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# The effect of key audit matters quantity on audit report lag: The moderating role of audit firm size

**Areen Putri Salsabilla, Andrian Budi Prasetyo***
Department of Accounting, Faculty of Economics and Business, Diponegoro University, Semarang, Central Java, Indonesia
**Corresponding Author:** Andrian Budi Prasetyo
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**Abstract**
Timely financial reporting is a vital mechanism for mitigating information asymmetry between management and investors. This study investigates the impact of Key Audit Matters (KAM) disclosure quantity on Audit Report Lag (ARL) and examines the moderating role of Audit Firm Size. Based on the agency theory framework, this study analyzes 726 firm-year observations from manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the post-pandemic recovery period of 2022–2024. Employing a fixed effect model (FEM) for panel data regression, the empirical findings reveal a significant negative relationship between the number of KAMs and ARL. This result refutes the workload hypothesis and strongly supports the discipline effect, demonstrating that the regulatory complexity of ISA 701 compels auditors to conduct rigorous risk assessments during the early planning stages, which ultimately accelerates audit completion. Furthermore, Audit Firm Size neither directly affects ARL nor moderates the relationship between KAM and ARL. This lack of moderation suggests a convergence of audit quality standards and indicates the prevalence of symbolic compliance among auditors in the domestic market. Regarding fundamental factors, profitability (ROA) and unmodified audit opinions significantly reduce reporting time, while firm scale has no significant effect under uniform regulatory scrutiny.

**Keywords:** Key audit matters, audit report lag, audit firm size, Agency Theory, discipline effect, emerging markets

## Introduction

The timeliness of financial reporting is a fundamental indicator reflecting the efficiency of the external audit process and the overall quality of corporate governance. In the capital market ecosystem, delayed information delivery erodes the strategic value of financial data and exacerbates information asymmetry between management (agent) and shareholders (principal) (Jensen & Meckling, 1976) [11]. Such delays, commonly measured as the Audit Report Lag (ARL), provide management with extended opportunities to withhold critical information, potentially harming minority investors and triggering negative market speculation (Owusu-Ansah, 2000) [16]. In Indonesia, the Financial Services Authority (OJK) mandates, through Regulation No. 14/POJK.04/2022, that publicly listed companies must submit their audited financial statements no later than the end of the third month following the fiscal year-end.

However, this demand for timely reporting is significantly challenged by the implementation of Standard on Auditing (SA) 701 regarding the Communication of Key Audit Matters (KAM) in the Independent Auditor's Report, which became effective for periods ending on or after December 31, 2021. Adopted from ISA 701, this standard aims to eliminate boilerplate reporting by providing specific insights into entity risks (Ecim *et al*., 2023). While enhancing transparency, each KAM disclosure inherently demands more rigorous documentation and stricter substantive evidence validation to mitigate litigation risks (Rhamadhani & Heriyati, 2025) [19]. This regulatory shift has created a critical trade-off between transparency and speed. This phenomenon is evident on the Indonesia Stock Exchange (IDX), where compliance remains a structural issue; data reveals that 128 companies failed to meet the reporting deadline in 2024, maintaining a stagnant trend from the previous year. The manufacturing sector, characterized by highly complex accounts such as inventory valuation and fixed asset impairment, dominates this delay trend, indicating severe audit bottlenecks in the field (Belinda & Suyanto, 2025) [4].

Empirical evidence on the impact of KAM implementation on audit efficiency remains mixed, creating a significant research gap. On the one hand, several studies argue that KAM disclosure increases the auditor's workload, thereby prolonging the Audit Report Lag (Ciğer *et al*., 2025; Elmarzouky *et al*., 2023; Loverita & Januarti, 2024) [8, 14]. However, contrasting findings suggest a "discipline effect," where KAM compels auditors to be more structured during the planning phase, ultimately accelerating the reporting process (Baatwah *et al*., 2022 [3]; Perdana & Raharja, 2024; Rahaman & Bhuiyan, 2025) [18]. Furthermore, other studies indicate no significant impact, attributing this to symbolic or boilerplate compliance by auditors in emerging markets (Abdullatif *et al*., 2025; Fitri & Azmiyanti, 2025) [9].

