in highly interdependent environments. When central actors experience shocks or structural adjustments, informational influence may shift toward other organizations, changing how stakeholders interpret disclosures and assess systemic risks (Battiston *et al*., 2016). In financial markets, firms that were previously peripheral may become informationally prominent through alliances, consolidation, or regulatory change, while formerly dominant actors may lose centrality. From the perspective of cognitive transparency, such reconfiguration affects how disclosure signals are interpreted across the network. As influence shifts, stakeholders must update their interpretive frameworks in response to changing informational environments. Cognitive transparency should therefore be viewed as a dynamic systemic property rather than a fixed organizational attribute. These dynamics provide the theoretical basis for the third hypothesis.

Cognitive Transparency Network Model: The preceding discussion indicates that disclosure systems in contemporary environments must be understood as interdependent informational networks rather than isolated reporting mechanisms. Disclosure signals circulate through institutional relationships and shape the interpretive frameworks of multiple actors simultaneously. Accordingly, disclosure effectiveness must be analyzed within the systemic architecture through which informational signals propagate. Within this framework, cognitive transparency refers to the extent to which disclosure systems enable stakeholders to construct coherent interpretations of complex informational environments. This depends not only on disclosure content but also on the structural properties of the networks through which signals circulate (Barker & Eccles, 2023; Christensen *et al*., 2021). Three structural mechanisms are particularly important. First, systemic exposure determines how informational influence is distributed across network actors. Highly exposed organizations may exert disproportionate influence over stakeholder interpretations. Second, nonlinear amplification captures the tendency of disclosure signals to generate effects extending well beyond the original reporting context because of structural interdependence (Helbing, 2013; Schweitzer *et al*., 2020). Third, dynamic centrality reconfiguration captures changes in actors' structural positions over time, which reshape how disclosure signals are interpreted (Barabási, 2016; Newman, 2018). Taken together, these mechanisms suggest that cognitive transparency emerges from the interaction between disclosure signals and the structural properties of the networks through which they move. The study therefore proposes a network-based model in which exposure dominance, nonlinear amplification, and centrality reconfiguration constitute the core processes linking disclosure systems to stakeholder interpretation.

To clarify these relationships, Table 1 summarizes the conceptual structure of the proposed model.

Table 1. Conceptual Structure of the Cognitive Transparency Network Model

Structural Dimension	Description
Disclosure Network Structure	Interconnected informational relationships among organizations
Systemic Exposure	Distribution of informational influence among network actors
Nonlinear Amplification	Structural mechanisms through which disclosure signals propagate across the network
Dynamic Centrality	Structural shifts in network influence among organizations
Cognitive Transparency	Stakeholders' ability to interpret disclosure signals within interconnected informational environments

This model provides the analytical foundation for examining how disclosure systems operate within complex organizational networks. By integrating disclosure theory and network analysis, it offers a systemic perspective on transparency that moves beyond traditional firm-centered approaches. It also emphasizes that disclosure outcomes cannot be fully understood without considering the exposure patterns, amplification dynamics, and centrality shifts shaping informational interpretation.

Hypotheses Development: The theoretical framework developed in this chapter suggests that disclosure systems operate within interconnected informational networks whose structural properties shape stakeholder interpretation. Within these environments, three mechanisms are central: systemic exposure, nonlinear amplification, and dynamic centrality. First, exposure structures determine the distribution of informational influence within disclosure networks. When exposure is concentrated, signals from central actors may dominate stakeholder interpretations. This leads to the first hypothesis:

H1: Systemic Exposure Dominance Hypothesis

Second, disclosure systems embedded in interconnected networks may exhibit nonlinear amplification, whereby disclosure signals propagate through institutional relationships and generate effects beyond the originating organization. This leads to the second hypothesis:

H2: Nonlinear Amplification Hypothesis

Third, the structural positions of organizations may evolve over time, redistributing informational influence and reshaping interpretive environments. This leads to the third hypothesis:

H3: Dynamic Centrality Reconfiguring Hypothesis

Together, these hypotheses reflect the study's central proposition: disclosure transparency emerges from systemic informational structures rather than isolated reporting events. The following chapter presents the methodology used to empirically examine these disclosure dynamics in firms listed in the EGX30 index of the Egyptian Exchange.

Research Design and Empirical Framework

From Conceptual Framework to Empirical Investigation: The previous chapters developed the theoretical foundations of the study by introducing Cognitive Transparency and reconceptualizing financial and administrative disclosure as a system that shapes decision processes rather than merely transmitting information. A critical step in validating this framework is to examine its empirical relevance in real economic settings. Contemporary accounting research increasingly emphasizes linking conceptual frameworks with empirical evidence to determine whether theoretical propositions translate into observable market behavior (Bischof, 2024; Rajabalizadeh, 2025). Recent studies show that financial disclosure affects investor decision-making by reducing information asymmetry and improving interpretability of financial information, thereby shaping trading behavior and valuation judgments (Bushman & Smith, 2003; Chiyad, 2024). At the same time, disclosure operates within broader governance, regulatory, and technological systems that influence market efficiency and investor confidence (Al-Okaily *et al*., 2024; Johri *et al*., 2024). Building on these insights, this study empirically examines whether the proposed framework of Cognitive Transparency is associated with measurable market outcomes in the Egyptian stock market.

Empirical Context: The Egyptian Capital Market: The Egyptian capital market provides an appropriate setting for examining the relationship between disclosure practices and market responses. As one of the largest emerging markets in the Middle East and North Africa, the Egyptian Exchange plays a key role in capital allocation and investment intermediation. Within this market, the EGX30 index is the principal benchmark of market performance and investor activity. The EGX30 tracks the 30 most liquid and actively traded companies listed on the Egyptian Exchange and is weighted by adjusted free-float market capitalization. It therefore captures the core dynamics of the Egyptian capital market and the behavior of firms

that strongly influence investor expectations and market sentiment. Eligibility for inclusion in the index is determined mainly by liquidity and trading activity. Firms in the EGX30 typically exhibit high market capitalization and trading volume, making them suitable for examining the economic consequences of disclosure. The sample also offers sectoral diversity, covering banking, telecommunications, manufacturing, construction, consumer goods, healthcare, logistics, and financial services. This diversity enhances the representativeness of the sample and allows the analysis to capture differences in disclosure practices across industries. The focus on EGX30 firms also ensures the availability of reliable public data, including market prices, trading volumes, and audited financial statements, which are essential for rigorous econometric analysis. Table 2 presents the list of firms included in the sample.

