

The mediating role of key audit matters readability on the effect of auditor personality on investor reaction

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Abstract: This study examines the effect of auditor personality, especially narcissism and confidence, on investor reaction mediated by Key Audit Matters (KAM) readability in emerging market. We focused on firms listed in the Kompas 100 index on the Indonesia Stock Exchange during the 2022-2023 period. With Stata software support, we used path analysis with Structural Equation Modeling (SEM). The findings indicate that auditor narcissism has a significant positive effect on KAM readability, while auditor confidence has a significant negative effect. Furthermore, it was found that KAM readability has a significant negative effect on investor reaction. It significantly mediates the effect of auditor narcissism on investor reaction, indicating that while narcissistic auditors improve KAM readability, this clarity enables investors to identify company risks, potentially triggering negative market reactions. However, despite showing a positive relationship, KAM readability does not successfully mediate the effect of auditor confidence on investor reaction. The conclusion of this study underscores the significance of auditors presenting clear and understandable information and the impact of auditor personality traits on KAM disclosures and market responses. This study is expected to offer valuable insights for auditors to enhance disclosure practices and help investors make better decisions.

Keywords: Auditor narcissism, Auditor confidence, Key audit matters, Investor reaction.

1. Introduction

Capital market performance supports a country's economic growth through investor funding and stock transactions. The capital market is an alternative funding for companies that need funds for business expansion and investors who want to invest. This can increase the company's profitability, encouraging economic growth. Market size, infrastructure accessibility, and trade liberalization can attract Foreign Direct Investment (FDI), increasing capital inflows, strengthening the country's foreign exchange reserves and stabilising the currency exchange rate Asongu, et al. [1]. Kacperczyk, et al. [2] found that foreign investor ownership enhances the informativeness of stock prices, thereby increasing market liquidity and real investment growth of companies and reducing the cost of equity. If the capital market declines, it affects market participants, the state budget, and its capacity to fund public services and infrastructure projects for economic growth. Investor growth in the Indonesian capital market has increased significantly since the COVID-19 pandemic. In 2021, the capital market experienced a 92.99% increase in investor growth and a 103.6% rise in the stock market.

One of the financial instruments in the capital market that offers high returns and attracts investors is stocks. The increasing presence of investors in the stock market, particularly institutional investors, plays a crucial role in enhancing asset value, thereby contributing to the stability and liquidity of the capital market. Investor trust in a company's performance is frequently reflected in the market value of its publicly traded shares [3]. An increase in stock prices often indicates an optimistic investor reaction

to a company, thereby increasing investment interest. Investor behaviour is considered an important determinant of changes in the stock market after the 2008 global financial crisis [4]. In March 2020, there was a significant decline in stock prices on the Indonesia Stock Exchange, causing a trading halt due to the announcement of the COVID-19 case. This made investors react immediately by selling their shares, which resulted in negative abnormal returns [5]. Macroeconomic and microeconomic factors of a company are two key determinants that influence investment decisions. Macroeconomic factors originate from external sources, including inflation rates, GDP growth, interest rates, currency exchange rates, and a country's economic and political conditions. Meanwhile, microeconomic factors pertain to internal company aspects, such as corporate actions and financial performance.

The audit report serves as a tool for conveying information to users of financial statements. Investors need information in the audit report to assess company performance and risk. If investors react negatively to the content of the reported disclosure, it can impact the reputation of a public company and stock market performance. This aligns with the signalling theory proposed by Spence [6] and Chirakool, et al. [7] which emphasises transmitting signals through the disclosure of performance and risk factors related to a company's financial statements to investors. Therefore, presenting accurate information is crucial for investing in a business. The quality of financial statements and disclosure policies can affect corporate transparency [8]. The auditor's role is crucial in providing an independent and objective opinion regarding disclosing a company's financial statements. High audit quality can increase investor confidence and encourage participation in the stock market.

However, an individual's decision-making process is shaped by multiple factors, including ethical considerations and psychological traits [9]. According to Salehi, et al. [8] narcissism and self-confidence are two personality traits that can affect auditor decision-making in audit report decisions. Narcissism refers to a psychological condition characterized by excessive self-confidence, excessive focus on oneself, and lack of concern for others around one [10]. If narcissism is related to decision-making, it may contribute to the economic crisis [11]. For instance, in the study conducted by Salehi, et al. [12] managers' decision-making in a company is influenced by the personal characteristics of narcissism. Marquez-Illescas, et al. [13] found that the level of CEO narcissism influences investor reaction to earnings announcements. Foster, et al. [11] found that individuals with narcissistic personalities tend to make risky investments, especially in stocks with high volatility. Auditors with narcissistic traits tend to focus more on their success and ignore essential things relevant to investors. This can affect investors' perceptions of the credibility of the audit report. Based on the discussion above, it can be concluded that narcissism exists in almost every individual and influences decision-making processes. Auditor narcissism can influence audit disclosures, which in turn affects report users, including investors.

In addition to narcissism, another factor that influences auditor behaviour is self-confidence. Self-confidence refers to an individual's trust in their abilities, qualities, and judgment [10]. Excessive auditor confidence from superiors and subordinates can impact audit efficiency and effectiveness Han, et al. [14]. Salehi, et al. [8] found that auditor self-confidence has a significant positive relationship with the readability of the audit report. This means auditors with high self-confidence tend to be more confident in their judgment, which can impact report readability. The presentation of clear and easily comprehensible information is crucial in influencing investment decisions. However, audit reports often fail to meet these expectations, thereby increasing the need for transparent and reliable information to support informed investment decisions. Most companies receive an unqualified audit opinion but often fail to meet users' information needs due to insufficient disclosure of corporate risks. As a response, the International Auditing and Assurance Standards Board (IAASB) has reformed the audit reporting model [15].