This inconsistency implies that previous models may have overlooked a crucial contingency factor: the capacity and characteristics of auditors performing the engagement. To address this gap, this study introduces Audit Firm Size as a moderating variable. Grounded in agency theory, Big 4 audit firms are presumed to possess superior monitoring capacities, advanced technological infrastructure, and deeper industry specializations (Li *et al*., 2025; Sania & Ali, 2024). The moderating logic posits that unlike Non-Big 4 firms, which might be overwhelmed by the workload, Big 4 firms can absorb the high complexity of KAM formulation without significantly extending the audit duration.

This study focuses on the manufacturing sector during the 2022 [22]–2024 period, capturing the true normal audit conditions post-SA 701 full implementation and the end of pandemic-era regulatory relaxations. By incorporating firm size, profitability (ROA), and audit opinion as control

variables to prevent fundamental bias, this research aims to provide comprehensive empirical evidence on whether the quantity of KAM affects Audit Report Lag and whether Audit Firm Size can effectively moderate this relationship.

**Literature Review and Hypotheses Development**

The following section discusses the theoretical basis of the study, the conceptual framework that illustrates how the research variables are interrelated, and the formulation of the research hypotheses.

**Agency Theory, Timeliness, and Key Audit Matters**

Agency theory originates from the contractual relationship between shareholders (principals) who provide capital and management (agent) who are delegated the authority to operate the firm (Jensen & Meckling, 1976) [11]. The core issue in this relationship is information asymmetry (Zimon *et al*., 2022) [22]. In conditions where internal controls are weak or managerial power is dominant, agents are prone to opportunistic behaviors, such as delaying the release of bad news to manipulate market perceptions (Ciğer *et al*., 2025).

To mitigate this asymmetry, independent external auditing serves as the primary monitoring mechanism (Jensen & Meckling, 1976) [11]. However, the effectiveness of this monitoring is heavily dependent on timeliness. Accurate information that is delivered late loses its strategic relevance for investors (Baatwah *et al*., 2022) [3]. Furthermore, delays in audit reporting (Audit Report Lag) are frequently interpreted by the market as a signal of severe internal issues (Owusu-Ansah, 2000) [16]. The mandatory implementation of SA 701 (KAM) aims to enhance this monitoring quality by demanding greater risk transparency (Elmarzouky *et al*., 2023) [8]. However, this heightened transparency imposes a significant increase in audit effort (Triani *et al*., 2023) [21], creating a critical trade-off between the depth of information and reporting efficiency. To balance this, principals often rely on high-reputation auditors (Big 4) as a bonding mechanism to manage the complexity without sacrificing timeliness (Sania & Ali, 2024).

**Theoretical Framework**

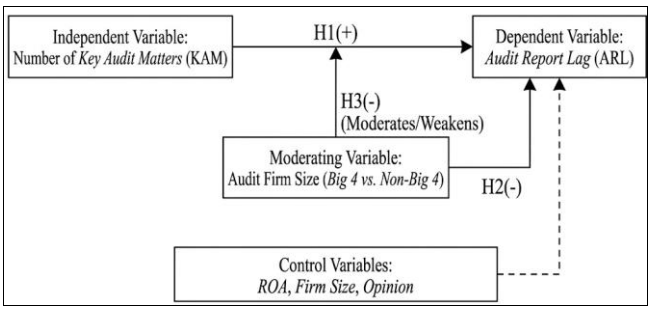



**Fig 1:** Theoretical Framework

**Hypothesis Development**

**The Effect of KAM Quantity on Audit Report Lag**

The implementation of SA 701 fundamentally shifts the audit workflow toward a more rigorous risk-based approach. While there is a debate between the "discipline effect" and the "workload hypothesis," this study posits that in emerging markets, particularly within the manufacturing sector, which is fraught with complex physical asset valuations and subjective estimates, the workload hypothesis dominates. As the number of KAM increases, it reflects higher inherent risks and greater potential for opportunistic behavior. Consequently, auditors must allocate extensive additional resources, expand substantive testing, detail documentation, and undergo longer quality reviews (Ciğer *et al*., 2025). Furthermore, disclosing critical risks publicly often triggers defensive resistance from management, leading to protracted negotiations that inherently delay the issuance of the audit report.

