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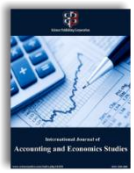

# Beyond Institutional Pressures: Understanding Internal Audit Maturity Through The Structuration Theory in Malaysian Publicly Listed Companies

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**Abstract**

This study explores internal audit maturity (IAM) in Malaysian public-listed companies (PLCs), where audit functions are mandated by Bursa Malaysia's Main Market Listing Requirements but continue to exhibit uneven practices. Framed by Giddens' duality of structure, the research evaluates whether IAM extends beyond the "Repeatable" stage, how maturity differs across audit arrangements, and how antecedent adoption contributes to maturity. A content analysis of 200 annual reports was conducted using a checklist aligned with the International Professional Practices Framework (IPPF), and IAM was modelled as a higher-order construct using a two-stage structural equation modelling approach. Discriminant validity concerns led to a reconceptualisation of audit structure, processes, and relationships into a formative construct termed Internal Audit Organisational Capability, with resources maintained as a separate dimension. The findings reveal that the overall level of maturity is modest yet higher than the basic repeatable stage, with in-house functions outperforming outsourced and co-sourced models. These results challenge institutional theory's expectation of uniform adoption under regulatory pressure and highlight the importance of agentic practices in shaping audit capability. The study contributes by refining the conceptualisation of IAM and demonstrating that maturity arises from both institutional structures and the active agency of auditors.

***Keywords***: *Internal Audit Maturity; Internal Audit Organisational Capability; Institutional Theory; Duality of Structure; Malaysia.*

## 1. Introduction

The internal audit profession in Malaysia has undergone a significant transformation over the past four decades, driven by both institutional mandates and evolving corporate governance expectations. The formalisation of internal audit began with the establishment of the Institute of Internal Auditors Malaysia (IIAM) in 1977, which became nationally recognised in 1988 and was incorporated as a Company Limited by Guarantee in 1994, cementing its institutional foundation. Initially, internal audit development was largely confined to the public sector, following the Treasury Circular No. 2/1979 mandating internal audit units in government agencies. However, early academic investigations focusing on ministries, statutory bodies, and universities revealed that internal audit functions were primarily confined to compliance monitoring, with limited integration into broader governance frameworks. (Ali, Gloek, Ali, Ahmi, & Sahdan, 2007; Zakaria, Zakaria, & Idris, 2007). By 2003, internal audit functions were present in only 33 of 202 agencies, underscoring weak institutionalisation and the absence of analysis on the implications of such non-compliance.

This early evidence highlights the fragility of internal audit institutionalisation in the public sector, but more critically, it underscores the lack of attention given to internal audit practices within the corporate domain, particularly among PLCs. Despite the fact that internal audit functions are mandated under Bursa Malaysia's Main Market Listing Requirements (BMMLR), empirical research on internal audit in PLCs remains scarce. This gap is especially relevant given that PLCs operate under stronger coercive pressures and are expected to demonstrate higher levels of audit maturity and governance accountability.

High-profile corporate failures, such as those involving Transmile Group Berhad and Megan Media Holdings, brought the internal audit under increased scrutiny. These cases exposed deficiencies in internal control, risk oversight, and governance practices, prompting regulatory reforms. Notably, Paragraph 15.28(b) of the BMMLR, introduced in January 2008, made it mandatory for all PLCs to establish an internal audit function. This regulation was built upon the Malaysian Code on Corporate Governance (MCCG), which had promoted internal audit since 2000, and signalled a shift toward coercive governance enforcement. Nonetheless, the report jointly issued by Bursa Malaysia and the IIAM in 2020 (Bursa, 2020), and reaffirmed in Bursa's 2023 findings (Bursa, 2023), indicated that inconsistencies continued to exist in the quality and maturity of internal audit practices across PLCs, including those with long-established functions. Compounding this issue, Malaysia ranked third in the Asia-Pacific region for fraud cases in 2022, with average losses of RM10.5 million per case. (ACFE, 2022), often linked to weak controls and circumvention of internal processes (Singh, Ravindran, Ganesan, Abbasi, & Haron, 2021). These findings highlight the urgency of moving internal audit beyond compliance toward a more proactive and integrated governance role.

Theoretically, institutional theory suggests that coercive regulatory pressures should lead to organisational isomorphism, resulting in standardised practices across firms. However, the Malaysian experience challenges this assumption by revealing that regulatory conformity does not necessarily translate into uniform internal audit practices. The mere existence of internal audit functions, especially when mandated, does not guarantee maturity or alignment with the IPPF. Stakeholders often perceive internal audit as a low-impact governance mechanism. (Eulerich & Lenz, 2020; Lenz & Jeppesen, 2022), and the intrinsic value of internal audit to organisational governance remains undertheorised. Institutional theory's emphasis on structural conformity does not sufficiently account for the agency of internal auditors, particularly their professional judgement, interpretive capacity, and influence in shaping governance outcomes. IAM, therefore, should be seen not only because of formal compliance but also as a product of internal auditors' capability to adapt, innovate, and embed audit practices within the organisational fabric.

Existing literature has explored the internal audit's role in governance. (Ahmad & Taylor, 2009; Singh, Ravindran, Ganesan, Abbasi, & Haron, 2021) and fraud prevention (Cooper, Leung, & Wong, 2006), yet few studies have explicitly measured IAM or examined how it varies across different internal audit models, such as in-house, outsourced, and co-sourced arrangements. Earlier works focused primarily on the public sector and were limited to descriptive compliance analysis, neglecting governance outcomes or maturity progression. Additionally, prevailing studies have largely relied on institutional perspectives, overlooking how IAM may also be shaped by organisational capabilities, cultural context, and professional agency. Recent scholarship (Oktay, Turetken, Jethefer, & Ozkan, 2020) Has emphasised that internal audit effectiveness is deeply tied to its organisational significance, suggesting that maturity should be understood through a dual lens of structure and agency.

To address these theoretical and empirical gaps, this study adopts Giddens' (1984) structuration theory as a complementary framework. Structuration theory conceptualises IAM as the outcome of a duality of structure, wherein institutional rules and norms shape organisational behaviour but are also interpreted and reshaped by knowledgeable agents. Internal auditors, as such agents, operate within structural constraints but also exercise agency to adapt practices, build legitimacy, and embed audit processes within organisational systems. This lens enables a more nuanced understanding of why IAM may vary despite uniform regulatory pressures.

Guided by this perspective, the study addresses three key research questions: (1) To what extent do internal audit functions in Malaysian PLCs exhibit maturity beyond the "Repeatable" stage?; (2) Are there significant differences in IAM across different audit arrangements such as in-house, outsourced, co-sourced?; and (3) Do these arrangements differ in the extent to which they adopt the key antecedents of maturity, namely structure, resources, processes, and relationships? These questions are matched with corresponding objectives: (1) to empirically evaluate the maturity of internal audit functions among Malaysian PLCs; (2) to examine variations in maturity across different audit models; and (3) to assess differences in the adoption of antecedents across these models, interpreting the results through institutional and structuration theories.

Theoretically, this study contributes to the literature by challenging institutional theory's assumption of uniform organisational behaviour under coercive pressure. By integrating structuration theory, it offers a dynamic, agent-centric view of IAM, emphasising the role of internal auditors in mediating institutional expectations through context-specific practices. Practically, the study benchmarks IAM across a national sample of Malaysian PLCs, offering audit committees, boards, and regulators evidence-based insights into the structural and agentic factors shaping audit quality. These insights inform policy initiatives aimed at strengthening IAM and, ultimately, enhancing its effectiveness in alignment with international standards such as the IPPF.

## 2. Literature Review

### 2.1. IAM conceptualisation

IAM refers to the extent to which internal audit functions are formalised, strategically aligned, and institutionalised within an organisation's governance system. As internal audit transitions from a compliance-oriented function to a value-adding, strategic role, maturity becomes an essential benchmark for assessing audit quality and alignment with international standards, particularly those prescribed by the IPPF. (IIA, 2017).

According to Webster, effectiveness is the capacity to achieve a desired result when evaluated retrospectively, whereas the Institute of Internal Auditors (IIA) defines internal audit effectiveness as the extent to which specific objectives are achieved. (Azzali & Mazza, 2018). Lenz, Sarens, and D'Silva (2014) were among the pioneering researchers to identify the fundamental components that serve as the building blocks underpinning internal audit effectiveness. These components, encompassing audit structure, resources, processes, and relationships, represent the essential building blocks that determine the quality and effectiveness of internal audit functions. Building on this foundation, Singh, Ravindran, Ganesan, Abbasi, and Haron (2021) examined the antecedents of internal audit quality and their implications for audit effectiveness, providing an important basis for understanding IAM. However, while their study positioned quality as a precursor to effectiveness, the present research extends this perspective by conceptualising quality as a determinant of maturity, where the structural, process, resource, and relational elements collectively shape the overall stage of IAM.