Key audit matters (KAMs) are a critical element of an improved audit report. It enables investors to comprehend the entity and improve the communicative value of the audit report by providing them with information about the most significant aspects of the financial statements [16]. As determined by the auditor's professional judgment, KAM offers investors a comprehensive understanding of the most critical issues in the audit of the current financial statements [17]. Auditing Standard 701 on Key Audit

Matters (KAM) in Indonesia, issued by the Indonesian Public Accountants Association (IAPI), became effective for audits of financial statements for periods starting on or after January 1, 2022. Hoang, et al. [18] found that investors assess risk and willingness to invest based on the association of KAM with financial and non-financial risks. Rapley, et al. [19] found a substantial impact of KAM disclosure on the investment intentions of non-professional investors. However, Abu, et al. [3] found that KAM does not significantly affect investor reactions, even though it relates to going-concern opinions. The readability of Key Audit Matters (KAM) is crucial for investors as it provides specific information on significant company matters. Clear and well-structured reports enhance investors' understanding of the company's condition and associated risks, enabling them to make more informed decisions. Conversely, using complex accounting language in KAM disclosures may hinder investors' ability to comprehend the audit report effectively [20]. Poor readability can result in misunderstandings and inappropriate investment decisions, affecting overall stock market performance. This creates a gap between investors' need for precise information and the limitations present in the audit report. Jaffar, et al. [21] found that KAM disclosure is an indirect and complementary mediator in reducing information asymmetry, thereby reducing negative investor reaction.

The association between auditor characteristics and audit reports has been comprehensively examined in prior studies [20, 22, 23] with a particular emphasis on factors such as independence, competence, busyness, tenure, audit fees, and auditor gender. Nevertheless, the role of auditor personality, particularly the interaction between narcissism and self-confidence on the effect on investor perceptions, has received relatively little attention. To contribute to the literature, our study provides a more nuanced comprehension of the relationship between auditor personality, investor reaction and the role of key audit matters readability by investigating this gap. This study utilises a sample of firms listed on the Indonesia Stock Exchange in 2022-2023 due to the implementation of KAM disclosure in financial statements commencing in that year. The subsequent sections of this paper are organised as follows: The literature review and hypothesis development are presented in Section 2, the methodology is outlined in Section 3, the results and findings are discussed in Section 4, and the conclusion, which includes research limitations, is provided in Section 5.

2. Literature Review

2.1. Signalling Theory

Signalling theory was first proposed by Spence [6] explains the transmission of company information from the signaler to the signal receiver. The signals can be either positive or negative, depending on the nature of the information being communicated [24]. Companies with strong growth prospects will undertake strategic initiatives to expand their business, which serves as a positive signal for investors. Conversely, companies with weaker prospects may opt to sell their shares, which investors often perceive as a negative signal [25]. Signalling from credible parties will reduce information asymmetry for investors [24]. Companies will find it more challenging to attract investors or convince other users that their financial statements are reliable without an auditor. Investors assess the credibility of the company's financial statements through signals in the audit report submitted by the auditor [26]. The audit report presented by the auditor helps investors in decision-making considerations to determine whether the financial statement information is clear, reliable, and free from material misstatement [27].

2.2. Communication Theory

Shannon [28] introduced a mathematical communication theory that accurately models the sequence of decisions required to reproduce a message between two distinct points. According to Suttipun [29] communication theory explains the definition, procedure, impact, and main elements of communication systems and the relationship between parties sending and receiving information. The readability of information in financial documents and the tone of one's information delivery are two important communication measures that can affect the recipient of information [30]. Readability is a

relative measure of the degree of difficulty a person may experience when trying to understand written text [31]. The disclosure of KAM in the audit report is a communication between the auditor as the sender and shareholders or stakeholders as the recipient of the information Suttipun [29]. Smith [27] found that the readability of audit reports is easier to understand when there is more risk disclosure. So, the audit report as a means of communication can provide negative information that can influence investor decisions.

2.3. *Investor Reaction*

Investors use historical company financial data on stocks that perform well as a benchmark for predicting future investment returns [4]. Optimistic investors are less critical and will choose stocks with good performance, while pessimistic investors will be more analytical [32]. Investors consider stock price volatility to measure the risk of facing uncertainty when buying financial assets [5]. Cumulative abnormal return (CAR) reflects the average change in investor confidence due to an event's announcement [7].

2.4. *Key Audit Matters (KAM) Readability*

Revisions to auditing standards were implemented in response to the 2008 financial crisis to improve the communicative value of audit reports. Traditional audit reporting has faced criticism for its lack of transparency in financial statements [33]. To reconcile the discrepancy between the disclosures in audit reports and the expectations of investors, the IAASB and the Public Company Accounting Oversight Board (PCAOB) proposed enhancements that did not involve expanding public accountants' functions. KAM is designed to enhance transparency in audit processes, thereby improving the communicative value of audit reports [34]. It seeks to mitigate information asymmetry, enhance the quality of financial and audit reporting, and elevate the value and relevance of audit reports [35]. The Indonesian Institute of Certified Public Accountants (IAPI) issued Audit Standard (SA) 701 to establish the responsibilities of public accountants in disclosing key matters during the audit process, commonly referred to as "Key Audit Matters" (KAM) in audit reports. This standard became effective for financial statements issued by public accountants for periods ending on or after January 1, 2022 [36]. KAM enhances the availability of relevant information, enabling investors to make more informed decisions [37]. Auditors must be able to objectively assess how well the meaning or information is conveyed in the financial statements. Research on readability led to the creation of various formulas for measuring the readability of audit reports, annual reports, and 10-K reports [23]. Previous studies have employed various measurement approaches to evaluate the complexity of audit report readability (for example, [7, 8, 27, 38] using the fog index and Hussin, et al. [23]; Mwintome, et al. [39] and Velte [37]) using the Flesch reading ease index. This study will use the fog index as a proxy for KAM readability. The higher the value of this index, the more complex the reading level.