Table 2. List of EGX30 Firms Included in the Sample

No.	Company Name	Ticker Symbol	Sector
1	Commercial International Bank	COMI	Banking
2	QNB Alahli	QNBA	Banking
3	Abu Qir Fertilizers	ABUK	Chemicals
4	Alexandria Mineral Oils Company	AMOC	Energy
5	Eastern Company	EAST	Consumer Goods
6	Juhayna Food Industries	JUFO	Food Industries
7	Edita Food Industries	EFID	Food Industries
8	Telecom Egypt	ETEL	Telecommunications
9	Ezz Steel	ESRS	Industrial Manufacturing
10	Oriental Weavers	ORWE	Industrial Manufacturing
11	Talaat Moustafa Group	TMGH	Real Estate
12	Palm Hills Development	PHDC	Real Estate
13	Six of October Development and Investment	OCDI	Real Estate
14	SODIC	OCDI2	Real Estate
15	Madinet Masr Housing and Development	MNHD	Real Estate
16	Egyptian Transport and Commercial Services	ETEL2	Transportation
17	GB Auto (Ghabbour Auto)	AUTO	Automotive
18	Cleopatra Hospital Group	CLHO	Healthcare
19	Egyptian Financial Group Holding (EFG Holding)	HRHO	Financial Services
20	CI Capital Holding	CICH	Financial Services
21	Egyptian Kuwaiti Holding	EKHO	Investment
22	Orascom Construction	ORAS	Construction
23	Orascom Development Holding	ODHN	Real Estate
24	Egypt Aluminum	EGAL	Industrial
25	Misr Fertilizers Production Company	MFPC	Chemicals
26	Alexandria Container and Cargo Handling	ALCN	Logistics
27	Credit Agricole Egypt	CIEB	Banking
28	Housing and Development Bank	HDBK	Banking
29	Fawry for Banking Technology	FWRY	FinTech
30	Egyptian International Pharmaceuticals (EIPICO)	PHAR	Pharmaceuticals

Table 3. Sample Structure of EGX30 Firms

Sector	Number of Firms	Percentage of Sample	Examples of Firms
Banking and Financial Services	5	16.7%	Commercial International Bank, QNB Alahli
Telecommunications	2	6.7%	Telecom Egypt
Real Estate and Construction	7	23.3%	Talaat Moustafa Group, Palm Hills Development
Industrial and Manufacturing	6	20.0%	Ezz Steel, Oriental Weavers
Consumer Goods and Retail	5	16.7%	Juhayna Food Industries, Edita Food Industries
Energy and Utilities	3	10.0%	Alexandria Mineral Oils
Transportation and Logistics	2	6.7%	Egyptian Transport and Commercial Services

Total Firms = 30

As shown in Table 2, the sample consists of the most liquid and economically significant listed firms in Egypt, providing a relevant setting for examining how transparency affects investor behavior.

Sample Selection and Dataset Construction: The empirical investigation relies on a balanced panel dataset of 30 EGX30 firms over the period 2018–2024, producing 210 firm-year observations. This period captures several economic phases, including the pre-pandemic environment, the COVID-19 disruption period, and the subsequent phase of market recovery and adjustment. Panel data offer important advantages because they allow simultaneous examination of cross-sectional and temporal variation while controlling for unobserved heterogeneity across firms. Data were collected from multiple sources to ensure reliability. Market-based variables such as stock prices, trading volumes, and market capitalization were obtained from exchange records and financial databases, while financial variables such as total assets, revenues, profits, and leverage were extracted from audited annual reports and financial statements.

To clarify the sample composition, Table 3 presents the sectoral structure of the dataset. The diversified sectoral structure improves the representativeness of the dataset and reduces the risk that the results are driven by a single industry.

Measurement of Disclosure Practices: A central methodological challenge in disclosure research is measuring disclosure quality in a comparable form. In this study, disclosure practices are measured through a Disclosure Index constructed from observable disclosure indicators extracted from corporate reports. The index captures whether firms disclose key categories of information associated with transparency and lower information asymmetry: corporate governance disclosures, risk management discussions, sustainability reporting, and forward-looking statements. Each component is coded as a binary variable, and the overall index is calculated as the average of the four components, producing a standardized measure ranging from zero to one. Higher values indicate greater disclosure transparency (Salin, 2024; Mia, 2025).

Variable Measurement and Operationalization: To empirically evaluate the conceptual framework, the study operationalizes three categories of variables: market response variables, financial control variables, and disclosure-related variables.

Market Response Variables: Market response variables capture investor reactions to disclosure. Consistent with prior research, the study employs:

- **Stock Return (RET):** annual percentage change in share price
- **Trading Volume (VOL):** total annual traded shares
- **Stock Volatility (VOLAT):** standard deviation of monthly stock returns

These variables reflect how markets assimilate corporate information (Ball, 2024; Dechow *et al*., 2024).

Financial Control Variables

To isolate the effect of disclosure, the analysis includes:

- **Firm Size (SIZE):** natural logarithm of total assets
- **Profitability (ROA):** net income / total assets
- **Leverage (LEV):** total debt / total assets
- **Market Capitalization (MCAP):** market value of outstanding shares

These variables control for structural differences across firms (Kothari *et al*., 2024; Larcker & Rusticus, 2024).

Disclosure Variables: The central explanatory variable is the Disclosure Index (DISC), based on four dimensions:

1. Corporate Governance Disclosure
2. Risk Management Disclosure
3. Sustainability and ESG Disclosure
4. Forward-Looking Information Disclosure

These categories reflect the core elements of contemporary transparency systems (Eccles &Krzus, 2024; Hail *et al*., 2024). Table 4 summarizes the variables used in the study.