Traditional studies on internal audit effectiveness often relied on stakeholder perceptions to assess the internal audit function's value. (Cohen & Sayag, 2010; Mihret & Woldeyohannis, 2008; Al-Tawijry, Brierley, & Gwilliam, 2003), resulting in inconsistent outcomes and limited predictive validity. In contrast, stage-based maturity models, exemplified by the works of Pitt (2014) and Bruin (2009), provide a structured and systematic framework for assessing the development of internal audit functions. These models conceptualise maturity through sequential stages, linking internal audit inputs, processes, outputs, and outcomes to organisational goals and governance standards. (Dittenhofer, 2001; Chambers, 2016). Higher maturity levels are associated with improved alignment with strategic objectives and greater stakeholder confidence.

However, outcome-based evaluations of IAM remain scarce compared to input- or process-based assessments. Roussy and Perron (2018) and Roussy, Barbe, and Raimbault (2020) argue that the absence of outcome-oriented research limits understanding of how internal audit contributes to organisational performance or governance resilience. To address this gap, this study adopts Pitt's (2014) maturity logic model, which assesses IAM through four components: inputs, processes, outputs, and outcomes. This approach enables an evaluation of the extent to which internal audit functions operate in accordance with professional standards and organisational strategic objectives.

In addition, the study applies a multidimensional measurement approach, assessing IAM across four discrete but interrelated domains: structure, resources, processes, and relationships. This approach is consistent with Diamantopoulos, A., Sarstedt, Fuchs, Wilczynski, and Kaiser (2012) and DeVellis and Thorpe (2021), who argue that multidimensional constructs enhance reliability and predictive validity. Evidence from Maull, Tranfield, and Maull (2003) supports this approach, showing significant correlations between maturity dimensions

and organisational performance in business process reengineering contexts. By adopting this multidimensional perspective, IAM is treated as a reflective-formative construct representing the institutionalisation of internal audit practices within the broader governance system.
While this conceptualisation captures the foundational domains of IAM, more recent developments reveal that maturity cannot be fully understood through static building blocks alone. Emerging scholarship highlights the dynamic interplay between institutional pressures, agentic practices, and evolving governance challenges such as digital transformation and environmental, social, and governance (ESG) reporting.

## 2.2. Internal audit development and empirical gaps in Malaysia

The evolution of internal audit in Malaysia provides a contextual foundation for understanding the need to study IAM. The profession's formalisation began with the establishment of the IIAM in 1977, which became nationally recognised in 1988 and a Company Limited by Guarantee in 1994. Early academic attention to internal audit in Malaysia was concentrated in the public sector, particularly in government agencies and higher education institutions, following the Treasury Circular No. 2/1979, which mandated the establishment of internal audit units (Ali, Gloek, Ali, Ahmi, & Sahdan, 2007; Zakaria, Zakaria, & Idris, 2007).
These early studies revealed that internal audit was primarily compliance-oriented, with minimal integration into governance and strategic management. Zakaria, Zakaria, and Idris (2007) reported that many higher education institutions had not implemented internal audit functions despite the mandate, and their study excluded the implications of non-compliance. Similarly, Ali, Gloek, Ali, Ahmi, and Sahdan (2007) found that only 33 of 202 government agencies had functional internal audit units in 2003, producing inconclusive results about the internal audit's governance impact. These findings are consistent with the observations of Oktay, Turetken, Jethefer, and Ozkan (2020), who noted that earlier research on internal auditing, both internationally and within the Malaysian context, often overlooked the connection between internal audit effectiveness and its broader organisational significance.
A turning point for internal audit in Malaysia occurred in the corporate sector following high-profile financial scandals, such as those involving Transmile Group Berhad and Megan Media Holdings, which exposed significant deficiencies in internal control and risk oversight mechanisms. (SC, 2022; Shahimi, Mahzan, & Zulkifli, 2016). In response, Paragraph 15.28(b) of the BMMLR was introduced in January 2008, mandating internal audit functions in all PLCs. This regulatory intervention, combined with the MCCG, sought to institutionalise internal audit as a governance mechanism.
Yet, despite these coercive measures, significant inconsistencies persist in internal audit quality, structure, and maturity. A joint review conducted by Bursa Malaysia and the IIAM in 2020 examined forty PLCs and revealed widespread variability in internal audit practices, with many failing to align fully with IPPF standards. (Bursa, 2020). Moreover, Malaysia continues to face high levels of corporate fraud, ranking third in fraud vulnerability in the Asia-Pacific region, with twenty-five cases reported in 2022 and average losses of RM10.5 million per case. (ACFE, 2022). The persistence of fraud is often attributed to weak internal controls and circumvention of established procedures (Singh et al., 2021).
These contextual realities highlight the inadequacy of assuming that regulatory coercion alone can lead to IAM. They also point to a broader issue of internal audit legitimacy, as stakeholders continue to view internal audit as a less influential governance mechanism. (Eulerich & Lenz, 2020; Lenz & Jeppesen, 2022). This context underscores the need for a theoretical lens that can explain why some organisations achieve higher IAM despite facing similar regulatory pressures.
Despite these regulatory and professional milestones, inconsistencies in IAM persist across Malaysian PLCs, with many functions falling short of international standards and failing to prevent recurrent fraud. These outcomes suggest that coercive pressures alone do not guarantee maturity; rather, they reveal the limitations of a compliance-driven approach to understanding internal audit development. Table 1 summarises key Malaysian and international studies, highlighting how previous research has predominantly adopted institutional or effectiveness perspectives without adequately explaining why maturity outcomes differ among firms facing similar regulatory environments.
These persistent inconsistencies illustrate that IAM cannot be fully explained by regulatory coercion alone. Instead, they call for a theoretical lens that accounts for both the constraining influence of institutional structures and the enabling agency of internal auditors in shaping practice. Structuration theory provides such explanatory depth by recognising that auditors actively draw upon and reproduce rules and resources in their daily work. (Englund, Gerdin, & Burns, 2011; Lenz, Sarens, & Jeppesen, 2018). Furthermore, recent developments, including the rapid advancement of digital transformation as highlighted by Kontogeorgis (2025), Protiviti and IIA (2024), and TeamMate (2024), together with the institutionalisation of ESG disclosures following Bursa Malaysia's adoption of IFRS S1 and S2 in 2024 as noted by Bursa (2024) and KPMG (2023), have created new contexts in which these structuration dynamics operate. These shifts underscore the importance of reconceptualising IAM as an evolving and adaptive process rather than a fixed compliance-oriented state.

**Table 1:** Summary of Key Literature, Identified Gaps, and the Present Study's Contribution

| Author(s) & Year | Key Findings / Theoretical Lens | Identified Gaps / Limitations | How the Present Study Addresses the Gap |
|---|---|---|---|
| Ali, Gloek, Ali, Ahmi, and Sahdan (2007); Zakaria, Zakaria, and Idris (2007) | Examined internal audit adoption in Malaysian government agencies and higher education institutions under Treasury Circular No. 2/1979; focused primarily on compliance orientation. | Findings were inconclusive due to low internal audit implementation rates; they lacked exploration of the internal audit's governance impact or maturity development. | Extends the focus to Malaysian PLCs; evaluates IAM beyond compliance by integrating institutional and structuration perspectives. |
| Oktay, Turetken, Jethefer, and Ozkan (2020) | Highlighted that early internal audit research often overlooked the relationship between internal audit effectiveness and organisational significance. | Limited empirical evidence linking IAM to governance or organisational outcomes. | Assesses IAM using a multidimensional framework (structure, resources, processes, relationships) aligned with governance standards (IPPF). |
| Cooper, Leung, & Wong (2006); Ahmad & Taylor (2009) | Investigated the internal audit's role in corporate governance and fraud prevention, primarily perception-based effectiveness measures. | Inconsistent constructs; lacked predictive validity; did not explicitly measure IAM stages. | Employs Pitt's (2014) IAM logic model to provide a stage-based diagnostic of internal audit institutionalisation. |
| Bursa (2020) | Identified inconsistent internal audit practices and limited alignment with IPPF despite BMMLR mandates. | Did not explore antecedents or theoretical explanations for variation in IAM across firms. | Tests IAM variation across in-house, outsourced, and co-sourced models; examines antecedents (structure, resources, processes, relationships). |

| Author(s) & Year | Key Findings / Theoretical Lens | Identified Gaps / Limitations | How the Present Study Addresses the Gap |
|---|---|---|---|
| DiMaggio and Powell (1983) – Institutional Theory | Explains the adoption of organisational practices under coercive, normative, and mimetic pressures. | Overemphasis on structural isomorphism; it fails to explain heterogeneity in IAM outcomes. | Integrates institutional theory with structuration theory to account for agency-driven variation in IAM. |
| Giddens (1984) – Structuration Theory | Highlights the duality of structure; agents reproduce or modify structures through practice. | Limited empirical application in internal audit research; underutilised for explaining IAM. | Applies structuration theory to explain how internal auditors, as knowledgeable agents, mediate institutional pressures to shape IAM. |

## 2.3. Institutional theory and its limitations

Institutional theory has long served as a dominant lens in examining the adoption and diffusion of organisational practices, particularly under the influence of regulatory, normative, and mimetic pressures. (DiMaggio & Powell, 1983). In the internal audit context, coercive institutional pressures arising from statutory mandates and listing requirements, such as Paragraph 15.28(b) of the BMMLR, are expected to promote isomorphism, leading firms to converge in their structures and practices.