2.5. *Hypothesis Development*

2.5.1. *The effect of auditor narcissism on investor reaction*

When making investment decisions, investors will consider the information in the audit report presented by the auditor. A study by Chou, et al. [22] found that audit partner narcissism, which is reflected in a large signature size, can improve audit quality through auditor independence. On the other hand, narcissism can play a role in an economic crisis if it is related to financial risk decision-making [11]. According to Salehi, et al. [8] narcissistic auditors tend to show high power by considering themselves the most important figure and rejecting constructive suggestions. Auditors with excessive narcissistic traits can cause them to ignore important things that should be presented so that the signals sent do not reflect the actual reality. This can cause investors to receive the wrong signal and give an adverse reaction to the company's performance. So, in line with signalling theory, we assume that while a positive investor reaction may be influenced by the large size of the auditor's signature, as it signifies improved audit quality, excessive narcissism may lead to the disclosure of misleading information,

thereby sending incorrect signals to investors. Based on the description above, the first hypothesis of this study will be stated as follows:

H₁: Auditor narcissism has a negative effect on investor reaction.

2.5.2. The effect of auditor confidence on investor reaction

According to Hardies, et al. [40] overconfidence can inhibit auditors from seeking further data that can lead to different conclusions, considering contradictory data, and accepting criticism. Salehi, et al. [10] found that self-confidence affects auditor impartiality. Auditor overconfidence in delivering information signals related to company value can cause investors to overreact to stock prices, resulting in long-term negative return autocorrelation and the stock's market value [41]. Overconfident auditors tend to be more tolerant of aggressive management decisions in making investments that exceed the optimal level [42]. Overconfident auditors assume that overconfident CEOs have a better understanding of the company's prospects, so they do not perform sufficient audit procedures to identify potential errors in the financial statements. This can affect auditor independence and the quality of the presented audit report. According to Kartini and Nahda [43] there are two types of investors in making investment decisions: rational and irrational. The basis for rational investor decisions is based on information about potential investments and reasonable reasons. They will be more cautious of companies with high overinvestment values because it could signal that the auditor is overconfident and less critical of risk. This can make investors reduce or avoid investing in these companies. In line with signalling theory, we assume that auditors' overconfidence may cause them to fail to identify important company risks and thus give the wrong signal to investors. So, the next hypothesis is as follows:

H₂: Auditor confidence has a negative effect on investor reaction.

2.5.3. The effect of auditor narcissism on KAM readability

Narcissism encompasses both positive and negative dimensions, with negative aspects including false pride, unwillingness to cooperate, and a low tolerance for criticism. On the positive side, it manifests as arrogance, a desire for power, and a need for recognition. Narcissism can affect a person's performance based on the decisions taken [9]. A study by Chou, et al. [22] found that audit partner narcissism enhances audit quality by reinforcing independence rather than improving auditor competence. Using the Flesch Reading Ease Index, Salehi, et al. [8] identified a substantial positive association between narcissism and the readability of audit reports. Salehi, et al. [12] discovered a significant positive association between management narcissism and the readability of audit reports by employing the fog index. From company's perspektif, Seifzadeh, et al. [38] found that manager narcissism has a significant positive effect on the readability of financial reports, as measured using the Fog index. In line with communication theory, the audit report serves as a means of communication from auditors to users. So, we assume that auditors with narcissistic traits can improve the understanding of the readability of KAM. The next hypothesis will be stated as follows:

H₃: Auditor narcissism has a positive effect on KAM readability.

2.5.4. The effect of auditor confidence on KAM readability

Excessive self-confidence or false self-confidence can lead to a decrease in audit quality Salehi, et al. [10]. Salehi, et al. [8] found that auditor confidence exerts a significant positive influence on the readability of the audit report. Salehi, et al. [12] found a significant positive relationship between CEO overconfidence and the readability of the audit report as measured by the Fog index. From the company's perspective, the results of Seifzadeh, et al. [38] found that manager confidence significantly positively affects the financial statement's readability. A study by Salehi, et al. [10] found that the objectivity of an auditor is related to their self-confidence. Auditors with excessive self-confidence may affect the accuracy of the information presented because they tend to overestimate their ability to analyse, especially after experiencing some success [32]. From the studies above, it can be seen that a person's self-confidence can influence them in making decisions, and one of them is the auditor's decision

to disclose the readability of KAM. Consistent with communication theory, auditors with high self-confidence can reduce information asymmetry in the audit report by disclosing KAM, which is more difficult to understand. Attributed to this, the next hypothesis is stated as follows:

H₄: Auditor confidence has a negative effect on KAM readability.

2.5.5. The effect of KAM readability on investor reaction

Investors' decision-making may be adversely affected by obstacles to report readability, which may result in suboptimal investment decisions [12]. If the users of an audit report are unable to grasp its contents readily, it loses its effectiveness and fails to serve its intended purpose [44]. The application of KAM is intended to provide transparency and a more informative audit report, thereby increasing its readability. Chirakool, et al. [7] found that the readability of KAM has a significant positive relationship with investor reaction, as indicated by cumulative abnormal return and abnormal trading volume. Seebeck and Kaya [45] found that more specific KAM disclosures significantly positively affect investor reaction. Rapley, et al. [19] found that investors consider KAM disclosure informative and influences investment intentions when KAM is informed in the audit report compared to when no KAM is included. Meanwhile, Abu, et al. [3] show that KAM does not affect stock prices even though it interacts with going concern opinions. In line with signalling theory, the audit report is a signal transmission from auditors to investors. One way to assess whether the audit report presented by the auditor provides insight is through investor reactions [46]. When KAM disclosure contains significant company risk, it can provide a negative signal to investors. So, the next hypothesis is stated as follows:

H₅: KAM readability has a negative effect on investor reaction.