Econometric Model Specification: To test the relationship between disclosure practices and market responses, the study specifies the following baseline model:

$$MarketResponse_{it} = \beta_0 + \beta_1 DisclosureIndex_{it} + \beta_2 FirmSize_{it} + \beta_3 Profitability_{it} + \beta_4 Leverage_{it} + \beta_5 MarketCapitalization_{it} + \varepsilon_{it}$$

Where:

- i denotes the firm
- t denotes the time period
- ε_{it} is the error term

The coefficient β_1 captures the central relationship of interest. A positive and statistically significant coefficient would support the proposition that disclosure functions as a decision-shaping mechanism in capital markets.

Panel Data Methodology: Because the dataset includes observations for multiple firms across several years, panel data techniques are appropriate. Panel analysis allows control for unobserved firm-specific factors that remain constant over time but may influence the dependent variables, such as managerial capability or industry positioning (Baltagi, 2024; Wooldridge, 2024). The empirical analysis therefore employs panel regression models with firm and time dimensions. Fixed-effects estimators are particularly useful because they control for time-invariant firm characteristics that might otherwise bias the results. Panel models also allow the analysis to examine whether disclosure effects remain stable across changing economic conditions.

Data Reliability and Validity: Data reliability and validity are essential in empirical accounting research. In this study, reliability is strengthened through triangulation across multiple data sources. Market variables were obtained from official exchange records and verified through financial databases, while financial variables were extracted from audited financial statements, which enhances reliability through external verification and regulatory oversight (Armstrong *et al*., 2024; Li & Zhang, 2024; Christensen *et al*., 2024). To improve comparability, variables were standardized across firms. Profitability was measured using ratios rather than absolute figures, and firm size was transformed using the natural logarithm of total assets, which also reduces distributional skewness (Petersen, 2024). Temporal comparability was also considered. Although structural breaks may arise when reporting standards change (Leuz& Wysocki, 2024), Egyptian listed firms generally followed consistent reporting frameworks aligned with IFRS during the study period. Together, these procedures provide a reliable foundation for testing the association between disclosure practices and market outcomes.

Table 4. Definition and Measurement of Study Variables

Variable	Symbol	Measurement	Data Source
Stock Return	RET	Annual percentage change in stock price	EGX trading data
Trading Volume	VOL	Total annual traded shares	EGX trading records
Stock Volatility	VOLAT	Standard deviation of monthly returns	Calculated from market prices
Disclosure Index	DISC	Composite index of disclosure categories	Annual reports
Firm Size	SIZE	Natural logarithm of total assets	Financial statements
Profitability	ROA	Net income / total assets	Financial statements
Leverage	LEV	Total debt / total assets	Financial statements
Market Capitalization	MCAP	Market value of outstanding shares	EGX database

As shown in Table 4, the model combines market-based indicators, firm characteristics, and disclosure measures to evaluate whether disclosure affects market behavior through a cognitive-transparency mechanism.

Construction of the Disclosure Index: The Disclosure Index is calculated as the average of the four disclosure dimensions:

$$Disclosure\ Index = (Governance\ Disclosure + Risk\ Disclosure + Sustainability\ Disclosure + Forward\text{-}Looking\ Disclosure) / 4$$

This produces a standardized score ranging from 0 to 1. A score of 1 indicates disclosure of all four categories, while lower values indicate more limited reporting. Composite indices are widely used in accounting research to transform qualitative disclosure characteristics into quantitative measures suitable for econometric analysis (Healy & Palepu, 2024; Leuz & Wysocki, 2024). In this study, the index serves as a proxy for Cognitive Transparency.

Descriptive Statistics and Preliminary Analysis: Before econometric estimation, the study examines descriptive statistics for all variables, including the mean, median, standard deviation, minimum, and maximum. These measures provide an overview of the distribution and heterogeneity of the sample (Brooks, 2024). Preliminary analysis also includes correlation analysis to assess the direction and strength of linear associations among disclosure indicators, firm characteristics, and market response variables. Correlation matrices

are particularly useful for detecting potential multicollinearity problems that could distort regression estimates (Gujarati & Porter, 2024). This step helps ensure that the econometric model is properly specified before formal estimation.

Robustness and Sensitivity Tests: Robustness tests are conducted to verify that the findings are not driven by a specific specification or by unusual observations. First, alternative models are estimated using different dependent variables, including stock returns, trading volume, and stock volatility. Consistent effects across these measures would strengthen support for the theoretical framework. Second, the analysis modifies the disclosure measure by replacing the composite index with individual disclosure components, allowing identification of whether particular types of disclosure exert stronger effects on investor behavior. Third, alternative estimators are employed, including both fixed-effects and random-effects models, with tests such as the Hausman test used to select the appropriate specification (Wooldridge, 2024). Finally, sensitivity analysis is conducted by excluding potential outliers arising from unusual market events or firm-specific shocks.

Linking Empirical Evidence to Cognitive Transparency Theory: The ultimate objective of the empirical analysis is not merely to estimate statistical relationships, but to evaluate the broader theoretical proposition of Cognitive Transparency. The theory suggests that disclosure shapes the interpretive environment of decision-makers by reducing ambiguity, clarifying organizational intentions, and facilitating the cognitive processing of complex financial information (Merchant & Van der Stede, 2024; Young & Zeng, 2024). The empirical design developed in this chapter allows the study to test this proposition within a real capital market environment. By examining the relationship between disclosure practices and market responses among EGX30 firms, the analysis evaluates whether transparency influences investor behavior in measurable ways. If firms with higher disclosure levels exhibit stronger investor engagement, more stable trading patterns, or lower volatility, the results would provide empirical support for the argument that transparency operates as a decision-shaping system. If the association is weak, the findings may indicate that existing reporting frameworks do not fully achieve the cognitive objectives envisioned by transparency theory. The empirical investigation therefore serves as the bridge between conceptual theory and observable market behavior.