However, the Malaysian context challenges this assumption. While most PLCs have formally established internal audit functions to comply with BMMLR, the quality, resourcing, and alignment of these functions with IPPF standards vary significantly. (Bursa, 2020). The lack of enforcement mechanisms for IPPF compliance weakens the coercive effect, allowing firms to adopt internal audit structures superficially without substantive institutionalisation.

This theoretical limitation becomes even more apparent when considering the persistent fraud risks in Malaysian PLCs. If institutional pressures were sufficient to ensure IAM, one would expect fraud vulnerability to decrease as internal audit functions matured. Instead, Malaysia's continued fraud exposure (ACFE, 2022) Suggests that structural adoption does not necessarily translate into effective governance outcomes.

Thus, while institutional theory provides explanatory value for the formalisation of internal audit structures, it falls short of explaining variability in maturity outcomes among firms operating under the same coercive conditions. This theoretical gap calls for a complementary perspective that considers the agency of internal auditors and how they interpret, negotiate, and enact institutional pressures within their organisational contexts.

To address these limitations, this study introduces Giddens' structuration theory as a complementary framework that captures the recursive relationship between structure and agency, offering a more dynamic explanation of how IAM evolves in practice.

## 2.4. Giddens' structuration theory and the duality of structure

Giddens' (1984) structuration theory provides a dynamic lens to complement institutional theory in explaining IAM. At its core lies the duality of structure, which posits that structures, comprising rules, norms, and resources, are both the medium and the outcome of social practices. These structures constrain organisational behaviour while simultaneously enabling action; through recurrent practices, agents reproduce, modify, or transform them.

In this study, agency is understood in Giddens' (1984) sense as the capacity of internal auditors to act with knowledge, intention, and reflexivity within structural constraints. The term agentic practices refers to the observable expressions of this agency, reflecting how internal auditors interpret, negotiate, and institutionalise audit routines within their organisational contexts. Both agency and agentic practices are used throughout this article to enhance conceptual and empirical clarity, with agency representing the underlying theoretical construct and agentic practices describing the behavioural manifestations through which agency is exercised and contributes to IAM.

This conceptualisation allows the study to examine IAM as a product of both institutional pressures and the agentic practices of internal auditors, consistent with the duality of structure framework. In the context of internal auditing, this duality implies that internal auditors are not merely passive recipients of regulatory pressures, such as those mandated by the BMMLR. Instead, they actively interpret and reshape audit practices to align with organisational priorities, available resources, and governance dynamics. For instance, two PLCs subject to identical regulatory frameworks may demonstrate markedly different levels of IAM depending on how internal auditors exercise professional judgment, engage in strategic planning, and cultivate relationships with governance stakeholders.

This perspective underscores that IAM is not a fixed condition imposed by institutional forces but a socially constructed outcome arising from continuous interaction between structural pressures and agentic practices. (Englund, Gerdin, & Burns, 2011; Lenz, Sarens, & Jeppesen, 2018). It recognises that auditors draw on available resources (domination), operate within normative expectations (legitimation), and shape shared meanings (signification), which together represent the three modalities through which structuration unfolds.

Building on this theoretical foundation, the following subsections examine two contemporary arenas, digital transformation and ESG reporting, where the interplay between structural constraints and auditor agency is most evident. These contexts illustrate how IAM is continually reproduced through the agentic enactment of emerging technological and sustainability structures.

## 2.5. Digital transformation as a structuration arena

Recent years have witnessed a profound shift in internal auditing driven by digital transformation. Global studies highlight that internal audit functions increasingly leverage artificial intelligence (AI), data analytics, robotic process automation, and continuous auditing platforms to enhance assurance coverage and insight generation (Protiviti & IIA, 2024; TeamMate, 2024). These digital tools expand the auditors' capacity to capture and interpret organisational data, thereby constituting new allocative resources within the structuration framework. (Giddens, 1984).

Professional bodies such as the IIA and Protiviti have issued updated frameworks, including the Artificial Intelligence Auditing Framework. (IIA, 2024) and the Top Technology Risks Survey (Protiviti & IIA, 2024), that codify acceptable norms and competencies for digital audit practices. These represent legitimation structures that shape how auditors employ technology ethically and effectively. However, the extent to which these technologies contribute to IAM depends on how internal auditors interpret and embed them within their work processes.

Consequently, digital transformation offers a fertile arena for examining IAM as a structuration process. Maturity does not simply arise from technological adoption; it is enacted through the ongoing negotiation of norms, resources, and meanings that redefine the internal audit's role in delivering assurance, advisory, and strategic value. (PwC, 2023).

## 2.6. ESG reporting in Malaysia as a coercive catalyst

Parallel to digitalisation, the rise of ESG reporting has intensified the regulatory and assurance responsibilities of internal audit functions. Bursa Malaysia's December 2024 mandate adopting IFRS S1 and S2 standards requires PLCs to disclose sustainability information aligned with international best practices (Bursa, 2024). These requirements, supported by the Sustainability Reporting Guide (Bursa, 2023) And corporate governance reforms introduce strong coercive pressures that redefine assurance expectations for non-financial information.
Internal audit is increasingly expected to verify the integrity of sustainability data, evaluate ESG-related controls, and provide assurance over the organisation's reporting readiness. (KPMG, 2023; ACCA, 2025). From a structuration perspective, these ESG mandates function as structural rules that auditors interpret and operationalise through internal governance systems. Maturity, therefore, hinges on how internal auditors translate ESG frameworks into actionable audit programs, risk assessments, and stakeholder engagements, illustrating again that IAM evolves through agentic reproduction of institutional expectations.

## 2.7. Toward an integrated theoretical framework

By integrating institutional theory with Giddens' (1984) duality of structure, this study proposes a dual-theoretical framework to explain IAM in Malaysian PLCs. Institutional theory clarifies how coercive, normative, and mimetic pressures formalise internal audit structures, whereas the duality of structure explains why maturity outcomes diverge despite comparable institutional environments. Internal auditors, as knowledgeable agents, continuously reproduce or modify internal audit practices within organisational contexts, thereby shaping the trajectory of maturity. (Englund, Gerdin, & Burns, 2011; Lenz, Sarens, & Jeppesen, 2018).
This integrated framework addresses persistent empirical and theoretical gaps in Malaysian internal audit research, where prior studies have primarily examined audit effectiveness, compliance, and governance impact but have not explicitly conceptualised maturity as a distinct developmental construct. Earlier research often treated regulatory compliance or function establishment as a proxy for audit advancement, without investigating whether such compliance leads to sustained institutionalisation or strategic capability. Hence, this study reconceptualises IAM as an emergent outcome of two interdependent mechanisms: (1) structural antecedents (pressures, resources, and rules); and (2) agentic processes (interpretation, negotiation, and adaptation of internal audit practices).
The integration of these perspectives enables a holistic understanding of IAM as both institutionally conditioned and agentically enacted. Institutional theory elucidates the external drivers of audit formalisation, while structuration theory explains the internal dynamics through which auditors enact, reproduce, and transform these structures in practice. This synthesis acknowledges that while coercive mechanisms (such as BMMLR and ESG mandates) establish formal expectations, the realisation of maturity depends on how internal auditors leverage digital resources, interpret professional norms, and reconfigure practices within their organisational settings.
Recent developments in digital transformation and ESG reporting further amplify this interplay between structure and agency. Digitalisation equips auditors with new allocative resources, including AI, data analytics, and automation tools, which enhance their assurance capabilities and deepen organisational insight. (IIA, 2024; Protiviti & IIA, 2024; TeamMate, 2024). Simultaneously, ESG reporting requirements following Bursa Malaysia's 2024 adoption of IFRS S1 and S2 standards introduce heightened coercive and normative structures that reshape assurance expectations. (Bursa, 2024; KPMG, 2023). Within the duality of structure, these developments exemplify new arenas in which internal auditors co-produce maturity by transforming external frameworks into routinised governance practices.
Building on the insights summarised in Table 1, this study adopts an integrated theoretical framework to examine IAM. Figure 1 illustrates the proposed integrated theoretical framework combining institutional theory and Giddens' (1984) duality of structure to explain IAM in Malaysian PLCs. The arrow from institutional theory to IAM reflects institutional pressures (coercive, normative, and mimetic), consistent with DiMaggio and Powell's (1983) assertion that external forces drive the formalisation of organisational practices. However, variations in maturity outcomes despite uniform regulatory pressures necessitate a complementary perspective. The arrow from structuration theory to IAM represents agentic practices, highlighting the role of internal auditors as knowledgeable agents who interpret, adapt, and institutionalise audit routines within their organisational contexts.
Finally, the arrow from structuration theory back to institutional theory symbolises the reproduction of rules and resources, illustrating that institutional structures are not static but are continually reinforced or reshaped through recurrent audit practices. This recursive loop directly addresses institutional theory's limitation by demonstrating that institutional pressures are both the medium and the outcome of agentic action. Over time, auditors' enactment of digital auditing practices and sustainability assurance routines feeds back into the institutional environment, influencing emerging standards, professional norms, and governance expectations.
Accordingly, IAM is conceptualised as a dynamic and contextually embedded capability, produced through the continuous interaction of structural constraints and agentic enactment, particularly salient amid Malaysia's evolving regulatory, technological, and sustainability landscape.