**H1:** The quantity of Key Audit Matters (KAM) has a positive effect on Audit Report Lags.

**The Effect of Audit Firm Size on Audit Report Lag**

From an agency perspective, the characteristics of the auditor, specifically audit firm size, serve as a vital determinant of reporting efficiency. Audit firms affiliated with the Big 4 network possess substantial "reputational capital" that must be maintained to preserve market trust (DeAngelo, 1981). Delayed reporting is often perceived as a signal of incompetence that could damage their global credibility. Beyond reputational incentives, Big 4 firms have superior operational capacities, including advanced audit technology infrastructure (e.g., audit data analytics) and specialized industry experts (Li *et al*., 2025; Sania & Ali, 2024). These resources enable them to navigate complex audit procedures far more efficiently than non-Big 4 firms, which often face human resource constraints during peak seasons (Al-Amin & Handayani, 2025; Rahaman & Bhuiyan, 2025) [2, 18].

**H2:** Audit firm size has a negative effect on audit report lag

**The Moderating Role of Audit Firm Size**

Although the increased quantity of KAM adds to the audit workload, its delaying impact is expected to vary depending on the auditor's capacity. The Big 4 firms are equipped with sophisticated methodologies and sufficient resources to absorb the complexities of KAM formulation. Studies have confirmed that high-quality auditors tend to structure their KAM disclosures more efficiently without compromising substantive testing (Al-Amin & Handayani, 2025) [2]. In contrast, Non-Big 4 firms with limited capacities are more likely to be overwhelmed by a heightened workload, making the delaying effect of KAM more pronounced for their clients (Ciğer *et al*., 2025). Thus, the Big 4 firms are expected to act as an effective buffer, mitigating the extended duration caused by numerous KAM disclosures.

**H3:** Audit firm size moderates (weakens) the positive effect of the quantity of key audit matters on audit report lag

**Research Methodology**

**Population and Sample**

The dependent variable, Audit Report Lag (ARL), is measured as the number of calendar days from the fiscal year-end (December 31) to the date on which the independent auditor's report is signed. The primary independent variable is the quantity of Key Audit Matters (KAM), quantified by the absolute number of risk topics explicitly disclosed in the audit report. Audit Firm Size acts as the moderating variable, operationalized as a dummy variable, where a value of 1 is assigned if the company is audited by a Big 4 affiliated firm, and 0 otherwise. To isolate the pure determinants of audit delay, Firm Size

(natural logarithm of total assets), profitability (return on assets [ROA]), and Audit Opinion (a dummy variable, where 1 indicates an unmodified/unqualified opinion and 0 otherwise) are incorporated as control variables. To preserve the integrity of the sample size while mitigating the distortive effects of extreme outliers commonly found in ARL data, continuous variables were Winsorized at the 1st and 99th percentiles (Kwak & Kim, 2017) [12]. The hypotheses were tested using Moderated Regression Analysis (MRA) within a panel data framework. Based on Chow and Hausman diagnostic tests, the fixed effects model (FEM) was selected as the most robust estimator because it effectively controls for unobserved, time-invariant entity characteristics. Data processing and estimation were conducted using EViews.

**Variables and Their Measurements**

The variables used in this study included a dependent variable, an independent variable, a moderating variable, and several control variables to ensure the robustness of the model. A detailed description of the variables and their measurements is presented in Table 1.

| Variable Type | Variable | Acronym | Measurement |
|---|---|---|---|
| Dependent Variable | Audit Report Lag | ARL | Number of calendar days from the fiscal year-end (December 31) to the date of the independent auditor's report. |
| Independent Variable | Key Audit Matters | KAM | The total number of specific risk topics disclosed within the Key Audit Matters section of the auditor's report. |
| Moderating Variable | Audit Firm Size | KAP | Dummy variable: 1 if the company is audited by a Big 4 firm, 0 if audited by a Non-Big 4 firm. |
| Control Variables | Firm Size | SIZE | Natural logarithm (Ln) of Total Assets. |
| | Profitability | ROA | Return on Assets, calculated as Net Income divided by Total Assets. |
| | Audit Opinion | OPINI | Dummy variable: 1 if the company receives an Unmodified Opinion (Wajar Tanpa Pengecualian/WTP), 0 otherwise. |