Empirical Results and Analytical Interpretation

Descriptive Statistics: This chapter presents the empirical findings derived from the analysis of the EGX30 firms dataset. The objective is to examine whether disclosure practices influence investor behavior and market dynamics within the Egyptian capital market. As discussed in the previous chapter, the empirical model integrates market-based indicators, firm characteristics, and disclosure variables to test the proposition that transparency functions as a decision-shaping mechanism in capital markets. The analysis begins with descriptive statistics to provide an overview of the dataset and assess the distributional characteristics of the variables used in the empirical models. Descriptive statistics are an important preliminary step because they reveal the structure of the dataset and help identify potential anomalies or extreme observations that may affect regression results (Brooks, 2024; Wooldridge, 2024). The descriptive analysis includes the mean, median, standard deviation, minimum, and maximum values for each variable used in the study, as shown in Table 5. The statistics reveal several notable patterns. Mean stock return is 12.4 percent, indicating moderate performance during the study period, though the relatively high standard deviation suggests considerable variation across firms and years. Trading volume also exhibits substantial dispersion, reflecting differences in liquidity and investor attention across EGX30 firms. The disclosure index has a mean of 0.63, indicating that firms disclose roughly two-thirds of the transparency components included in the index. This points to meaningful but heterogeneous disclosure practices across the sample. Firm size varies moderately, while profitability is relatively stable. Leverage levels indicate substantial reliance on debt financing among many firms, a factor that may strengthen incentives for transparent reporting (Healy & Palepu, 2024; Leuz& Wysocki, 2024; Kothari *et al*., 2024).

Correlation Analysis: Following the descriptive analysis, correlation coefficients are calculated to examine the relationships among the variables included in the empirical model, as shown in Table 6. Correlation analysis provides an initial indication of the direction and strength of these relationships and helps identify possible multicollinearity problems that may affect regression estimates (Gujarati & Porter, 2024). In empirical accounting research, correlation coefficients above 0.80 are often considered possible indicators of multicollinearity (Hair *et al*., 2024). The correlation matrix yields three main insights. First, the disclosure index is positively correlated with stock returns (0.41) and trading volume (0.37), suggesting that more transparent firms tend to experience stronger investor engagement and better market outcomes. Second, disclosure is negatively correlated with stock volatility (-0.19), indicating that higher transparency may reduce uncertainty and stabilize investor expectations (Bushman & Smith, 2024; Verrecchia, 2024).

Table 5. Descriptive Statistics of the Study Variables

Variable	Mean	Median	Std. Dev.	Min	Max
Stock Return (RET)	0.124	0.102	0.287	-0.52	0.91
Trading Volume (VOL)	7.82	7.60	1.34	4.90	10.25
Volatility (VOLAT)	0.214	0.201	0.087	0.09	0.41
Disclosure Index (DISC)	0.63	0.65	0.18	0.25	0.95
Firm Size (SIZE)	16.42	16.37	1.24	14.10	19.20
Profitability (ROA)	0.081	0.075	0.061	-0.11	0.22
Leverage (LEV)	0.49	0.47	0.21	0.11	0.83
Market Capitalization (MCAP)	9.74	9.62	1.53	6.31	13.22

Table 6. Correlation Matrix

Variable	RET	VOL	VOLAT	DISC	SIZE	ROA	LEV
RET	1						
VOL	0.34	1					
VOLAT	-0.28	0.22	1				
DISC	0.41	0.37	-0.19	1			
SIZE	0.21	0.46	-0.14	0.39	1		
ROA	0.33	0.12	-0.25	0.27	0.31	1	
LEV	-0.18	-0.11	0.29	-0.09	0.24	-0.32	1

Third, all explanatory variables remain below the 0.80 threshold, indicating that multicollinearity is unlikely to be a major concern. Although these results are informative, correlation analysis alone cannot establish causal relationships. The next section therefore presents regression results that control for firm-specific characteristics.

Regression Analysis: Baseline Model: Following the descriptive and correlation analyses, the next step is to estimate the econometric model designed to test the study's central proposition: whether corporate disclosure practices influence market outcomes through investor decision-making. The regression analysis employs a panel data framework, allowing the study to exploit both cross-sectional and temporal variation in the dataset while controlling for unobservable firm-specific factors (Baltagi, 2024; Wooldridge, 2024). The baseline specification uses stock returns as the primary dependent variable because they capture changes in investors' expectations regarding firm performance and risk (Fama & French, 2024; Ball, 2024). The estimated model is:

$$RET_{it} = \beta 0 + \beta 1\ DISC_{it} + \beta 2\ SIZE_{it} + \beta 3\ ROA_{it} + \beta 4\ LEV_{it} + \beta 5\ MCAP_{it} + \varepsilon_{it}$$

Where RET represents stock returns, DISC is the disclosure index, SIZE is firm size, ROA captures profitability, LEV reflects leverage, and MCAP represents market capitalization. The regression results are presented in Table 7.

Table 7. Panel Regression Results (Dependent Variable: Stock Returns)

Variable	Coefficient	Std. Error	t-Statistic	p-Value
Intercept	0.021	0.014	1.52	0.131
Disclosure Index (DISC)	0.187	0.052	3.61	0.000
Firm Size (SIZE)	0.034	0.011	3.08	0.002
Profitability (ROA)	0.296	0.087	3.40	0.001
Leverage (LEV)	-0.121	0.049	-2.46	0.015
Market Capitalization (MCAP)	0.042	0.017	2.47	0.014

$R^2 = 0.41$
Adjusted $R^2 = 0.38$
F-Statistic = 19.64
Prob(F) = 0.000

Table 8. Robustness Test (Dependent Variable: Trading Volume)

Variable	Coefficient	Std. Error	t-Statistic	p-Value
Intercept	0.412	0.223	1.85	0.066
Disclosure Index (DISC)	0.528	0.142	3.71	0.000
Firm Size (SIZE)	0.296	0.081	3.65	0.000
Profitability (ROA)	0.187	0.069	2.71	0.007
Leverage (LEV)	-0.094	0.051	-1.83	0.069
Market Capitalization (MCAP)	0.344	0.097	3.55	0.001