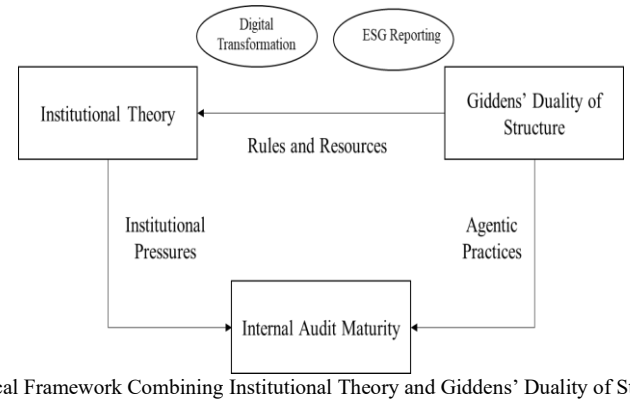


**Fig. 1:** ntegrated Theoretical Framework Combining Institutional Theory and Giddens' Duality of Structure in Explaining IAM.

The framework depicts how Institutional Theory explains the influence of coercive, normative, and mimetic pressures that drive the formalisation and standardisation of internal audit functions across organisations (Institutional Theory → IAM). In contrast, Giddens' Structuration Theory highlights the agentic role of internal auditors who interpret, adapt, and reproduce audit practices within these institutional contexts (Structuration Theory → IAM). The bidirectional arrow (Structuration Theory → Institutional Theory) represents the reproduction

of rules and resources, showing how internal audit practices can, over time, reinforce or reshape institutional norms. Finally, contextual arenas such as Digital Transformation and ESG Reporting illustrate contemporary domains where these structuration dynamics unfold, influencing how internal auditors enact and reproduce institutional structures and organisational maturity.

# 3. Hypotheses Development

The integrated theoretical framework (Figure 1) provides the basis for developing hypotheses that address the study's research questions. Institutional theory explains how institutional pressures (coercive, normative, and mimetic) drive the adoption and formalisation of internal audit practices. (DiMaggio & Powell, 1983). However, as highlighted by Giddens' (1984) duality of structure, internal auditors as knowledgeable agents interpret, negotiate, and reproduce institutional rules, resulting in varying maturity outcomes across organisations. The following hypotheses are developed to examine these dynamics.

## 3.1. IAM beyond the "repeatable" stage

The first research question seeks to determine whether internal audit functions in Malaysian PLCs have progressed beyond the "Repeatable" stage (Level 2) of development in the IIA maturity model. Institutional theory suggests that coercive pressures, such as the BMMLR, should encourage PLCs to formalise their internal audit functions, resulting in higher maturity levels. (Ahmad & Taylor, 2009; Singh, Ravindran, Ganesan, Abbasi, & Haron, 2021). However, empirical evidence from Bursa Malaysia and IIAM in 2020 indicates inconsistent alignment with IPPF standards despite mandatory requirements, raising concerns about the extent of institutionalisation. (Bursa, 2020).
Given that the "Repeatable" stage represents basic compliance, a statistically significant maturity level above this stage would imply a transition toward Defined (Level 3) or higher maturity, reflecting increasing institutionalisation of internal audit practices. Thus, the following hypothesis is proposed:
H1. Internal audit functions in Malaysian PLCs exhibit a maturity level that is significantly higher than the "Repeatable" stage (Level 2) of the IIA maturity model.

## 3.2. Differences in IAM across audit arrangements

The second research question examines whether IAM varies across different internal audit arrangements, such as in-house, outsourced, and co-sourced. Institutional theory predicts some degree of isomorphism, as PLCs are subject to similar regulatory pressures. However, the duality of structure suggests that maturity outcomes may differ depending on how internal auditors enact and adapt institutional rules within specific organisational arrangements.
In-house arrangements are expected to facilitate higher maturity due to greater organisational embeddedness, stronger alignment with strategic objectives, and better access to organisational resources. (Alzeban & Gwilliam, 2014; Sarens & Beelde, 2006). By contrast, outsourced internal audit functions may provide technical expertise but often lack continuity and organisational integration, limiting maturity development. (Christopher, 2019). Co-sourced arrangements, combining in-house knowledge with external expertise, may offer intermediate benefits but remain dependent on how effectively relationships are managed.
Accordingly, the following hypothesis is proposed:
H2. There are significant differences in IAM across different internal audit arrangements (in-house, outsourced, and co-sourced).

## 3.3. Differences in antecedent adoption across audit arrangements

The third research question explores whether internal audit arrangements differ in their adoption of antecedents, namely structure, resources, processes, and relationships, that contribute to maturity. The duality of structure provides a strong theoretical basis for expecting variation, as agents within different internal audit models interpret and enact institutional rules differently.
In-house functions are more likely to institutionalise structural and relational antecedents, as auditors are embedded in organisational processes and interact more frequently with governance stakeholders. (Mihret & Gran, 2017). Outsourced arrangements, while benefiting from technical expertise, may emphasise process efficiency rather than strategic alignment, as external providers often focus on contractual deliverables.. (Botha & Wilkinson, 2020). Co-sourced arrangements may achieve a balance, leveraging external resources while maintaining internal oversight, though success depends on relationship management and knowledge integration. (Arena, Jeppesen, & Johansen, 2016).
Thus, the following hypothesis is proposed:
H3. Internal audit arrangements differ significantly in their adoption of antecedents (structure, resources, processes, and relationships) that contribute to maturity.

# 4. Methodology

This chapter outlines the methodological approach used to examine IAM among Malaysian PLCs. It describes the research design, sampling procedures, data collection, measurement model, and analytical techniques adopted to address the study's research questions and hypotheses. The methodology is grounded in an integrated theoretical framework (Figure 1) and informed by prior maturity-based studies in internal auditing. (Pitt, 2014; Singh, Ravindran, Ganesan, Abbasi, & Haron, 2021). The study is based on the top 200 non-financial PLCs ranked by market capitalisation on the Bursa Malaysia Main Market. This ranking-based selection reflects firms with substantial governance responsibilities and higher levels of public accountability. Wan-Hussin, Fitri, and Salim (2021) reported that the top 200 non-financial firms collectively accounted for more than two-thirds of the aggregate market value of all listed companies, indicating that larger firms typically demonstrate greater transparency and more comprehensive corporate disclosures.
A disjoint two-stage approach in SmartPLS 4 was employed to first validate the measurement model of IAM domains and subsequently evaluate composite maturity scores across arrangements. This method enabled both domain-level analysis and composite maturity benchmarking, directly aligning with the study's research questions.

**Table 2:** Summary of Research Question, Theoretical Basis, and Hypotheses

| Research Question (RQ) | Theoretical Basis | Hypothesis |
|---|---|---|
| RQ1: To what extent do internal audit functions in Malaysian PLCs exhibit maturity beyond the "Repeatable" stage of development? | Institutional Theory (DiMaggio & Powell, 1983) – Coercive and normative pressures (BMMLR, MCCG) drive formalisation and institutionalisation of internal audit practices. | H1: Internal audit functions in Malaysian PLCs exhibit a maturity level that is significantly higher than the "Repeatable" stage (Level 2) of the IIA maturity model. |
| RQ2: Are there significant differences in IAM across different internal audit arrangements, such as in-house, outsourced, and co-sourced? | Institutional Theory + Duality of Structure (DiMaggio & Powell, 1983; Giddens, 1984) – Institutional pressures formalise internal audit structures, but agentic practices drive variation in maturity outcomes across arrangements. | H2: There are significant differences in IAM across different internal audit arrangements, such as in-house, outsourced, and co-sourced. |
| RQ3: Do these arrangements differ in the extent to which they adopt the key antecedents of maturity, namely structure, resources, processes, and relationships? | Duality of Structure (Giddens, 1984) – Knowledgeable agents interpret and reproduce institutional rules differently across internal audit arrangements, affecting antecedent adoption. | H3: Internal audit arrangements differ significantly in their adoption of antecedents, namely structure, resources, processes, and relationships, that contribute to maturity. |

## 4.1. Research design

This study adopts a quantitative, explanatory research design to empirically test the hypotheses developed from the integrated theoretical framework (Figure 1). The design enables objective measurement of IAM levels and the assessment of variations across internal audit arrangements (Creswell, 2014). Consistent with prior maturity-based internal audit studies (Pitt, 2014; Singh, Ravindran, Ganesan, Abbasi, & Haron, 2021), IAM is conceptualised as a reflective–formative higher-order construct, measured across four domains, namely structure, resources, processes, and relationships, aligned with the IIA's IPPF framework, allowing for simultaneous examination of domain-level indicators and their composite contribution to overall maturity.