2.5.6. Mediation of KAM Readability

According to Ittonen [47] audit reports can influence stock prices because information from audit reports can impact the risk assessment of future cash flows and the projected quantity of future cash flows. In addition, the audit report may also include significant details about the company's going concern. The International Auditing and Assurance Standards Board (IAASB) undertakes periodic updates to audit standards to enhance audit quality. The introduction of Key Audit Matters (KAM) represents a response to investor demands for greater transparency regarding auditors' considerations in forming their opinions Al-mulla and Bradbury [48]. Jaffar, et al. [21] found that KAM acts as a mediator in reducing the negative effect of board characteristics on stock prices. The additional information provided by KAM positively influences investor reaction, increasing the value relevance of board quality. Hussin, et al. [23] found that auditor characteristics such as female audit partners, big 4 KAP, and audit fees affect the readability of KAM.

Low readability can make it difficult for a person to process the information presented and thus make heuristic and intuitive decisions [49]. Shareholders expect the Key Audit Matters (KAM) section in the audit report to be easily understandable, as readable KAM disclosures help to reduce information asymmetry and mitigate conflicts of interest between management and shareholders Velte [37]. Chirakool, et al. [7] found that complex language in KAM disclosure can hinder investors in decision-making. Xu, et al. [49] found that KAM readability can increase the informational effectiveness of audit reports for investors. Seebeck and Kaya [45] find that a more detailed explanation of KAM significantly and positively correlates with market reactions. In line with signalling theory, it can be concluded that KAM readability will increase the effectiveness of corporate information delivery, which impacts investor reaction.

The auditor's personality in the disclosure of KAM may affect its readability. The auditor's assessment must be objective and free from bias, as the audit report serves as a crucial tool for investors in making informed decisions Salehi, et al. [10]. Mwintome, et al. [39] found that auditor tenure and workload affect the readability of KAM. Chou, et al. [22] found that auditor narcissism can improve audit quality. Church, et al. [50] found that auditor narcissism can affect audit delay. Salehi, et al. [8] found that tenure, audit fees, specialisation, narcissism, self-confidence, and auditor turnover obligations

affect the readability of audit reports. In line with communication theory, it can be concluded that auditors' characteristics and personalities can affect the disclosure of audit reports. Personality traits, such as narcissism and self-confidence, can influence decisions related to the readability of audit reports. The language used by auditors in KAM disclosures may contribute to the complexity of KAM readability for users, including investors and stakeholders. So, we assume that auditor narcissism and self-confidence are indirectly related to investor reaction through the readability of KAM. The next hypothesis to be tested is as follows:

H₆: Through KAM readability, auditor narcissism negatively affects investor reaction.

H₇: Through KAM readability, auditor confidence positively affects investor reaction.

3. Research Methodology

3.1. Sample and Data Collection

The sample in this study consists of firms listed on the KOMPAS 100 index of the Indonesia Stock Exchange that disclosed financial information for the 2022–2023 period. This index was selected because it comprises 100 companies with high liquidity and large market capitalisation, representing 79% of the total market capitalization [23, 51]. SA 701 was implemented in Indonesia for audits of financial statements in 2022; therefore, the sample is drawn from that year. The original sample consisted of 100 companies with 200 observations before excluding companies listed after 2022 due to the unavailability of stock prices for calculating abnormal returns. After removing these companies, the final sample consisted of 186 observations. Auditor signatures and KAM disclosure reports were manually hand-collected from audit reports on the Indonesia Stock Exchange website. Stock price data was obtained from the investing.com website. Data on auditor confidence, including asset growth and sales growth, and control variables, including return on assets, size, leverage, company age, and market-to-book ratio, were obtained from the Refinitiv Eikon database.

3.2. Variables Measurement

The endogenous variable in this study is investor reaction, which is measured by cumulative abnormal return (CAR). According to Ittonen [47] the optimal condition for determining the event date to calculate CAR is when the audit report is published immediately after being signed by the auditor. So, this study used the auditor's signature date on the audit report as the event date, which is adapted from previous studies [52, 53]. We calculated the expected return for each firm utilising daily returns from day −250 to −21. Following Czerney, et al. [54] this study examines the specified short event windows (−1, 1). The cumulative abnormal return can be calculated using the following formula:

$$R_{it} = \alpha_i + \beta_i R_{Mt} + \varepsilon_{it} \quad (1)$$

$$AR_{it} = R_{it} - \alpha_i - \beta_i R_{Mt} \quad (2)$$

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{it} \quad (3)$$

Where:

R_{it} = Return of firm i on day t

R_{Mt} = Return of market on day t

AR_{it} = Abnormal return of firm i on day t

CAR_i = Cumulative abnormal return of firm i

The exogenous variables in this study consist of two variables: auditor narcissism and confidence. The proxy for narcissism is the auditor's signature size. Companies led by individuals with smaller signatures tend to operate more efficiently compared to those with larger signatures, as a larger signature is often associated with narcissistic traits [12]. The auditor's signature will be obtained from the audit report, measured from point to point, and processed using ImageJ to determine its size. The surplus investment in assets index serves as a proxy for auditor confidence. This index represents

surplus investment in assets, as determined by the residual regression of total asset growth on sales growth. A value of 1 is assigned to the index if the regression residual exceeds 0, and 0 otherwise [12]. The intervening variable in this study is KAM readability. The proxy of KAM readability is the Fog index [55]. The higher result of this index indicates a harder readability. This index is calculated as follows: sentence length, which is determined by the number of words, and word complexity, which is determined by the count of three multi-syllable words.