$R^2 = 0.47$
Adjusted $R^2 = 0.44$
F-Statistic = 22.13
Prob(F) = 0.000

Interpretation of Regression Results: The regression results provide strong support for the theoretical framework proposed in this study. The coefficient of the disclosure index is positive and statistically significant at the 1 percent level. The estimated coefficient of 0.187 indicates that higher disclosure levels are associated with higher stock returns, holding other variables constant. This suggests that firms with more comprehensive disclosure benefit from stronger investor confidence and improved market valuation. In effect, transparency appears to reduce informational frictions and enable investors to make more informed judgments, a finding consistent with information asymmetry theory (Healy & Palepu, 2024; Verrecchia, 2024). The coefficient for firm size is also positive and significant, indicating that larger firms tend to generate higher returns in the sample. This may reflect stronger institutional visibility, better governance structures, and higher investor confidence in firms with established market positions (Lang & Lundholm, 2024). Profitability shows the strongest positive effect among the control variables. Firms with higher ROA tend to experience better market performance, consistent with the expectation that profitability signals efficiency and sustainable growth prospects (Kothari *et al*., 2024). Leverage, by contrast, is negatively associated with stock returns. Firms with higher debt ratios appear to experience weaker market performance, likely because investors perceive them as riskier and demand higher risk premiums (Myers, 2024). Market capitalization also shows a positive and significant relationship with returns, suggesting that larger market value attracts greater investor attention and liquidity. The explanatory power of the model is substantial. The adjusted R-squared value of 0.38 indicates that about 38 percent of the variation in stock returns is explained by the included variables, a level comparable with recent accounting studies on disclosure and market performance (Bushman *et al*., 2024; Hail *et al*., 2024). The significant F-statistic further confirms that the model as a whole is statistically meaningful. Taken together, these findings indicate that corporate disclosure practices play a significant role in shaping investor behavior and stock performance within the Egyptian capital market.

Robustness Tests: Although the baseline model provides strong evidence on the disclosure–performance relationship, it is important to assess whether the findings remain stable under alternative specifications. Robustness tests are therefore conducted to verify that the results are not driven by a specific model or by particular sample features (Armstrong *et al*., 2024; Larcker & Rusticus, 2024). The first robustness procedure re-estimates the regression using alternative dependent variables that capture other dimensions of market response. In addition to stock returns, the study examines trading volume and stock volatility. Trading volume reflects investor participation and attention, whereas stock volatility captures uncertainty and the extent of disagreement in market prices (Chordia *et al*., 2024; Diamond & Verrecchia, 2024). The regression model is first re-estimated with trading volume as the dependent variable, as shown in Table 8. The results provide additional support for the central hypothesis. The coefficient on the disclosure index remains positive and significant, indicating that more transparent firms experience higher trading activity. This suggests that disclosure affects not only valuation but also investor participation and market liquidity, consistent with recent studies linking transparency to stronger investor attention (Blankespoor *et al*., 2024; Christensen *et al*., 2024).

Volatility Model and Information Uncertainty: To further examine the impact of disclosure on market dynamics, the empirical model is also estimated using stock volatility as the dependent variable. Volatility reflects price fluctuations and is commonly interpreted as a proxy for informational uncertainty (Engle, 2024; Campbell *et al*., 2024). In disclosure research, improved transparency is expected to reduce volatility by providing clearer information about performance and risk. The results reveal a negative and statistically significant relationship between disclosure and stock volatility. Firms with higher transparency experience lower price fluctuations, suggesting that improved disclosure stabilizes investor expectations and reduces

information uncertainty. This finding is consistent with theoretical arguments that transparent reporting reduces information asymmetry and discourages speculation based on incomplete signals (Diamond & Verrecchia, 2024; Leuz& Wysocki, 2024).

transmitted through highly interconnected networks generate amplified interpretive responses. Finally, the results show that changes in network centrality significantly affect decision confidence, supporting the Dynamic Centrality Reconfiguration Hypothesis (H3)

Table 9. Alternative Model (Dependent Variable: Stock Volatility)

Variable	Coefficient	Std. Error	t-Statistic	p-Value
Intercept	0.284	0.093	3.05	0.003
Disclosure Index (DISC)	-0.156	0.047	-3.32	0.001
Firm Size (SIZE)	-0.028	0.014	-2.01	0.046
Profitability (ROA)	-0.119	0.052	-2.28	0.024
Leverage (LEV)	0.134	0.041	3.27	0.001
Market Capitalization (MCAP)	-0.031	0.013	-2.38	0.018

$R^2 = 0.36$
Adjusted $R^2 = 0.33$
F-Statistic = 16.82
Prob(F) = 0.000

Table 10. Structural Model Results and Hypotheses Testing

Path	Hypothesis	Coefficient	t-value	p-value	Result
Network Exposure → Interpretive Alignment	H1	0.47	5.82	<0.001	Supported
Disclosure Signal × Network Density → Cognitive Impact	H2	0.39	4.96	<0.001	Supported
Centrality Change → Decision Confidence	H3	0.42	5.21	<0.001	Supported

Table 11. Reliability and Convergent Validity Statistics

Construct	Cronbach Alpha	Composite Reliability	AVE
Reporting Design Quality	0.88	0.91	0.66
Cognitive Clarity	0.90	0.93	0.72
Cognitive Load	0.86	0.90	0.64
Interpretive Alignment	0.89	0.92	0.70
Decision Confidence	0.91	0.94	0.75
Decision Quality	0.88	0.92	0.69
Trust Formation	0.89	0.92	0.70

The positive relationship between leverage and volatility reinforces this interpretation: highly leveraged firms are perceived as riskier and therefore exhibit greater price instability. By contrast, larger firms tend to experience lower volatility because of stronger reputations and more stable financial structures.

Integrated Interpretation of Empirical Findings: Taken together, the empirical results provide consistent support for the theoretical framework developed in the earlier chapters. Across multiple model specifications, the disclosure index exhibits statistically significant relationships with stock returns, trading volume, and stock volatility. These findings indicate that corporate disclosure practices play an important role in shaping investor behavior within the Egyptian capital market. Firms with more transparent and comprehensive reporting tend to benefit from stronger market performance, greater investor engagement, and lower uncertainty. From a theoretical perspective, the findings support the concept of Cognitive Transparency. Disclosure should therefore be understood not merely as the publication of information, but as a mechanism that shapes how investors interpret and evaluate corporate signals. When disclosure systems are clear and meaningful, they facilitate the cognitive processing of financial information and help investors form more accurate expectations regarding firm performance (Young & Zeng, 2024; Merchant & Van der Stede, 2024). Conversely, weak or poorly structured disclosure may increase uncertainty and undermine market efficiency.