The research is grounded in institutional theory. (DiMaggio & Powell, 1983) And Giddens' (1984) duality of structure, facilitating the investigation of both structural antecedents (institutional pressures) and agentic practices (interpretation and adaptation of rules) in shaping IAM outcomes.

## 4.2. Sampling and data collection

The study utilised secondary data obtained through content analysis of annual reports from the top 200 non-financial companies ranked by market capitalisation on the Bursa Malaysia Main Market for the financial year ended 2023. Each report was independently coded and verified by two coders to ensure consistency and reliability. Content analysis, a well-established method in auditing research for evaluating disclosure-based governance indicators (Krippendorff, 2019), provides an objective and unobtrusive means of assessing internal audit practices. The analysis applied a structured 23-item coding checklist aligned with the IPPF, capturing key IAM indicators across four domains: structure, resources, processes, and relationships. The selected PLCs reflect entities with substantial governance responsibilities. (Wan-Hussin, Fitri, & Salim, 2021), where internal audit functions are expected to be more institutionalised (Bursa, 2020).

Inter-coder reliability was ensured through a seven-step coding protocol, including independent coding, inter-rater calibration, and manual cross-validation. Cohen's Kappa coefficients for all coded items exceeded 0.80, indicating substantial agreement. (Landis & Koch, 1977).

## 4.3. Measurement of constructs

### 4.3.1. Internal audit maturity

IAM was conceptualised as a reflective–formative higher-order construct, consistent with prior maturity-based frameworks (Pitt, 2014; Singh et al., 2021). The four first-order reflective domains, namely structure, resources, processes, and relationships, collectively serve as formative indicators of IAM, representing the extent to which internal audit practices are institutionalised within organisations. This approach follows Diamantopoulos et al. (2012) and DeVellis and Thorpe (2021), ensuring construct validity when modelling maturity as an outcome of distinct but interrelated governance components. Each domain was operationalised based on IPPF standards and prior empirical literature, as detailed below.

The structure domain captures the strategic positioning and institutionalisation of internal audit within governance systems. Indicators include the presence of internal audit strategic objectives, an agile and risk-based audit plan, functional reporting lines to the board and audit committee, a clearly defined competency framework, and a formalised audit charter and manual. These are consistent with IPPF Standard 1000 and highlight the importance of structural independence and strategic alignment. (Arena & Azzone, 2009; Mihret & Gran, 2017; Shahimi, Mahzan, & Zulkifli, 2016).

The resources domain reflects the competencies and professional qualifications of internal auditors. Indicators include professional certification of the Chief Audit Executive (CAE), Certified Internal Auditor (CIA) certification among auditors, structured training programs, collective team competencies, and other relevant professional certifications (Association of Chartered Certified Accountants (ACCA), Certified Public Accountant (CPA), Certified Information Systems Auditor (CISA)). These indicators align with IPPF Standards 1200 to 1230 and are supported by literature linking professional competence to audit quality and organisational performance. (Al-Tawijry, Brierley, & Gwilliam, 2003; Abdolmohammadi, D'Onza, & Sarens, 2016; Alzeban, 2021).

The processes domain evaluates adherence to recognised professional standards and the overall robustness of audit execution, encompassing emerging areas such as ESG assurance and cybersecurity oversight. Reflective indicators include adoption of the IPPF and Code of Ethics, the integration of advanced audit technologies, comprehensive audit scope and coverage, application of risk-based internal auditing (RBIA), implementation of audit follow-up procedures, Quality Assurance and Improvement Program (QAIP) assessments, adoption of the COSO framework, and the use of documented assurance maps. These process-oriented practices, which are embedded within IPPF Standards 1300 to 2500, are closely linked to improvements in audit quality and the institutionalisation of internal audit functions. (Singh, Ravindran, Ganesan, Abbasi, & Haron, 2021; Alrahamneh, 2024; Kotb, Elbardan, & Halabi, 2020).

The relationships domain reflects the internal audit's strategic engagement with governance stakeholders, which strengthens its legitimacy and perceived value. Indicators include the use of internal audit as a management training ground, regular meetings with senior management, engagement with external auditors, quarterly audit committee meetings, and private meetings with the audit committee chair. These relational attributes, consistent with agency theory, stakeholder theory, and Giddens' Duality of Structure, highlight the importance of interpersonal networks in shaping institutional legitimacy. (Zaman & Sarens, 2013; Eulerich & Lenz, 2020).

Each domain was operationalised using multiple indicators rated on a five-point maturity scale, aligned with the IIA's maturity levels (Initial, Repeatable, Defined, Managed, and Optimised). Composite IAM scores were derived using latent variable scores (LVS) obtained from SmartPLS 4.

The reflective indicators for each domain were operationalised based on IPPF standards and supported by prior empirical literature to ensure content validity. Table 3 summarises the four domains of IAM, their key indicators, corresponding IPPF standards, and key sources. This tabular presentation complements the narrative description, providing a concise overview of the measurement model used to evaluate IAM as a reflective–formative higher-order construct.

**Table 3:** Measurement Summary for IAM

| Domain | Key Indicators (Antecedents) | Relevant IPPF Standards | Key Sources |
|---|---|---|---|
| Internal Audit Structure (IAS) | 1. Internal audit strategic objectives; 2. Agile and risk-based annual audit plan; 3. Functional reporting lines to the board & audit committee; 4. Clearly defined competency framework; and 5. Formalised internal audit charter & manual | Standard 1000 (Purpose, Authority, and Responsibility) | Arena & Azzone (2009); Mihret & Grant (2017); Shahimi, Mahzan, & Zulkifli (2016) |
| Internal Audit Resources (IAR) | 1. Professional certification of CAE; 2. CIA certification among internal audit staff; 3. Structured training programs; 4. Collective team competencies; and 5. Other professional certifications (ACCA, CPA, CISA) | Standards 1200–1230 (Proficiency & Due Professional Care; Continuing Professional Development) | Al-Twaijry, Brierley, & Gwilliam (2003); Abdolmohammadi, D'Onza, & Sarens (2016); Alzeban (2021) |
| Internal Audit Processes (IAP) | 1. Adoption of IPPF & Code of Ethics; 2. Integration of advanced audit technologies; 3. Robust audit scope & coverage (includes ESG and cybersecurity); 4. Comprehensive risk-based audit coverage; 5. Audit follow-up procedures; 6. QAIP assessments; 7. Adoption of COSO framework; and 8. Documented assurance maps | Standards 1300–2500 (Quality Assurance, Engagement Planning, and Performance) | Kotb, Elbardan, & Halabi (2020); Singh, Ravindran, Ganesan, Abbasi, & Haron (2021); Alrahamneh (2024) |
| Internal Audit Relationships (IARL) | 1. Internal audit as management training ground; 2. Regular meetings with senior management; 3. Engagement with external auditors; 4. Quarterly audit committee meetings; and 5. Private meetings with the audit committee chair | Standard 2060 (Reporting to Senior Management and Board) | Zaman & Sarens (2013); Eulerich & Lenz (2020) |

#### 4.3.2. Internal audit arrangements

Internal audit arrangements were classified into three categories based on disclosures in annual reports: in-house, outsourced, and co-sourced. This categorisation aligns with BMMLR and previous research (Arena & Azzone, 2009).

### 4.4. Data analysis

Data analysis was conducted using SmartPLS 4 and SPSS version 30, following a two-stage approach to evaluate both measurement and structural models.

#### 4.4.1. Measurement model assessment

The reflective first-order constructs were assessed using Confirmatory Composite Analysis (CCA). Indicator reliability was established with outer loadings exceeding the recommended threshold of 0.708, while internal consistency reliability was confirmed through composite reliability values greater than 0.70. Convergent validity was supported by average variance extracted (AVE) values above 0.50, and discriminant validity was verified using the heterotrait–monotrait (HTMT) ratio of correlations, with all values below the conservative cut-off of 0.85 (Hair, et al., 2021). Following validation, the LVS derived from the first-order constructs were employed as formative indicators in the second-stage analysis of IAM.

#### 4.4.2. Structural model assessment

The structural model was subsequently evaluated to test Hypotheses H1 to H3. Hypothesis H1 was examined using a one-sample t-test, which compared the average IAM score against the "Repeatable" maturity benchmark (Level 2). To assess H2 and H3, one-way ANOVA with Games–Howell post hoc tests was employed, as this method is robust to unequal variances and sample sizes across internal audit arrangements (Field, 2018). The disjoint two-stage approach enabled both domain-level analysis, which explored differences in the adoption of antecedents across arrangements (RQ3), and composite-level benchmarking of IAM maturity across models (RQ2). All statistical tests were conducted at a significance level of $p < 0.05$.