FOG index = (average no. of words in each sentence + percentage of complicated words) x 0.4

A Fog Index above 18 indicates highly complex and unreadable text, while a score of 14–18 signifies complex text. A score of 12–14 represents an average level of readability, 10–12 indicates an acceptable level and 8–10 corresponds to easily readable text. Moreover, investor reactions may be influenced by the complexity of the business, and corporate characteristics could play a role in shaping these reactions. Five control variables: return on assets, leverage, size, age, and market-to-book ratio were adopted from previous research to evaluate their possible influence as confounding factors on share prices [3, 7].

3.3. Research Model and Data Analysis

This study uses path analysis with the help of SEM Stata version 17 to test the hypothesis. The structural equation formula in this study is as follows:

$$kamr_{it} = \beta_0 + \beta_1 narc_{it} + \beta_2 conf_{it} + \varepsilon_{it} \quad (1)$$

$$invs_{it} = \beta_0 + \beta_1 narc_{it} + \beta_2 conf_{it} + \beta_3 kamr_{it} + \beta_4 roa_{it} + \beta_5 size_{it} + \beta_6 lev + \beta_7 age_{it} + \beta_8 mtb_{it} + \varepsilon_{it} \quad (2)$$

Where:

invs = Investor reaction
 narc = Auditor narcissism
 conf = Auditor confidence
 kamr = KAM readability
 roa = Return on assets
 size = Company size
 lev = Leverage
 age = Company age
 mtb = Market to book ratio
 ε = Error

We conducted a direct, indirect, and total effect analysis to determine whether narcissism and confidence affect investor reaction directly or indirectly through KAM readability. The analysis also shows whether the mediation effect of KAM readability is statistically significant. Then, the Goodness of Fit (GoF) test is carried out to see how the proposed model works with the observed data [56]. If the Chi-square value (χ^2) > 0.05, CFI > 0.09, RMSEA < 0.08, and SRMR < 0.05, then it indicates a good model fit [57]. Additionally, the R-squared value denotes the percentage of variance in the endogenous variable that is accounted for by the exogenous variable.

4. Results and Discussion of Findings

4.1. Descriptive Statistics

Table 1 presents descriptive statistics for the variables employed in this study. The sample comprises 186 observations. The mean investor reaction (invs) is 0.0048 with a standard deviation of 0.0380. Auditor narcissism (narc) has a mean of 0.4654 (SD = 0.3223), while confidence (conf) has a mean of 0.4194 (SD = 0.4948). The average kamr score is 22.7393 (SD = 3.2590). The firms' average return on assets (roa) is 0.0662, with a standard deviation of 0.1502. The mean firm size is 31.1656. The firm size standard deviation is 1.4889. The mean leverage (lev) is 0.2259, with a standard deviation of

0.1912. The age standard deviation is 14.7881 years, with an average of 36.0054. The sample exhibits a considerable variation in growth opportunities, as indicated by the market-to-book ratio (mtb), with an average of 3.5675 and a standard deviation of 11.6547.

Table 1.
Descriptive Statistics.

| Variable | Obs. | Mean | Std. dev. | Min. | Max. |
|----------|------|---------|-----------|---------|----------|
| invs | 186 | 0.0048 | 0.0380 | -0.0910 | 0.1130 |
| narc | 186 | 0.4654 | 0.3223 | 0.0360 | 1.9910 |
| conf | 186 | 0.4194 | 0.4948 | 0.0000 | 1.0000 |
| kamr | 186 | 22.7393 | 3.2590 | 15.8000 | 35.7000 |
| roa | 186 | 0.0662 | 0.1502 | -1.6730 | 0.4540 |
| size | 186 | 31.1656 | 1.4889 | 27.5810 | 35.3150 |
| lev | 186 | 0.2259 | 0.1912 | 0.0000 | 0.6930 |
| age | 186 | 36.0054 | 14.7881 | 8.0000 | 90.0000 |
| mtb | 186 | 3.5675 | 11.6547 | 0.2260 | 147.0680 |

4.2. Path Analysis

Path analysis in this study is conducted using Structural Equation Modeling (SEM) in Stata. As indicated by the SEM analysis, the test results regarding the overall goodness of fit of models demonstrated that empirical data, with fit indices in Chi-square $\chi^2 > 0.05$, CFI > 0.09 , RMSEA < 0.08 , and SRMR < 0.05 , supported the hypothetical model. The results of Chi-square χ^2 , RMSEA, CFI, and SRMR in this study are 0.866, 0.000, 1.000, and 0.016, which are deemed a suitable fit, allowing for further discussion. The results show that the R-squared of KAM readability is 0.068, indicating that this model can explain 6.8% of the variation in KAM readability. The R-squared result of investor reaction is 0.1268, indicating that this model can explain 12.68% of the variation in investor reaction. The remaining variance is attributed to other factors that were not analysed in this study.