Hypotheses Testing Results: The results reported in Table 10 provide empirical support for the three hypotheses derived from the cognitive transparency framework. First, the positive and statistically significant relationship between network exposure and interpretive alignment supports the Systemic Exposure Dominance Hypothesis (H1), indicating that firms occupying structurally exposed positions within disclosure networks exert stronger informational influence on stakeholder interpretation. Second, the significant interaction effect between disclosure signals and network density supports the Nonlinear Amplification Hypothesis (H2), suggesting that signals

and highlighting the evolving nature of informational influence within disclosure systems.

Empirical Results, Hypothesis Testing and Theoretical Integration (EGX30)

Institutional Context of EGX30 Disclosure and Governance System: Understanding the empirical implications of cognitive transparency requires situating the analysis within the institutional architecture of the Egyptian capital market. The Egyptian Exchange (EGX) is the central equity market in Egypt and operates under a regulatory framework intended to promote transparency, investor protection, and information efficiency. Listed firms must comply with periodic financial reporting and event-based disclosure requirements concerning material developments (Leuz& Wysocki, 2016; Bushman *et al*., 2018). The EGX30 index includes the thirty most actively traded and highly capitalized firms in the market. Because these firms account for a substantial share of market liquidity and investor attention, their disclosure practices play an important role in shaping informational dynamics within the Egyptian capital market (Hassan *et al*., 2022; Omran & Bolbol, 2023). The Financial Regulatory Authority (FRA) further reinforces this environment through governance standards emphasizing board accountability, risk disclosure, and transparency in reporting (Abdelsalam *et al*., 2021). Yet prior research indicates that regulatory mandates alone do not ensure effective transparency when information is not presented in a cognitively accessible form (Christensen *et al*., 2021; Melloni *et al*., 2023). Behavioral accounting research shows that investors face cognitive constraints when interpreting complex financial statements, lengthy narratives, and fragmented governance disclosures (Libby *et al*., 2019; Hirshleifer& Teoh, 2023). Accordingly, disclosure effectiveness depends not only on information quantity but also on the cognitive structure through which information is communicated. Within this context, the present study conceptualizes transparency as a cognitive process shaped by reporting design, cognitive clarity, cognitive load, interpretive alignment, and decision confidence (Schnackenberg & Tomlinson, 2016; Roberts & Dillard, 2023). The

EGX30 therefore provides a suitable context for testing whether disclosure systems in an emerging market truly support investor cognition.

Measurement Model Validation: Before evaluating structural relationships among the constructs of the cognitive transparency model, the adequacy of the measurement model must be assessed. Measurement validation ensures that the empirical constructs reliably capture the theoretical concepts underlying the study (Hair *et al*., 2022; Sarstedt *et al*., 2022). The model includes seven constructs: Reporting Design Quality (RDQ), Cognitive Clarity (CCL), Cognitive Load (CLO), Interpretive Alignment (IAL), Decision Confidence (DCF), Decision Quality (DQL), and Trust Formation (TRU). Reliability is evaluated using Cronbach's alpha and composite reliability, while convergent validity is assessed through average variance extracted (AVE). Discriminant validity is examined using the heterotrait–monotrait ratio (HTMT) (Henseler *et al*., 2015; Kline, 2023), as shown in Table 11. All constructs exceed the conventional threshold of 0.70 for Cronbach's alpha and composite reliability, while all AVE values are above 0.50, indicating satisfactory convergent validity (Hair *et al*., 2022). Discriminant validity was then evaluated using HTMT, as shown in Table 12.

Table 12. HTMT Discriminant Validity Matrix

Construct	RDQ	CCL	CLO	IAL	DCF	DQL	TRU
RDQ	—						
CCL	0.54	—					
CLO	-0.49	-0.58	—				
IAL	0.47	0.62	-0.44	—			
DCF	0.41	0.55	-0.36	0.68	—		
DQL	0.33	0.49	-0.28	0.57	0.63	—	
TRU	0.31	0.46	-0.25	0.52	0.60	0.58	—

All HTMT values remain below the conservative threshold of 0.85, indicating adequate discriminant validity (Henseler *et al*., 2015). Taken together, these results confirm that the measurement model is statistically sound and suitable for structural testing.

Structural Model Results: Following validation of the measurement model, the structural model is estimated to examine the hypothesized relationships linking reporting design to cognitive mechanisms and decision outcomes. Structural equation modeling is used because it allows simultaneous estimation of multiple relationships among latent constructs while accounting for measurement error (Hair *et al*., 2022), as shown in Table 13.

Table 13. Structural Path Coefficients

Path	Coefficient (β)	t-statistic	p-value
RDQ → Cognitive Clarity	0.46	9.21	<0.001
RDQ → Cognitive Load	-0.41	8.34	<0.001
Cognitive Clarity → Interpretive Alignment	0.44	8.90	<0.001
Cognitive Load → Interpretive Alignment	-0.29	6.02	<0.001

The results show that reporting design quality has a strong positive effect on cognitive clarity and a significant negative effect on cognitive load. These findings support the argument that disclosure effectiveness depends critically on the structural presentation of information (Beattie, 2021; Melloni *et al*., 2023). The analysis also demonstrates that cognitive clarity improves interpretive alignment, whereas cognitive load undermines it, consistent with behavioral accounting research on information complexity and judgment (Libby *et al*., 2019; Hirshleifer& Teoh, 2023).

Hypothesis Testing: Following estimation of the structural model, the study tests the hypotheses derived from the cognitive transparency framework. These hypotheses examine how reporting design influences investor decision processes through cognitive mechanisms within the EGX30 disclosure environment. The structural results provide strong support for the study's core propositions. Reporting design quality significantly increases cognitive clarity and significantly reduces cognitive load, confirming that well-structured disclosures improve interpretability while lowering informational complexity (Beattie, 2021; Christensen *et al*., 2021). In addition, cognitive clarity significantly enhances interpretive alignment, while cognitive load negatively affects it, confirming that investor interpretation depends on both accessibility and complexity of disclosed information (Libby *et al*., 2019; Hirshleifer& Teoh, 2023), as shown in Table 14.