## 5. Results

### 5.1. Measurement model assessment

#### 5.1.1. Indicator reliability and convergent validity

The measurement model was assessed using CCA in SmartPLS 4 to evaluate the reliability and validity of the first-order reflective constructs. All indicators demonstrated satisfactory outer loadings (>0.708), with composite reliability (CR) ranging from 0.861 to 0.923 and AVE between 0.563 and 0.691, confirming convergent validity. (Hair, et al., 2021).

#### 5.1.2. Discriminant validity assessment using HTMT

Discriminant validity was evaluated using the heterotrait–monotrait ratio of correlations (HTMT), following the recommendations of Henseler, Hubona, and Ray (2016). This criterion is particularly appropriate when constructs are conceptually related and thus likely to demonstrate high intercorrelations. The results, presented in Table 4, indicate that three construct pairs exceeded the conservative threshold of 0.85, suggesting a lack of discriminant validity. Specifically, the HTMT values were 1.021 between IAP and IAS, 0.984 between IARL

and IAS, and 0.942 between IAP and IARL. In contrast, IAR displayed acceptable HTMT values across all pairings (ranging from 0.534 to 0.583), thereby confirming its empirical distinctiveness relative to the other domains.

**Table 4:** HTMT Matrix for First-Order Constructs

| Construct | IAP | IARL | IAR | IAS |
|---|---|---|---|---|
| IAP | – | 0.942 | 0.534 | 1.021 |
| IARL | – | – | 0.574 | 0.984 |
| IAR | – | – | – | 0.583 |
| IAS | – | – | – | – |

The high intercorrelations suggest substantial empirical overlap among IAS, IAP, and IARL, undermining their conceptual distinctiveness as separate first-order constructs.

### 5.1.3. Reconceptualisation of internal audit organisational capability

The HTMT assessment results necessitated a reconceptualisation of the measurement model to ensure construct validity. Given the substantial empirical overlap among IAS, IAP, and IARL, these domains were synthesised into a second-order formative construct termed Internal Audit Organisational Capability (IAOC). This reconceptualisation is consistent with theoretical arguments that these dimensions collectively capture the organisational embeddedness and institutionalisation of internal audit functions. (Arena & Azzone, 2009; Singh, Ravindran, Ganesan, Abbasi, & Haron, 2021). IAOC thus reflects the combined strength of structural, procedural, and relational elements, representing the function's capacity to operate as an integrated governance mechanism.

In contrast, IAR demonstrated acceptable discriminant validity and was therefore retained as a distinct construct. At the measurement level, IAR was specified as a reflective first-order construct, assessed using indicators IAR2 to IAR5. In the higher-order model, however, IAR was incorporated as a second-order component of IAM through a disjoint two-stage approach, thereby complementing the formative IAOC construct. This treatment reflects its role as a resource-based dimension that, while empirically distinct, is integral to the overall conceptualisation of IAM.

The final model, therefore, conceptualises IAM as a reflective–formative higher-order construct composed of two second-order components: (1) IAOC, a formative second-order construct comprising IAS, IAP, and IARL; and (2) IAR, a reflective first-order construct elevated as a distinct second-order component as shown in Figure 3. This revised structure was operationalised using a disjoint two-stage approach in SmartPLS, where LVS of the first-order constructs were employed as inputs for the second-order measurement. Table 5 summarises the discriminant validity results and the resulting higher-order construct specification.

**Table 5:** Reconceptualisation of IAM Based on Discriminant Validity (HTMT results)

| Construct Pair | HTMT Value | Discriminant Validity Status | Action Taken in Revised Model |
|---|---|---|---|
| IAP ↔ IAS | 1.021 | Not established (HTMT > 0.90) | Synthesised into IAOC |
| IARL ↔ IAS | 0.984 | Not established (HTMT > 0.90) | Synthesised into IAOC |
| IAP ↔ IARL | 0.942 | Not established (HTMT > 0.90) | Synthesised into IAOC |
| IAR ↔ IAS | 0.583 | Established (HTMT < 0.85) | Retained as a separate construct |
| IAR ↔ IAP | 0.534 | Established (HTMT < 0.85) | Retained as a separate construct |
| IAR ↔ IARL | 0.574 | Established (HTMT < 0.85) | Retained as a separate construct |

As shown in Table 5, the lack of discriminant validity among IAS, IAP, and IARL warranted their integration into IAOC, while IAR remained a distinct domain.

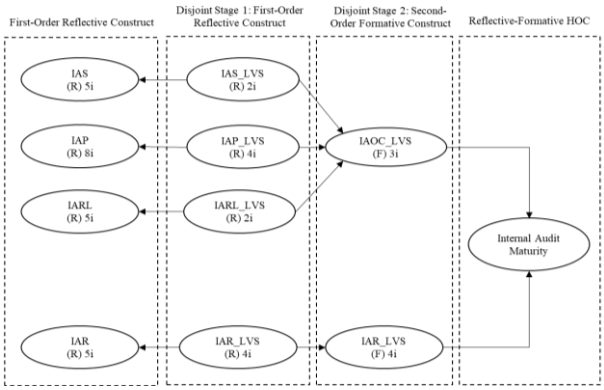


**Fig. 2:** Reconceptualised Measurement Model of IAM, Comprising IAOC (Formative Second-Order: IAS, IAP, IARL) and IAR (Reflective First-Order: IAR2–IAR5) as Distinct Components.

The model conceptualises IAM as a third-order formative construct comprising two distinct but interrelated components. The first construct, IAOC, is modelled as a formative second-order construct integrating three domains, namely IAS, IAP, and IARL, which collectively represent the organisational systems underpinning audit maturity. The IAR construct captures the human resource dimension of internal audit capability, operationalised through professional qualifications and collective competencies (IAR2–IAR5), representing enabling resources that support the maturity and effectiveness of the internal audit function.

Figure 2 illustrates the revised hierarchical component model of IAM based on the discriminant validity assessment. Empirically, IAS, IAP, and IARL exhibited substantial overlap and were therefore synthesised into the second-order formative construct IAOC, reflecting the collective strength of the internal audit function's structural, procedural, and relational dimensions. In contrast, IAR retained discriminant validity and was modelled as a reflective first-order construct, subsequently incorporated as a distinct second-order component of IAM through a disjoint two-stage approach. The resulting reflective–formative specification thus captures IAM as a dual-dimensional construct encompassing both organisational capability (IAOC) and resource endowment (IAR).

#### 5.1.4. Formative assessment of higher-order constructs

The formative assessment of the higher-order constructs showed no multicollinearity issues (VIF < 3.3). All outer weights were significant for IAOC dimensions (Structure $\beta = 0.338$, $p < 0.001$; Processes $\beta = 0.281$, $p < 0.001$; Relationships $\beta = 0.192$, $p < 0.01$), confirming their substantive contribution. IAR also had a significant though smaller outer weight ($\beta = 0.109$, $p = 0.043$).
This reconceptualisation confirms that IAM is predominantly shaped by organisational capability (IAOC), while resources (IAR) remain a complementary but independent determinant.

### 5.2. Descriptive analysis of IAM

The average composite IAM score across the 200 PLCs was 2.47 (SD = 0.61) on a five-point maturity scale, placing most firms between the "Repeatable" (Level 2) and "Defined" (Level 3) stages of the IIA maturity model. This indicates modest progress beyond basic compliance but suggests that advanced maturity (Levels 4–5) remains uncommon.
The distribution of scores was left-skewed, with 63% of PLCs scoring between 2.0 and 2.9, 27% between 3.0 and 3.9, and only 10% achieving scores above 4.0. This uneven distribution reflects inconsistent institutionalisation of internal audit practices, corroborating concerns raised by Bursa Malaysia and IIAM (Bursa, 2020).

### 5.3. Hypothesis testing

#### 5.3.1. H1 – IAM beyond the "repeatable" stage (RQ1)

A one-sample t-test was conducted to compare the mean IAM score against the "Repeatable" benchmark (Level 2). Results show that the mean score was significantly higher than 2.0 ($t(199) = 5.086$, $p < 0.001$), supporting H1. This finding indicates that, on average, Malaysian PLCs have progressed modestly beyond basic compliance, reflecting partial institutionalisation of internal audit practices.

#### 5.3.2. H2 – Differences in IAM across audit arrangements (RQ2)

A one-way ANOVA with Games–Howell post hoc tests was conducted to examine differences in IAM across the three audit arrangements, such as in-house, outsourced, and co-sourced. The results revealed significant group-level differences ($F(2,197) = 12.431$, $p < 0.001$). Post hoc comparisons showed that in-house functions ($M = 2.61$) achieved significantly higher maturity scores than both outsourced functions ($M = 1.98$, mean difference = 0.628, $p = 0.001$) and co-sourced functions ($M = 1.39$, mean difference = 1.221, $p < 0.001$). In addition, outsourced functions scored significantly higher than co-sourced arrangements (mean difference = 0.594, $p = 0.047$). These findings confirm H2, establishing a maturity ranking of in-house > outsourced > co-sourced. The results suggest that in-house arrangements demonstrate the highest level of institutionalisation, while outsourced functions benefit from technical expertise and structured methodologies. By contrast, co-sourcing appears to face integration challenges between internal and external auditors, potentially constraining the development of maturity.