The findings from the hypothesis testing performed through SEM analysis are detailed in the following section. Results of the direct effects are shown in Table 2 and Figure 1. The results are presented below:

1. The relationship between auditor narcissism (narc) and KAM readability (kamr) is indicated by a coefficient of 0.0852 with a p-value of 0.005. Since the p-value is below 0.05 and the coefficient is positive, this signifies a statistically significant positive association between auditor narcissism (narc) and KAM readability (kamr). A higher auditor narcissism indicates a higher KAM readability.
2. The relationship between auditor confidence (conf) and KAM readability (kamr) is indicated by a coefficient of -0.0428 with a p-value of 0.029. Since the p-value is below 0.05 and shows a negative coefficient, this signifies a statistically significant negative association between auditor confidence (conf) and KAM readability (kamr). A higher auditor confidence indicates a lower KAM readability.
3. The relationship between KAM readability (kamr) and investor reaction (invs) is indicated by a coefficient of -0.0564 with a p-value of 0.005. Since the p-value is below 0.05 and shows a negative coefficient, this signifies a statistically significant negative association between KAM readability (kamr) and investor reaction (invs). A higher KAM readability indicates a negative investor reaction.
4. The relationship between auditor narcissism (narc) and investor reaction (invs) is indicated by a coefficient of -0.0119 with a p-value of 0.1620. Since the p-value is above 0.05 and shows a negative coefficient, this signifies that KAM readability (kamr) and investor reaction (invs) have no significant negative relationship.
5. The relationship between auditor confidence (conf) and investor reaction (invs) is indicated by a coefficient of 0.0097 and a p-value of 0.075. Since the p-value is above 0.05 and shows a positive coefficient, this signifies auditor confidence (conf) and investor reaction (invs) have no significant positive relationship.

6. The relationship between control variables including roa, size, lev, age, mtb and investor reaction (invs) is indicated by a structural coefficient of -0.0148, 0.0027, -0.0030, -0.0004, -0.0002 and a p-value of 0.4140, 0.1470, 0.8360, 0.034, 0.3530. A p-value above 0.05 and a negative coefficient signify that roa, lev, mtb, and investor reaction (invs) have no significant negative relationship. A p-value above 0.05 and a positive coefficient signify that size and investor reaction (invs) have no significant positive relationship. Meanwhile, a p-value below 0.05 and a negative coefficient signify a significant negative association between age and investor reaction (invs).

Table 2.
Direct Effects.

| | Coefficient | std. err. | Z | P> z | [95% conf. interval] | |
|-------------------|-------------|-----------|---------|----------|----------------------|---------|
| Structural | | | | | | |
| kamr | | | | | | |
| narc | 0.0852 | 0.0300 | 2.8400 | 0.005*** | 0.0263 | 0.1440 |
| conf | -0.0428 | 0.0196 | -2.1900 | 0.029** | -0.0811 | -0.0045 |
| invs | | | | | | |
| kamr | -0.0564 | 0.0199 | -2.8300 | 0.005*** | -0.0955 | -0.0173 |
| narc | -0.0119 | 0.0085 | -1.4000 | 0.1620 | -0.0285 | 0.0048 |
| conf | 0.0097 | 0.0054 | 1.7800 | 0.075* | -0.0010 | 0.0203 |
| roa | -0.0148 | 0.0181 | -0.8200 | 0.4140 | -0.0502 | 0.0206 |
| size | 0.0027 | 0.0019 | 1.4500 | 0.1470 | -0.0010 | 0.0064 |
| lev | -0.0030 | 0.0143 | -0.2100 | 0.8360 | -0.0310 | 0.0251 |
| age | -0.0004 | 0.0002 | -2.1200 | 0.034** | -0.0008 | 0.0000 |
| mtb | -0.0002 | 0.0002 | -0.9300 | 0.3530 | -0.0007 | 0.0002 |

Note(s): *p < 0.1; **p < 0.05; ***p < 0.01.

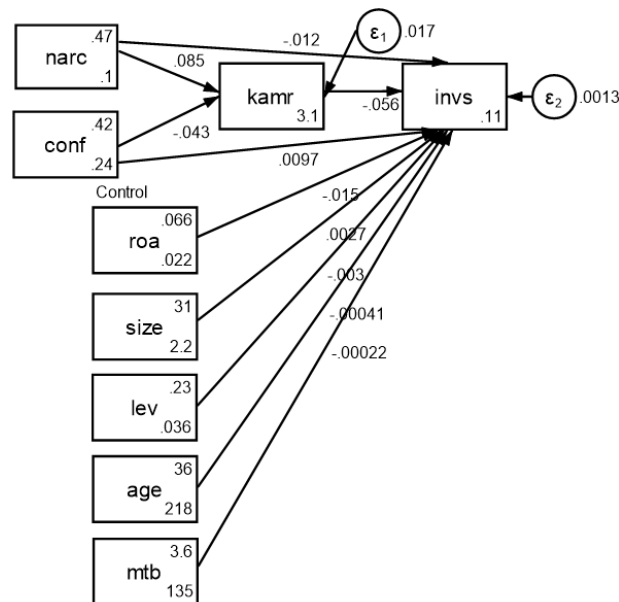


Figure 1.
Path Diagram Results.

The mediation test was derived from multiple paths on direct effects that form mediation as shown in Figure 1. Tables 3 and 4 show the indirect and total effects of the hypothesis test results. Table 3 presents the relationship between auditor narcissism (narc) and investor reaction (invs), which is mediated by KAM readability (kamr), shows a coefficient of -0.0048 with a p-value of 0.045. This implies that the relationship between auditor narcissism and investor reaction is significantly mediated by KAM

readability. As auditor narcissism increases, the readability of KAM decreases, resulting in a negative investor reaction. The relationship between auditor confidence (conf) and investor reaction (invs), which is mediated by KAM readability (kamr), shows a coefficient of 0.0024 with a p-value of 0.084. This implies that KAM readability does not significantly mediate the association between auditor confidence and investor reaction.