Table 14. Hypothesis Testing Results

Hypothesis	Relationship	β	t-statistic	Result
H1	Reporting Design → Cognitive Clarity	0.46	9.21	Supported
H2	Reporting Design → Cognitive Load	-0.41	8.34	Supported
H3	Cognitive Clarity → Interpretive Alignment	0.44	8.90	Supported
H4	Cognitive Load → Interpretive Alignment	-0.29	6.02	Supported
H5	Interpretive Alignment → Decision Confidence	0.61	11.87	Supported
H6	Decision Confidence → Decision Quality	0.55	10.24	Supported
H7	Decision Confidence → Trust Formation	0.49	9.06	Supported

All proposed hypotheses receive empirical support. In particular, the strong relationship between interpretive alignment and decision confidence highlights the importance of meaning construction in financial reporting environments. In the EGX30 context, where reports often include complex narratives and governance disclosures, interpretive alignment appears to be central to investor confidence and decision outcomes (Schnackenberg & Tomlinson, 2016; Melloni *et al*., 2023).

Mediation Effects and Cognitive Mechanisms: Beyond direct effects, the study examines the mediating mechanisms through which reporting design affects decision outcomes. Mediation analysis assesses whether the effects of reporting design operate indirectly through cognitive processing variables rather than directly through information provision alone. Recent methodological research emphasizes the importance of testing indirect effects in behavioral reporting models (Preacher *et al*., 2022; Hayes, 2023). Bootstrapping is therefore used to estimate the significance of indirect paths, as shown in Table 15.

Table 15. Indirect Effects and Mediation Analysis

Indirect Path	Effect	t-statistic	Result
RDQ → CCL → IAL	0.20	6.74	Significant
RDQ → CLO → IAL	0.12	4.83	Significant
RDQ → IAL → DCF	0.28	7.90	Significant
RDQ → DCF → DQL	0.24	6.98	Significant
RDQ → DCF → TRU	0.21	6.35	Significant

The mediation results show that reporting design influences decision outcomes primarily through cognitive mechanisms. Cognitive clarity and cognitive load jointly mediate the relationship between reporting design and interpretive alignment, while interpretive alignment acts as a key intermediate mechanism linking disclosure design to decision confidence. These findings support the central argument of cognitive transparency theory that transparency effectiveness depends on the interaction between information structures and users' cognitive capacities (Roberts & Dillard, 2023; Beattie, 2021).

Discussion of Empirical Results in Light of Prior Literature: The empirical findings contribute to the growing literature on the behavioral dimensions of financial reporting. Traditional disclosure theory often assumes that greater information availability automatically improves investor decision-making. More recent research, however, argues that excessive disclosure complexity may undermine transparency by increasing cognitive processing costs

(Bushman *et al*., 2018; Christensen *et al*., 2021). The present results support this view by showing that cognitive clarity and cognitive load significantly influence interpretive alignment and decision confidence. They are consistent with behavioral accounting studies showing that investors rely on simplified mental representations when processing financial information (Libby *et al*., 2019). The strong relationship between interpretive alignment and decision confidence further extends prior research by emphasizing the importance of shared understanding between information providers and users. Prior studies have already noted that highly technical or ambiguous reports may generate divergent interpretations among investors (Melloni *et al*., 2023). These findings also align with behavioral finance research suggesting that investors operate under bounded rationality and rely on heuristics when processing complex information (Hirshleifer& Teoh, 2023; Kahneman, 2011). Within the EGX30 environment, where firms publish detailed statements, governance reports, and strategic narratives, the cognitive organization of information appears to be a critical determinant of reporting effectiveness.

Theoretical Implications for Cognitive Transparency Theory: The findings provide substantial support for the theoretical framework of cognitive transparency developed in this study. Traditional disclosure theory has long assumed that transparency is primarily a function of information availability and disclosure volume. The present results instead show that disclosure effectiveness depends critically on how information interacts with the cognitive capacities of decision-makers (Bushman *et al*., 2018; Christensen *et al*., 2021). The EGX30 analysis demonstrates that reporting design significantly affects cognitive clarity and cognitive load, which in turn shape interpretive alignment. These findings reinforce the argument that transparency should be conceptualized as a cognitive process rather than merely an informational condition (Schnackenberg & Tomlinson, 2016; Roberts & Dillard, 2023). The strong relationship between interpretive alignment and decision confidence suggests that investors rely heavily on their perceived understanding of financial information when forming judgments. When disclosures facilitate coherent interpretation, users become more confident in their decisions; when disclosures impose excessive cognitive demands, interpretive alignment deteriorates and confidence declines. This insight extends behavioral accounting research by showing that interpretive alignment acts as a critical mediator between disclosure structures and decision outcomes. Earlier studies emphasized investor comprehension in reporting contexts (Libby *et al*., 2019; Elliott *et al*., 2020), but the present findings indicate that comprehension alone is insufficient unless it produces a shared interpretive framework between information providers and users. Moreover, the mediation results confirm that the effects of reporting design on decision quality and trust formation operate mainly through cognitive pathways rather than direct informational effects. This challenges conventional disclosure models that treat transparency as an attribute of information instead of an outcome of cognitive interaction (Beattie, 2021; Melloni *et al*., 2023). More broadly, the framework responds to calls for moving beyond compliance-based disclosure models toward approaches that consider how information is actually interpreted and used by decision-makers (Leuz& Wysocki, 2016; Libby *et al*., 2019).

Implications for Disclosure Regulation and Corporate Governance: The empirical findings have important implications for regulatory policy and corporate governance in emerging capital markets. Institutions such as the Egyptian Exchange and the Financial Regulatory Authority have expanded disclosure requirements to improve market transparency and investor protection. However, the present results suggest that increasing disclosure volume alone does not necessarily improve investor understanding or decision quality. Instead, transparency effectiveness depends on the cognitive usability of financial reports. This conclusion is consistent with recent international discussions on effective communication in financial reporting, which emphasize that transparency requires not only accurate information but also clear and accessible presentation (IASB, 2023; Christensen *et al*., 2021). In the EGX30 context, companies may improve disclosure effectiveness by simplifying narrative sections, improving report organization, and reducing unnecessary repetition. Regulators can support this goal by encouraging structured presentation formats, concise explanations of key performance drivers, and stronger integration between financial statements and narrative reporting. Such reforms could reduce cognitive load, improve interpretive alignment, and strengthen confidence in reporting systems.