#### 5.3.3. H3 – Differences in antecedent adoption across audit arrangements (RQ3)

To examine whether internal audit arrangements varied in their adoption of antecedents contributing to IAM, a Spearman's rank-order correlation analysis was conducted to compare the types of internal audit arrangements, namely in-house, outsourced, and co-sourced, against the 23 identified antecedents. The results revealed several significant negative correlations, indicating that in-house functions are more strongly associated with the adoption of maturity-enhancing practices compared to outsourced and co-sourced models. The strongest association was observed for training needs analysis ($\rho = -0.538$, $p < 0.001$), suggesting that in-house internal audit functions are considerably more likely to implement structured professional development and capacity-building programs. This was followed by quarterly reporting to the audit committee ($\rho = -0.452$, $p < 0.001$), reinforcing that in-house functions provide more formalised and frequent governance communication.
Further significant associations were observed with a range of critical maturity antecedents, including competency frameworks ($\rho = -0.377$, $p < 0.001$), participation in strategic or management meetings ($\rho = -0.375$, $p < 0.001$), inclusion of cybersecurity and ESG in the audit scope ($\rho = -0.417$, $p < 0.001$), adoption of advanced audit technologies ($\rho = -0.370$, $p < 0.001$), implementation of internal QAIP assessments ($\rho = -0.398$, $p < 0.001$), and adoption of the COSO framework ($\rho = -0.337$, $p < 0.001$.
In terms of governance-related attributes, in-house internal audit functions demonstrated significantly higher adoption of long-term internal audit strategic objectives ($\rho = -0.302$, $p < 0.001$), formal internal audit charters and manuals ($\rho = -0.268$, $p < 0.001$), coordination with external auditors ($\rho = -0.344$, $p < 0.001$), use of assurance maps ($\rho = -0.327$, $p < 0.001$), and the ability to hold private meetings with the audit committee chair ($\rho = -0.271$, $p < 0.001$). These findings emphasise the structural embeddedness and stronger governance role of in-house internal audit models.
Finally, smaller but significant correlations were observed for CIA certification of internal audit staff ($\rho = -0.171$, $p = 0.015$), adoption of the IPPF and Code of Ethics ($\rho = -0.191$, $p = 0.007$), and use of RBIA ($\rho = -0.199$, $p = 0.005$), indicating greater alignment with international standards among in-house internal audit functions.
Conversely, several antecedents showed no significant correlation with internal audit type, suggesting uniform adoption across internal audit arrangements. These include: CAE professional certification ($\rho = -0.053$, $p = 0.457$), collective team competencies ($\rho = -0.129$, $p = 0.068$), functional reporting to the audit committee ($\rho = -0.072$, $p = 0.314$), other professional certifications ($\rho = -0.049$, $p = 0.491$), audit follow-up procedures ($\rho = -0.058$, $p = 0.413$), and the use of internal audit as a management training ground ($\rho = -0.123$, $p = 0.082$).
Overall, these results partially support H3, confirming that in-house internal audit functions exhibit higher maturity in professional development, strategic engagement, innovation, and governance alignment, while certain foundational practices remain consistently applied across all internal audit arrangements.
The findings from H3 reaffirm that in-house internal audit functions are more structurally embedded and strategically engaged, supporting their higher maturity levels observed in H2. Together with the reconceptualisation results, these findings highlight the limitations of institutional theory in explaining IAM solely through coercive pressures, thereby underscoring the need to consider the agentic practices emphasised in Giddens' duality of structure.

# 6. Discussion

The discussion is structured around the three research questions (RQ1–RQ3) and integrates the empirical findings with the theoretical framework, addressing the identified research gap in institutional theory and justifying the application of Giddens' duality of structure.

## 6.1. IAM beyond the "repeatable" stage (RQ1)

The study confirms that IAM in Malaysian PLCs has progressed modestly beyond the "Repeatable" stage, as evidenced by the significantly higher average composite IAM score ($M = 2.47$, $p < 0.001$). This finding supports H1 and aligns with prior research indicating incremental institutionalisation of internal audit practices following regulatory mandates such as the BMMLR (Ahmad & Taylor, 2009; Singh, Ravindran, Ganesan, Abbasi, & Haron, 2021).

However, the uneven distribution of IAM scores (left-skewed, with most firms clustered between Levels 2 and 3) highlights persistent variability in maturity, reflecting inconsistencies noted by Bursa Malaysia and IIAM. (Bursa, 2020). This challenges the institutional theory assumption of isomorphism, as coercive pressures alone do not ensure uniform adoption of internal audit practices. Instead, the finding supports the need for a more dynamic theoretical lens, consistent with Giddens' duality of structure, which explains maturity as a product of both structural rules and agentic enactment.

## 6.2. Differences in IAM across audit arrangements (RQ2)

The hypothesis testing results demonstrate significant differences in IAM levels across audit arrangements, supporting H2. The ranking (In-house > Outsourced > Co-sourced) reflects the varying degree to which internal audit functions are embedded within organisational governance systems.

In-house internal audit functions exhibit the highest maturity, consistent with literature linking organisational embeddedness to stronger strategic alignment and internalisation of governance practices. (Arena & Azzone, 2009; Mihret & Gran, 2017). Outsourced functions score higher than co-sourced, likely due to the structured methodologies and technical expertise provided by external providers, despite their limited organisational integration. Conversely, co-sourced functions appear to face integration challenges, potentially arising from divided responsibilities between internal and external auditors, reducing their ability to institutionalise best practices effectively. This finding introduces new empirical knowledge, as it diverges from the theoretical expectation of institutional isomorphism, which suggests that internal audit arrangements would converge toward similar maturity levels due to shared regulatory, normative, and professional pressures. Instead, the observed differentiation underscores that IAM is shaped not only by institutional conformity but also by contextual variations in resource configuration and governance structure. This highlights the contingent nature of institutionalisation and reinforces the notion that capability development within internal audit functions is a dynamic, practice-driven process rather than a purely normative outcome.

This variability further challenges institutional theory's prediction of structural homogeneity under coercive pressures. The differences reflect the influence of agentic practices, whereby internal auditors, according to their structural position, interpret and adapt institutional rules in varying ways, an observation consistent with Giddens' concept of the duality of structure.

## 6.3. Differences in antecedent adoption across audit arrangements (RQ3)

The correlation analysis partially supports H3, confirming that in-house internal audit functions adopt maturity antecedents at higher rates than outsourced and co-sourced models. Strongest adoption differences are observed in professional development mechanisms (training needs analysis and competency frameworks), strategic engagement (participation in management meetings and quarterly reporting to audit committees), and innovation (cybersecurity and ESG coverage, advanced technology adoption, and COSO framework).

However, some practices, such as CAE certification, functional reporting to audit committees, and audit follow-ups, show no significant differences, suggesting these are baseline expectations uniformly adopted across all arrangements, regardless of agentic influence.

The reconceptualisation of internal audit structure, processes, and relationships into the second-order formative construct of IAOC provides additional empirical support for duality theory. The lack of discriminant validity (HTMT > 0.90) underscores that these domains are not enacted in isolation but are reproduced and adapted collectively as an integrated organisational capability, a finding that institutional theory alone cannot explain.

To provide a clearer overview of the specific antecedents contributing to these differences, Table 6 summarises the top significant correlations between internal audit type and IAM antecedents. The table highlights those most strongly associated with higher maturity in in-house internal audit functions, particularly in areas of professional development, strategic engagement, and innovation.

**Table 6:** Summary of Key Antecedents with Significant Correlation to Internal Audit Type

| Antecedent | Spearman's ρ | p-value | Interpretation |
|---|---|---|---|
| Training needs analysis | –0.538 | < .001 | Stronger in-house |
| Quarterly AC reporting | –0.452 | < .001 | Stronger in-house |
| Cybersecurity & ESG in audit scope | –0.417 | < .001 | More common in-house |
| QAIP assessments | –0.398 | < .001 | Stronger internal quality in-house |
| Participation in strategy meetings | –0.375 | < .001 | In-house more engaged |
| Competency frameworks | –0.377 | < .001 | Greater formalisation in in-house |
| Advanced technology use | –0.370 | < .001 | Innovation is more present in-house |
| COSO framework adoption | –0.337 | < .001 | Higher adoption in-house |
| internal audit charter & manual | –0.268 | < .001 | Stronger governance structures in-house |
| Private meetings with the AC Chair | –0.271 | < .001 | Independence is stronger in-house |

The observed maturity variations across internal audit arrangements highlight the active role of internal auditors as agents in shaping how institutional rules are enacted. In-house internal audit functions scored highest because auditors are organisationally embedded, enabling them to interpret and reproduce institutional rules through strategic engagement, relationship-building, and integration with organisational processes. This agency allows internal auditors to move beyond symbolic compliance, institutionalising practices such as risk-based auditing, quality assurance, and strategic reporting to audit committees. Conversely, outsourced internal audit functions, while benefiting from technical expertise, have limited discretion to adapt institutional rules due to contractual constraints, resulting in more standardised but less

strategically integrated practices. Co-sourced models scored lowest, possibly reflecting challenges in coordinating shared responsibilities, where agency is diffused between internal staff and external providers, constraining the reproduction of institutional rules into cohesive organisational capabilities. These findings empirically substantiate Giddens' (1984) argument that structures are both enabling and constraining: while regulatory mandates provide the rules, maturity depends on auditors' capacity to mobilise resources and relationships, illustrating the duality of structure.