Table 4 presents the total effects of the relationship between auditor narcissism (narc) and investor reaction (invs), which is mediated by KAM readability (kamr), and shows a coefficient of -0.0167 with a p-value of 0.05. This suggests that, in general, a decrease in investor reaction is linked to increased levels of auditor narcissism. The total effects of the relationship between auditor confidence (conf) and investor reaction (invs), which is mediated by KAM readability (kamr), shows a coefficient of 0.0121 with a p-value of 0.027. This implies that, in general, an increase in investor reaction is linked to higher levels of auditor confidence.

Table 3.
Indirect Effects.

| | Coefficient | Std. Err. | Z | P> z | [95% conf. interval] |
|-------------------|-------------|-----------|---------|---------|----------------------|
| Structural | | | | | |
| invs | | | | | |
| narc | -0.0048 | 0.0024 | -2.0000 | 0.045** | -0.0095 -0.0001 |
| conf | 0.0024 | 0.0014 | 1.7300 | 0.084* | -0.0003 0.0051 |

Note(s): *p < 0.1; **p < 0.05; ***p < 0.01.

Table 4.
Total effects.

| | Coefficient | Std. Err. | Z | P> z | [95% conf. interval] |
|-------------------|-------------|-----------|---------|---------|----------------------|
| Structural | | | | | |
| invs | | | | | |
| narc | -0.0167 | 0.0085 | -1.9600 | 0.050** | -0.0333 0.0000 |
| conf | 0.0121 | 0.0055 | 2.2000 | 0.027** | 0.0013 0.0228 |

Note(s): *p < 0.1; **p < 0.05; ***p < 0.01.

5. Discussion

5.1. The effect of auditor narcissism on investor reaction

The test results showed that auditor narcissism had an insignificant negative effect on investor reaction; thus, hypothesis 1 is rejected. This implies that, after controlling for other pertinent firm characteristics for the mediating effect of KAM readability, auditor narcissism does not significantly independently impact investor reaction. There are various potential explanations for this null result. Initially, it is conceivable that the direct effect of auditor narcissism on investor reaction is too subtle to be discerned in our sample. Investors may not be able to observe or perceive auditor narcissism directly, or they may not consider it a primary factor when making investment decisions.

The second issue is that our examination of auditor narcissism may not adequately encompass the aspects of narcissism that are most pertinent to investor perceptions. Additionally, investors are more influenced by other auditor characteristics than narcissism, which may be the cause of their reactions. For instance, investors may be more interested in other auditor attributes, such as industry specialisation, ethical behaviour, audit partner tenure, or competence. This is supported by another study that indicates that the influence of partner narcissism on audit quality is only evident when auditor independence is vulnerable to compromise [22]. This finding indicates that auditor independence, rather than auditor competence, is the primary mechanism by which partner narcissism enhances audit quality. Hussin, et al. [23] found that auditor characteristics such as female audit partners, Big Four audit firms, and audit fees affect the readability of KAM. This implies that the advantages of narcissism may be contingent upon the particular context and primarily operate through channels that do not directly affect investor reactions. In this instance, auditor narcissism may not be

sufficiently potent to influence investor reactions directly; however, its influence is evident in the readability of KAM.

5.2. The effect of auditor confidence on investor reaction

This study found that auditor confidence does not significantly impact investor reactions; thus, hypothesis 2 is rejected. While confidence is often regarded as a valuable trait in professional environments, investors may place greater emphasis on objective measures of audit quality, such as the thoroughness of audit procedures, adherence to ethical guidelines, and demonstrable expertise. As a result, without concrete evidence supporting these essential attributes, perceptions of auditor confidence may have little effect on investor sentiment. The relationship between auditor confidence and investor response may be non-linear, where excessive confidence beyond a certain point leads to diminishing or even negative effects. Prior research indicates that overconfidence can contribute to poor decision-making and an underestimation of risk [43]. Consequently, investors may view excessive auditor confidence as a potential sign of carelessness or insufficient due diligence, ultimately leading to an unfavourable market reaction. Rather than exerting a direct influence, auditor confidence may primarily affect investor reactions through intermediary factors such as audit reports. Ianniello and Galloppo [53] found that the nature of qualifications in an audit report can shape investor response. Understanding these dynamics further could enhance audit practices and investor decision-making, ensuring that confidence is balanced with professional scepticism and stringent audit standards.

5.3. The effect of auditor narcissism on KAM readability

The findings showed that auditor narcissism had a significant positive effect on KAM readability; thus, hypothesis 3 is accepted. This implies that the higher the auditor's narcissism level, the better the readability of KAM in the audit report. Consistent with the previous study, Chou, et al. [22] found that auditor narcissism can improve audit quality by increasing auditor independence, impacting audit reports' transparency. This study indicates that narcissistic auditors are more likely to present clear and attractive reports, which supports our findings regarding KAM readability. In addition, research by Salehi, et al. [8] found that narcissism has a significant negative relationship with audit reports' readability. Rajabalizadeh and Schadewitz [58] also found a negative significant association between audit partner narcissism and the readability of audit reports. This further strengthens the argument that auditors' personality traits, particularly narcissism, can facilitate disseminating information that is more readable to stakeholders.

