Vol. 6, No. 12, December 2025
E-ISSN:2723 – 6692
P-ISSN:2723– 6595
http://jiss.publikasiindonesia.id/

The Effect of Company Operation Complexity, Audit Committee, and Audit Quality on Audit Report Lag with Board Gender Diversity as A Moderating Variable

Dzaky Iqbal*, Danang Mintoyuwono
Universitas Pembangunan Nasional "Veteran" Jakarta, Indonesia
Email: danangmintoyuwono@gmail.com

KEYWORDS

Complexity of corporate operations; Audit committee; Audit quality; Audit report lag; Board gender diversity.

ABSTRACT

This study was conducted to analyze the effect of the complexity of company operations, audit committees, and audit quality on audit report lag, with gender diversity on the board of directors serving as a moderating variable, using data from coal mining companies listed on the Indonesia Stock Exchange (IDX) between 2021 and 2023. Audit report lag refers to the period between the end of the fiscal year and the issuance of the audit report. The timely submission of audited financial statements is critical, as it influences the quality of financial information and stakeholders' economic decision-making. The sample for this study consisted of 26 coal mining sub-sector companies. The analysis was conducted using STATA 17 with the Random Effect Model (REM) applied. The results indicate that audit report lag is not affected by the complexity of company operations or the audit committee, whereas audit quality has a negative effect. Meanwhile, gender diversity on the board of directors was not proven to moderate the relationships between company complexity, audit committees, and audit quality in their effect on audit report lag. These findings provide meaningful contributions to the field of corporate governance and enhance understanding of the factors influencing audit reporting timeliness.

INTRODUCTION

Investors and borrowers rely heavily on financial information when making investment decisions. Financial statements are documents that provide investors with essential information about a company's financial condition and activities over a specific period. Users of these statements require relevant and reliable financial information to accurately and factually reflect the business's performance. Business entities that aspire to expand must take strategic steps, such as achieving go public status (Harahap & Ja, 2022). The Indonesia Stock Exchange (IDX) offers listed companies opportunities to broaden access to funding sources for sustaining their operations. These funds can be obtained through securities trading or external financing (Larisa & Salim, 2022).

In the era of globalization, business entities compete to go public through the IDX, as publicly available financial statements serve as critical tools for performance evaluation. Financial statements are key communication instruments for internal and external decision-making, enabling shareholders to assess future strategies based on indicators such as financial health, company performance, and cash flow (Ningsih & Agustina, 2020). This dynamic encourages many companies to go public, making transparent financial reporting an essential

prerequisite for gaining investor trust, as financial statements must be comparable, precise, clear, and relevant (Squirrelly & Stuttgart, 2023).

Business entities listed on the Indonesia Stock Exchange are categorized as having public accountability under PSAK No. 1, which states that inaccuracies or delays in financial statement preparation can reduce information relevance. The IDX acts as a platform for public issuers to trade shares and publish their audited financial statements under the supervision of the Financial Services Authority (Otoritas Jasa Keuangan—OJK). The submission deadline for audited financial statements is regulated by Financial Services Authority Regulation No. 14/POJK.04/2022, which also stipulates sanctions for delayed submissions.

Timely submission of financial reports is vital for business transparency and maintaining credibility. Delays in audit report submission can negatively affect investor confidence. In Indonesia, companies must submit their audited financial statements within four months after the fiscal year-end (Financial Services Authority Regulation No. 14/POJK.04/2022). The energy sector, particularly coal mining companies, often fails to meet this deadline, resulting in penalties such as fines and written warnings from the IDX. For example, PT Black Diamond Resources submitted its audited financial statements 60 days late.

Audit Report Lag (ARL), which refers to the delay between the fiscal year-end and the issuance of the audit report, is influenced by several factors, including operational complexity, audit committee effectiveness, and audit quality. Previous research shows that the complexity of company operations—especially with high subsidiary ownership—correlates with longer ARL. Although studies report mixed findings, many agree that greater complexity tends to increase delays. The composition of the audit committee, including its size, expertise, and meeting frequency, can affect ARL, although its independence does not always have a direct impact. Audit quality, which depends on auditor professionalism, also significantly influences ARL; firms using specialized auditors generally experience shorter ARL due to greater expertise and efficiency. However, some studies find that audit committee size does not necessarily affect ARL.

Incorporating gender diversity on corporate boards can enhance company performance and audit quality. Gender-diverse boards are more likely to select specialized auditors, thereby improving audit quality and reducing ARL. This study focuses on coal mining companies listed on the IDX between 2021 and 2023 to analyze the effects of operational complexity, audit committees, and audit quality on Audit Report Lag, with gender diversity on boards as a moderating variable. The research specifically examines factors contributing to audit report delays.