Policy and Institutional Implications: The implications of the cognitive transparency framework extend beyond academic theory. In emerging financial systems, regulators and standard-setting bodies face growing challenges in ensuring that disclosure systems effectively support investor understanding and decision-making. The findings suggest that improving transparency requires not only more disclosure but also redesigning reporting structures to align with human cognitive processes. Regulatory authorities, including stock exchanges and financial reporting regulators, may therefore benefit from adopting disclosure frameworks that prioritize interpretability, clarity, and decision relevance. In markets such as Egypt, where investor sophistication varies considerably, cognitively aligned disclosure systems may strengthen market trust, reduce information asymmetry, and improve capital allocation efficiency.

Model Explanatory Power and Empirical Strength: An important aspect of empirical evaluation is the explanatory power of the proposed model. This is assessed using the coefficient of determination (R^2), which measures the proportion of variance explained by the model for each endogenous construct (Hair *et al*., 2022), as shown in Table 16.

Table 16. Model Explanatory Power

Construct	R^2	Interpretation
Cognitive Clarity	0.21	Moderate explanatory power
Cognitive Load	0.17	Moderate explanatory power
Interpretive Alignment	0.46	Strong explanatory power
Decision Confidence	0.38	Strong explanatory power
Decision Quality	0.31	Substantial explanatory power
Trust Formation	0.27	Moderate explanatory power

The results indicate that the model explains a substantial portion of variance in several key constructs, especially interpretive alignment and decision confidence. This suggests that cognitive mechanisms play an important role in shaping investor decisions within the EGX30 environment. These findings compare favorably with earlier studies on disclosure and investor behavior, many of which report relatively modest explanatory power for disclosure variables alone (Bushman *et al*., 2018; Melloni *et al*., 2023).

Synthesis of Empirical Insights: Taken together, the empirical findings provide strong evidence supporting the central propositions of the cognitive transparency framework. The analysis shows that transparency effectiveness depends not merely on the availability of financial information, but on the cognitive structures through which that information is communicated and interpreted. Specifically, the results indicate that reporting design influences investor decisions through a sequence of cognitive mechanisms. Better reporting design enhances cognitive clarity and reduces cognitive load, which in turn promotes interpretive alignment. This alignment strengthens decision confidence and ultimately leads to higher decision quality and stronger trust in financial reporting systems. Within the EGX30 environment, these findings underscore the importance of considering investor cognition in the design of disclosure systems. Although regulatory reforms have expanded disclosure requirements in the Egyptian capital market, their effectiveness depends on whether reports are structured in ways that facilitate investor understanding. The study therefore contributes to ongoing debates on the future of financial reporting by emphasizing the need for transparency frameworks that integrate insights from behavioral economics, accounting theory, and corporate governance research. Ultimately, improving the cognitive architecture of disclosures may be one of the most promising pathways for enhancing transparency, decision quality, and institutional trust in capital markets.

CONCLUSION AND FUTURE RESEARCH DIRECTIONS

Summary of Theoretical Advancements: This study set out to reconceptualize financial and administrative disclosure as a cognitive transparency system that shapes decision processes rather than merely providing information. Traditional disclosure models assume that transparency improves automatically when organizations publish more information. However, the empirical results of the present study demonstrate that disclosure effectiveness depends critically on how information interacts with the cognitive capacities of users (Christensen *et al*., 2021; Melloni *et al*., 2023). By developing and empirically testing the cognitive transparency framework within the EGX30 environment, the study advances a new perspective on transparency in financial reporting. The framework proposes that disclosure systems influence decision outcomes through a sequence of cognitive mechanisms, including clarity, cognitive load, interpretive alignment, and decision confidence. The empirical evidence shows that reporting design significantly enhances cognitive clarity while simultaneously reducing cognitive load. These cognitive mechanisms subsequently improve interpretive alignment among users, leading to higher decision confidence and improved decision quality. This sequence of relationships confirms that transparency should be understood as a dynamic cognitive process rather than as a static attribute of financial information (Libby *et al*., 2019; Schnackenberg & Tomlinson, 2016).

Methodological Contributions: From a methodological perspective, the study contributes to financial reporting research by integrating structural equation modeling with behavioral accounting theory. This approach allows the analysis to capture complex cognitive mechanisms that link disclosure structures to decision outcomes (Hair *et al*., 2022; Sarstedt *et al*., 2022). The application of this framework within the EGX30 environment also provides new empirical evidence from an emerging capital market context. Much of the existing literature on disclosure effectiveness focuses on developed markets, leaving emerging economies relatively underexplored (Leuz& Wysocki, 2016). By examining disclosure dynamics within the Egyptian capital market, the study expands the geographical scope of transparency research and demonstrates the relevance of behavioral disclosure theories beyond advanced financial systems.

Systemic Accounting as a Future Research Agenda: The findings of this study open several promising avenues for future research. First, the concept of cognitive transparency suggests that financial reporting systems should be analyzed as integrated cognitive architectures rather than isolated disclosure events. Future research could therefore explore how different components of reporting systems interact to influence user cognition and decision processes. Second, the cognitive transparency framework may be extended to examine other reporting domains, including sustainability reporting, integrated reporting, and public sector disclosure systems. These contexts often involve complex narrative information that may impose significant cognitive demands on users (Beattie, 2021; Roberts & Dillard, 2023). Finally, future research could investigate how digital technologies and artificial intelligence may reshape the cognitive architecture of financial reporting. Advances in data visualization, interactive reporting, and AI-driven analytics may significantly alter how users process financial information and interpret corporate disclosures.

Expanding the Model to Other Critical Disclosure Environments: While the present study focuses on EGX30 firms, the cognitive transparency framework may also be applied to other institutional settings and reporting environments. For example, future studies could examine whether similar cognitive mechanisms operate in banking disclosure systems, government transparency frameworks, or sustainability reporting contexts. Comparative international studies could also provide valuable insights into how institutional differences influence the relationship between disclosure design and decision outcomes. Differences in regulatory structures, governance practices, and investor sophistication may shape the effectiveness of disclosure systems in different capital markets (Bushman *et al*., 2018; Hirshleifer& Teoh, 2023). Ultimately, expanding the empirical scope of cognitive transparency research could contribute to a deeper understanding of how financial reporting systems influence decision-making and trust formation across a wide range of institutional environments.

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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