5.4. The effect of auditor confidence on KAM readability

According to the results, auditor confidence had a significant negative effect on KAM readability; thus, hypothesis 4 is accepted. This finding indicates that auditors with high levels of self-confidence tend to present KAM in a more complex or unclear manner, thereby hindering investors' ability to comprehend the information conveyed. This is in line with the study of Salehi, et al. [8] which shows that auditor self-confidence has a significant negative effect on the readability of audit reports. Auditors with overconfidence tend to ignore the readability aspect when conveying information. In addition, overconfident auditors can potentially make calibration errors in their analysis. As stated by Pincus in Hardies, et al. [40] overconfident auditors often do not consider contradictory data or evidence, which presents unbalanced and difficult-to-understand reports. Other studies also support the hypothesis that a person's self-confidence can result in lower report readability. For example, Salehi, et al. [12] and Seifzadeh, et al. [38] found that manager self-confidence significantly impacts the readability of audit reports and financial statements.

5.5. The effect of KAM readability on investor reaction

According to the results, KAM readability had a significant negative effect on investor reaction; thus, hypothesis 5 is accepted. This finding indicates that the more difficult the readability of the KAM,

the more negative the investor's reaction to the audit report. Investors may perceive hidden information, which is deliberately made difficult to read and convoluted, thus causing an information gap. Previous research by Velte [20] emphasized that the complexity of KAM disclosure can hinder investor understanding, an important factor in their decision-making. If KAM information is unclear, investors feel less informed, which can lead to inappropriate investment decisions and negative reactions to the company's shares. Meanwhile, Chirakool, et al. [7] found that KAM readability has a significant positive association with investor reactions, where high readability can increase investor understanding and ultimately lead to positive reactions to stock performance. A study by Rapley, et al. [19] also shows that transparency and readability of KAM disclosure significantly affect the investment intentions of non-professional investors. On the other hand, Abu, et al. [3] shows that there is no significant effect between KAM and investor reactions. This implies that the ambiguity in the delivery of KAM can reduce investor confidence in assessing the company's financial condition.

5.6. The effect of auditor narcissism on investor reaction mediated by KAM readability

The results showed that auditor narcissism had a significant negative effect on investor reaction mediated by KAM readability. Thus, hypothesis 6 is accepted. The research findings show that a high level of auditor narcissism can improve the readability of KAM, making it easier to understand. However, this makes investors recognise and interpret the scope of the company's significant matters more effectively, which can lead to adverse market reactions. These findings contradict [8] who states that auditor narcissism is associated with lower readability in audit reports. While their research focuses on audit reports, our findings highlight key audit matters. Narcissistic auditors may disclose KAM more clearly, which has the potential to emphasise their expertise or superiority. Chou, et al. [22] support this perspective by showing that auditors with higher levels of narcissism can compromise audit quality. Jaffar, et al. [21] highlight that KAM disclosure can function as a mediator in reducing information asymmetry. This aligns with communication theory, where unclear information can cause confusion and uncertainty among investors, leading to less-than-optimal investment decisions.

5.7. The effect of auditor confidence on investor reaction mediated by KAM readability

This study found that KAM readability has no significant mediation effect between auditor confidence and investor reaction; thus, hypothesis 7 is rejected. The results of this study indicate that auditor confidence may affect how they present KAM; however, auditor confidence does not substantially influence investor reactions through KAM readability. This seemingly counterintuitive outcome requires further investigation. Overconfidence could negatively impact audit quality and counterbalance the benefits of auditor confidence. Mitra, et al. [42] contend that overconfident auditors may be more lenient toward aggressive management decisions, resulting in them disregarding material misstatements in financial reporting. As a result, auditors may require a certain degree of confidence to communicate intricate information effectively. Overconfidence may decrease professional scepticism and reduce the probability of identifying errors or deception. This, in turn, has the potential to undermine any beneficial impacts of transparent KAM communication on investor confidence.

6. Conclusion

This study explores the effect of auditor personality traits, such as narcissism and auditor confidence, on investor reaction to KAM readability as a mediator. The results indicate that auditor narcissism does not have a substantial direct impact on investor reaction. Investors may be more influenced by auditor characteristics other than narcissism—for example, industry specialisation, ethical behaviour, tenure of audit partners, or auditor competence. Investors tend to pay more attention to these aspects because they are directly related to audit quality and the reliability of financial information. Second, auditor confidence has no significant direct effect on investor reactions. Like narcissism, investors may be more influenced by auditor characteristics other than personality. Third, auditor narcissism has a significant positive effect on KAM readability. This indicates that the higher

the auditor's narcissism level, the better the KAM readability in the audit report. Fourth, auditor confidence has a significant negative effect on KAM readability. This finding indicates that auditors with high levels of self-confidence tend to present KAM in a more complex or unclear manner.

Fifth, KAM readability has a significant negative effect on investor reaction. This finding indicates that the more difficult the readability of the KAM, the more negative the investor reaction to the audit report. Investors are more responsive to information presented clearly and easy to understand. A concise and digestible KAM helps investors make more informed investment decisions. Sixth, auditor narcissism has a significant negative effect on investor reaction mediated by KAM readability. This implies that the readability of KAM can be diminished by high levels of auditor narcissism, which in turn impacts investor responses to the audit report in a negative manner. Finally, auditor confidence has no significant effect on investor reaction, which is mediated by KAM readability. This occurs because excessive confidence may diminish professional scepticism and compromise audit quality.

Furthermore, this study may have other undiscovered factors that play a more significant role. These limitations offer a basis for future research. First, this study considers two aspects of the auditor personality: narcissism and self-confidence. Other attributes, such as the auditor's communication style, work experience, and client relationship, may influence investor perceptions and KAM readability. Therefore, further research can consider these additional factors. Second, this study uses secondary data, which may not adequately capture the psychological nuances of auditors and how the audit process relates to these characteristics. Future research can use interviews or surveys to delve deeper into the mechanisms behind the association between auditor personality and KAM disclosure.

Data Availability Statement:

The data of this research are openly available at https://bit.ly/OpenDataFinal_Herina

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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