The problem formulation includes: (1) Does the company's operational complexity affect audit report lag? (2) Does the audit committee influence audit report lag? (3) Does audit quality affect audit report lag? (4) Can the gender diversity board moderate the influence of company operating complexity on audit report lag? (5) Can the gender diversity board moderate the influence of the audit committee on audit report lag? (6) Can the gender diversity board moderate the influence of audit quality on audit report lag? The objectives of the study are: (1) to test the effect of company operational complexity on audit report lag; (2) to test the audit committee's influence on audit report lag; (3) to test the effect of audit quality on audit report lag; (4) to test the role of the gender diversity board in moderating the influence of company

operational complexity on audit report lag; (5) to test the role of the gender diversity board in moderating the influence of the audit committee on audit report lag; and (6) to test the role of the gender diversity board in moderating the influence of audit quality on audit report lag. The research benefits are categorized into two aspects: theoretical and practical. The significance of this research lies in both theoretical and practical aspects. Theoretically, it enriches the understanding of audit timeliness and contributes to the development of future studies in accounting and corporate governance. Practically, it offers insights for researchers, companies, and auditors. For researchers, this study fills existing gaps in Audit Report Lag literature; for companies, it aids in identifying determinants of audit timeliness and business sustainability; and for auditors, it enhances awareness of factors influencing audit completion time.

METHOD

This study aims to examine the influence of company operational complexity, audit committee size, and audit quality on audit report lag using a quantitative approach. The research employs secondary data obtained from the annual financial reports of coal mining companies listed on the Indonesia Stock Exchange (IDX) for the 2021–2023 period. Audit report lag is defined as the time span between the financial statement closing date and the signing date of the audit report, while company operational complexity is measured by the number of subsidiaries owned by each company.

The audit committee variable is measured by the proportion of audit committee members to the board of commissioners, reflecting the level of oversight in the audit process. Audit quality is proxied by the reputation of the public accounting firm and the auditor's industry-specific experience. The population consists of all coal mining companies listed on the IDX during the observation period, with samples selected using a purposive sampling technique based on the availability of consecutive audited financial reports. Data were collected through documentation and literature studies obtained from company websites and IDX publications. The data analysis techniques applied include descriptive statistical analysis to describe the characteristics of each variable and panel data regression analysis to test the effects of company operational complexity, audit committee size, and audit quality on audit report lag. The regression model used in this study is as follows:

Model 1:

$$ARL = \alpha + \beta_1 \cdot KOP_i + \beta_2 \cdot KOA_i + \beta_3 \cdot SPAU_i + \epsilon$$

Model 2:

$$ARL = \alpha + \beta_1 \cdot KOP_i + \beta_2 \cdot KOA_i + \beta_3 \cdot SPAU_i + \beta_4 \cdot BGD_i + \beta_5 \cdot (KOP_i \cdot BGD_i) + \beta_6 \cdot (KOA_i \cdot BGD_i) + \beta_7 \cdot (SPAU_i \cdot BGD_i) + \epsilon$$

Classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation, were conducted to ensure that the regression model was valid and free from bias (Ahmaddien & Susanto, 2020). Hypothesis testing was performed using the coefficient of determination (R^2) test to measure the influence of the independent variables on the dependent variable. Furthermore, a partial t-test was applied to assess the individual contribution of each

independent variable to audit report lag, while multiple linear regression was used to examine the overall relationship among the variables (Basuki & Prawoto, 2016).

RESULTS AND DISCUSSIONS

Description of Research Object

This research uses an object, namely an energy sector company that focuses on coal mining listed on the IDX. Information and data needs can be collected through the official idx.co.id website or the official website of the company. In this study, before data collection is carried out, it is necessary to carry out purposive sampling techniques to produce a list of companies that meet the criteria. Based on the table, the final results were obtained as many as 26 research samples (twenty-six) which were collected through a 3 (three) year observation period from each company which produced a total of 78 (seventy-eight) observations. The companies that are included in the sample list can be found out through the appendix of one study.

Description of Research Data

This study uses secondary data collected through valid information based on annual reports, financial statements, and other valid documents. Data collection was carried out through downloading through the official IDX website and each company listed in the sample. The research data aims to answer the influence of *board gender diversity* in moderating the relationship between the complexity of company operations, audit committees, and audit quality on *audit report lag.* This data can be seen in Appendix 1.

Hypothesis Test and Analysis

Descriptive Statistical Analysis

In this study, descriptive statistical analysis was carried out to provide an overview through the acquisition of the results of the average score, standard deviation, minimum value, and maximum value obtained from the bound variables, independent variables, and moderation variables used in this study. Based on the table of the results of the descriptive statistical test, several information was obtained, namely:

a) Audit Report Lag

The results show the acquisition of the time duration calculated from the closing date of the company's books to the date of signing the financial statements by the auditor. Based on the descriptive statistical information, the highest audit report lag recorded was 307 days, achieved by PT Petrindo Jaya Kreasi Tbk in the 2021 financial year. This value indicates that the company did not properly manage the audit process duration, as it exceeds the time limit set by the OJK. On the other hand, the lowest score was achieved by Indo Tambangraya Megah Tbk in the 2023 financial year, with a duration of 52 days. This value is considered good, as the company successfully managed the audit process duration, ensuring it did not exceed the deadline for financial statement presentation set by the OJK. The standard deviation and mean values were recorded at 31.24893 and 85.15385, respectively, indicating a low variation in these variables.