### 6.4. Contextual factors in Malaysia

The variations in IAM across Malaysian PLCs can also be interpreted through the lens of the country's cultural and economic context. Malaysia's corporate environment is shaped by high power distance and collectivist orientations. (Hofstede, 2001; Mohamad, Abdurrahman, Keong, & Garrett, 2020), where deference to authority and relational harmony often influence governance interactions. Such traits may affect how internal auditors exercise agency, particularly their willingness to challenge senior management or deviate from established norms. (Haniffa & Cooke, 2002). Economically, Malaysia's status as an emerging market with mixed ownership structures, including government-linked and family-controlled entities (Jamaludin, Rahman, Hamid, & Hashim, 2018; Haiffa & Hudaib, 2007), contributes to heterogeneity in internal audit arrangements and maturity levels. Government-linked companies tend to institutionalise formal internal audit structures in response to regulatory oversight. (Bursa, 2023), whereas smaller or family-owned firms may rely more on informal controls and interpersonal trust. These cultural and economic factors together create a governance landscape where institutional pressures and agentic practices interact to produce differentiated IAM trajectories.

## 7. Conclusion and Implications

### 7.1. Conclusion

This study empirically evaluated IAM across Malaysian PLCs, revealing that while average maturity exceeds basic compliance, it remains uneven and modestly developed. In-house internal audit arrangements demonstrate significantly higher maturity and broader adoption of value-adding practices compared to outsourced and co-sourced models.

The reconceptualisation of IAM, grounded in the synthesis of structure, processes, and relationships into IAOC, addresses both empirical overlap and theoretical limitations in existing models. This finding strengthens the case for viewing maturity as a capability-based outcome shaped by both institutional structures and agentic practices.

### 7.2. Theoretical contribution

This study advances the literature on internal auditing by addressing two interrelated theoretical gaps and by extending the explanatory scope of existing theories through empirical evidence.

First, while institutional theory predicts that coercive regulatory mandates should yield uniform practices, the findings reveal persistent heterogeneity in IAM across firms and arrangements. This divergence challenges the assumption of institutional isomorphism and provides new theoretical insight into the contingent nature of institutionalisation. By incorporating Giddens' (1984) duality of structure as a complementary lens, the study demonstrates that internal audit practices are not merely shaped by institutional pressures but are also enacted and reproduced through the agentic behaviour of auditors within organisational contexts. This theoretical integration advances understanding of internal audit as both a structural outcome of institutional forces and a dynamic process shaped by organisational agency, thereby extending institutional theory toward a more practice-oriented interpretation of audit maturity.

Second, the study contributes to the refinement and empirical validation of the IAM construct itself. Prior literature has identified several fundamental "building blocks" of internal audit effectiveness, including audit structure, resources, processes, and relationships. (Lenz, Sarens, & D'Silva, 2014). Singh et al. (2021) further posit that these domains collectively underpin IAM, yet their cumulative interaction and higher-order configuration have rarely been empirically tested. By modelling IAM as a reflective and formative higher-order construct that integrates organisational capability, encompassing structure, processes, and relationships, with resource endowments, this study provides both conceptual clarity and empirical robustness. The results substantiate that maturity emerges through the synergistic alignment between organisational systems and resource capacities, transforming IAM from a descriptive framework into an explanatory model of capability development.

Collectively, these contributions extend theoretical understanding of IAM beyond normative compliance, positioning it as a structurally embedded and agentically enacted organisational capability that synthesises institutional and structuration perspectives within the internal audit domain.

### 7.3. Practical implications

For regulators and audit committees, the findings underscore that mandating the establishment of internal audit functions under Paragraph 15.28(b) of the BMMLR is necessary but not sufficient to ensure maturity. Beyond compliance, regulators should emphasise the organisational capability, relational integration, and professional development systems that sustain mature internal audit practices.

For Bursa Malaysia and the Securities Commission Malaysia, this study suggests that regulatory guidance could move beyond structural mandates to include qualitative expectations for IAM. For instance, Bursa could:

1) Introduce a structured IAM Disclosure Framework, encouraging PLCs to voluntarily report the level of maturity in terms of resources, processes, and relationships, similar to sustainability or governance disclosures.
2) Incorporate capability-based assessment criteria in the Corporate Governance Guide or Audit Committee Report templates, requiring boards to describe how internal audit effectiveness is achieved through human capital, integration, and independence.
3) Establish mandatory competency benchmarks for CAEs and key internal audit personnel, requiring the attainment of CIA or equivalent professional qualifications, including for those engaged under outsourced arrangements.

For audit committees, the findings point to a need for more proactive engagement in overseeing both in-house and external audit providers. Specifically, audit committees should:

1) Establish clear integration mechanisms in co-sourced and outsourced arrangements, such as joint audit planning sessions, shared knowledge repositories, and periodic performance reviews to ensure alignment with organisational objectives.

2) Formalise accountability structures where CAEs or equivalent leads remain responsible for oversight even when third-party providers execute audit engagements, thereby maintaining continuity of internal audit capability and institutional knowledge.
3) Invest in capability-building initiatives, including cross-training between internal and external teams, secondment arrangements, and structured knowledge transfer plans that support long-term maturity rather than transactional outsourcing.

Collectively, these recommendations reinforce that IAM depends not only on institutional pressures for compliance but also on the agentic capacity of audit leaders and committees to enact, adapt, and sustain mature practices within dynamic organisational and regulatory environments.

### 7.4. Future research directions

The reconceptualisation of IAM in this study opens several promising avenues for future research. First, the synthesis of IAS, IAP, and IARL into IAOC invites cross-validation across different institutional and cultural contexts. Comparative studies between emerging and developed markets could reveal whether the integration of structural and relational practices constitutes a universal maturity pathway or remains context-dependent.

Second, this study's cross-sectional design provides a snapshot of IAM at one point in time. Future research could employ longitudinal designs to examine how IAM evolves in response to regulatory reforms, corporate governance shifts, or economic disruptions. Such longitudinal analyses could further operationalise Giddens' (1984) duality of structure, showing how internal auditors continually adapt and reproduce institutional norms through recurring interactions and governance routines.

Third, the growing digitalisation of assurance functions offers fertile ground for research into the role of technology in advancing IAM. Future studies could explore how data analytics, AI, and audit automation tools enhance audit capability, efficiency, and strategic value creation. Technology-driven transformation may also redefine the composition of IAOC, potentially integrating digital audit competencies and data governance structures as new maturity dimensions.

Fourth, the role of audit committees warrants deeper examination, especially regarding their oversight and influence on maturity outcomes. Scholars could investigate how audit committee engagement, expertise, and independence affect the institutionalisation of mature audit practices, particularly in outsourced and co-sourced arrangements where integration and control mechanisms are critical. This may involve mixed-method or multi-level designs capturing both governance oversight and auditor–committee relational dynamics.

Fifth, qualitative or mixed method approaches, such as interviews with CAEs or audit committee chairs, could uncover the micro-level mechanisms through which internal auditors exercise agency in shaping IAM. This would enrich the understanding of how internal audit practitioners negotiate institutional pressures and would add behavioural as well as organisational culture dimensions to the current capability-focused model.

Finally, the distinct behaviour of IAR in this study, remaining empirically separate from IAOC, suggests a need to explore resource-capability interactions more explicitly. Future studies might test whether human and technological resource endowments moderate or mediate the relationship between IAOC and firm performance, and whether resource investments translate into maturity only when embedded within robust organisational structures and relational systems.

Collectively, these directions would extend the IAM discourse by linking institutional, technological, and governance dimensions, thus providing a more holistic understanding of how internal audit evolves as both a structural and agentic mechanism within modern organisations.

### 7.5. Limitations

Finally, the study is situated within a unique regulatory context, where the institutionalisation of internal audit functions is mandated for all Malaysian PLCs under the BMMLR. This creates a high level of coercive isomorphism, making Malaysia an ideal setting to examine why IAM varies despite uniform regulatory pressures.

However, the finding, particularly the reconceptualisation of IAOC and the role of agentic practices, may not directly translate to jurisdictions where internal audit adoption is voluntary or where institutional pressures are weaker. In such contexts, the balance between institutional forces and agent-driven capability-building may manifest differently. Future comparative studies should therefore test whether the IAOC conceptualisation and the explanatory power of Giddens' duality of structure hold across institutional settings with varying degrees of regulatory coercion.

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