**Research Model**

This study employs a quantitative approach utilizing panel data regression analysis. To identify the most robust estimation model, preliminary tests including the Chow Test and Hausman Test were conducted to select among the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) (Ghozali & Ratmono, 2017) [10]. To evaluate the role of the moderating variable, Moderated Regression Analysis (MRA) with an interaction term was applied, allowing the retention of the full sample size without splitting the data.

Before hypothesis testing, classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests, are performed to ensure that the regression model yields best linear unbiased estimators (BLUE). Hypothesis testing is then executed using the t-test (partial significance) and F-test (simultaneous significance).

The regression equation developed in this study was formulated as follows:

**Where**

ARL = Audit Report Lag
$\alpha$ = Constant
$\beta$ = Regression coefficient
KAM = Quantity of Key Audit Matters
KAP = Audit Firm Size (Big 4 vs Non-Big 4)
SIZE = Firm Size
ROA = Profitability
OPINI = Audit Opinion
$\varepsilon$ = Error term

**Results and Discussion**

This section presents the research findings and discussion, including the sample selection process and the empirical results consisting of descriptive statistical analysis, classical assumption tests, and hypothesis testing.

**Table 2:** Descriptive Statistical Results

| Variable | Mean | Median | Maximum | Minimum | Std. Dev. | Observations |
|---|---|---|---|---|---|---|
| ARL | 84.466 | 86 | 140 | 45 | 16.648 | 726 |
| KAM | 1.318 | 1 | 6 | 0 | 0.722 | 726 |
| KAP | 0.315 | 0 | 1 | 0 | 0.465 | 726 |
| ROA | 0.027 | 0.030 | 0.940 | -1.7 | 0.127 | 726 |
| SIZE | 28.477 | 28 | 34 | 24 | 1.777 | 726 |
| OPINI | 0.974 | 1 | 1 | 0 | 0.160 | 726 |

Based on the results in Table 2, the Audit Report Lag (ARL) has an average value of 84.46 days, which is closely approaching the regulatory deadline of 90 days mandated by the Financial Services Authority (OJK). This narrow margin indicates a strong deadline effect in the Indonesian capital market. The quantity of Key Audit Matters (KAM) averages 1.32 topics, with a standard deviation of 0.72. This relatively low average suggests that the implementation of SA 701 in Indonesia remains in an adaptive and conservative phase, where auditors are highly selective in disclosing risk topics to avoid litigation complications (Abdullatif *et al*., 2025; Baatwah *et al*., 2022) [3]. Additionally, qualitative mapping reveals that revenue recognition and fixed asset valuation dominate the KAM topics due to the high subjectivity required in these manufacturing accounts (Al-Amin & Handayani, 2025) [2].

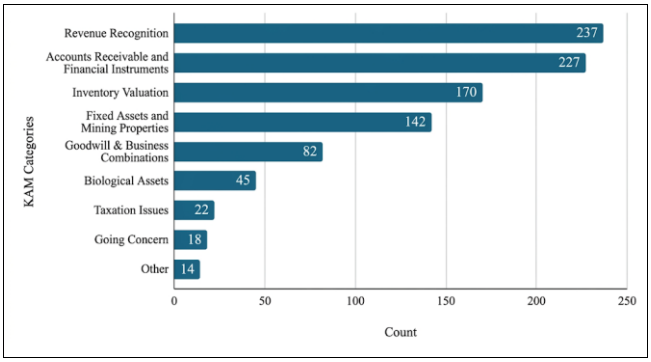



**Fig 2:** Distribution of Key Audit Matters Topics

Audit Firm Size (KAP) shows a mean of 0.315, indicating that only 31.54% of the observations were audited by Big 4 affiliated firms, reflecting the dominance of non-Big 4 firms in the manufacturing sector. The control variables demonstrate that the sample entities are relatively homogeneous in size (SIZE), maintain a positive average profitability (ROA) of 2.67%, and exhibit a very high compliance rate in financial presentation, with 97.38% of them receiving an unmodified audit opinion (OPINI).

### Results of the Panel Data Regression
### Hypothesis Test Results

**Table 3:** Hypothesis Test Results

| Variable | Coefficient | t-Statistic | Probability |
|---|---|---|---|
| KAM | -3.127 | -2.575 | 0.0103 |
| KAP | -0.247 | -0.044 | 0.9648 |
| KAM × KAP | 3.670 | 1.305 | 0.1926 |
| OPINI | -12.647 | -3.101 | 0.0020 |
| SIZE | -0.457 | -0.235 | 0.8146 |
| ROA | -13.622 | -2.615 | 0.0092 |
| Adjusted R-squared | 0.5821 | | |
| Prob (F-statistic) | 0.0000 | | |

The empirical results reveal that the quantity of KAM has a significant negative effect on audit report lag, with a probability of 0.0103 and a coefficient of -3.127. Consequently, Hypothesis 1 is rejected. This finding strongly contradicts the workload hypothesis and confirms the presence of a "discipline effect" (Rahaman & Bhuiyan, 2025) [18]. The mandatory reporting of complex risks compels auditors to perform comprehensive risk assessments during the early planning stages, leading to more targeted and efficient substantive testing that accelerates the final report issuance. Furthermore, this acceleration aligns with agency theory, as auditors in emerging markets are incentivized to provide quick signals of credibility to principals, often utilizing standardized boilerplate language to comply with regulations efficiently without draining audit effort (Abdullatif *et al*., 2025; Baatwah *et al*., 2022) [3].

Hypothesis 2 is also rejected, as Audit Firm Size exhibits no significant effect on ARL (Prob. 0.9648). The anticipated efficiency of Big 4 firms is seemingly neutralized by their extensive internal quality control and concurring partner review bureaucracies, which prioritize absolute audit quality and litigation risk mitigation over reporting speed. Furthermore, this insignificance indicates a strong convergence of audit quality standards in the domestic market. Many non-Big 4 firms auditing manufacturing entities have adapted by implementing standardized, risk-based methodologies equivalent to those of the Big 4, thereby narrowing the efficiency gap between auditor tiers (Abdullatif *et al*., 2025; Baatwah *et al*., 2022) [3].

Moreover, the interaction variable (KAM × KAP) was not statistically significant (Prob. 0.1926), leading to the rejection of Hypothesis 3. Audit firm size failed to moderate the relationship between KAM and ARL. This lack of moderation indicates a convergence of audit quality standards in the domestic market, where both Big 4 and Non-Big 4 firms exhibit similar levels of efficiency in responding to SA 701 regulations (Ecim *et al*., 2023). This highlights that transparency and reporting timeliness are increasingly driven by uniform regulatory pressures and client fundamentals, rather than purely auditor reputation.

Among the control variables, both profitability (ROA) and Audit Opinion significantly reduce ARL. Highly profitable firms and those receiving unmodified opinions face less friction and fewer disputes with auditors, allowing for swift report publication (Ciğer *et al*., 2025). Conversely, Firm Size does not provide time flexibility, as compliance pressure from regulators is uniform regardless of asset scale.

## Conclusions

This study concludes that the implementation of ISA 701 (KAM disclosure) in Indonesia's manufacturing sector does not impair financial reporting timeliness. Instead, it enforces a discipline effect that compels early risk identification, ultimately accelerating audit completion. The inability of Audit Firm Size to moderate this dynamic indicates that structural compliance pressures and the convergence of audit quality standards override auditor brand distinctions, pointing towards a standardization of audit responses in emerging markets.

These findings have vital implications for regulators. While the speed of reporting is maintained, authorities must remain vigilant against the risk of symbolic compliance, ensuring that KAM disclosures provide genuine economic insights rather than mere boilerplate text. A limitation of this study is its reliance on the quantitative count of KAM topics. Future research should transition towards advanced textual analyses examining readability, linguistic specificity, and tone to capture the true qualitative workload embedded within these audit reports and consider expanding the scope to other highly regulated sectors, such as banking and financial services.

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