b) Complexity of Company Operations

The complexity of the company's operations is the first independent variable used in the study. The results show the calculated value acquisition through the number of subsidiaries

owned by each company. Through descriptive statistical information in table 4, it can be known that the highest value was recorded at 125 subsidiaries. This value was achieved by Dian Swastatika Sentosa Tbk in the 2023 financial year, this value shows that the company has a high level of operational complexity due to the potential for *audit report lag* with a longer duration. Meanwhile, the lowest score was achieved by PT Artha Mahiya Investama Tbk during the research period of 0 subsidiaries. These values indicate that the company has a low level of operational complexity. It is stated that the standard deviation values and mean values are 26.06281 and 19.71795 which show a large variation in these variables.

c) Komite Audit

The audit committee is the second independent variable used in the study. The results show the acquisition of values calculated through the ratio between the audit committee and the board of commissioners owned by each company. Through the descriptive statistical information in table 4, it can be known that the highest value was recorded at 3. This value was achieved by PT Cakra Buana Resources Energi Tbk and PT Petrindo Jaya Kreasi Tbk in the 2021 financial year, this value shows that the company has a high ratio between the audit committee and the board of commissioners. Meanwhile, the lowest score was achieved by Baramulti Suksessarana Tbk of 0.3333333 in the 2021 financial year. This value shows that the company has a low ratio between the audit committee and the board of commissioners. The standard deviation values and mean values are 0.4769326 and 0.8836081 which show a low variation in these variables.

d) Audit Quality

AUudit quality is the third independent variable used in the study. The results show the acquisition of value calculated through the auditor's industry specialization proxy which refers to the expertise and understanding of Public Accounting Firms (KAP) assessed from the specific industry by taking into account the ratio of the number of KAP clients to the number of companies in the industry. Through descriptive statistical information in table 4, it can be seen that the highest value was recorded at 0.1923077. The score was achieved by KAP Purwantono, Sungkoro & Surja (EY) and KAP Tanudiredja, Wibisana, Rintis & Rekan (PwC), the score shows that the KAP has a more complex understanding and understanding in the industry so that the auditor industry specialises have high quality. Meanwhile, the lowest score was achieved by KAP Adi Nuroni, KAP Adi, Eki & Rekan, and 14 other KAP of 0.0384615. This value indicates having a low specialization in the auditor's industry. The standard deviation values and mean values of 0.0705794 and 0.0981262 were declared which showed a low variation in these variables.

e) Board Gender Diversity

Board Gender Diversity is shown through the acquisition of scores calculated by the ratio between the number of female board of directors and the number of overall board of directors. The average *board gender diversity* obtained is 0.0977772 which states that the percentage of women in the composition of the board of directors is worth 10% percent. Through descriptive statistical information in table 4, it can be seen that the highest score *of the gender diversity board* was recorded at 0.5 (50%). This value was achieved by PT Cakra Buana Resources Energi Tbk. This value shows that the company's board of directors is mostly women. While the lowest score was recorded at 0. This value shows that the company does not

implement *a gender diversity board* in the composition of the dean of the board of directors that it forms. It is stated that the standard deviation values and mean values are 0.01464483 and 0.0977772 which show a low variation in these variables.

Panel Data Analysis

Panel data analysis was carried out to determine the best model in the test with the regression model. This test is also adjusted to the type of data used in the study which consists of data *cross-section* and *time series.* The predicted model before conducting the analysis is *Common Effect Model* (CEM), *Random Effect Model* (REM), and *Fixed Effect Model* (FEM). The testing stage begins with the Chow Test followed by the Lagrange Multiplier Test and ends with the Hausman Test.

a. Chow Test

The Chow test aims to determine the best regression model between *the Common Effect Model* (CEM) and *the Fixed Effect Model* (FEM). The test results were focused on the probability results that had the condition that if the probability value < from the significance level (0.05), then the null hypothesis was rejected and the FEM model was chosen as a better model. On the other hand, if the probability value > the significance level (0.05), then the better model is CEM.

Table *1*. Chow Test Results

	Model 1	Model 2
Prob > F	0.0000	0.0000

Source: Stata 17 results, data processed (2025)

Referring to table 1 related to the results of the chow test, it is stated that the test results from model 1 and model 2 produce a Prob > F value that is smaller than the level of siginfectancy (0.05). This result states that in the chow test it has determined the best model to use, namely *Fixed Effect Model* (FEM).

b. Uji Lagrange Multiplier

The Lagrange test is the next stage of the test that aims to determine the best regression model between *the Common Effect Model* (CEM) and *the Random Effect Model* (REM). The test results were focused on the probability results that had the condition that if the value of Prob > Chi^2 was less than the significance level (0.05), then the null hypothesis was rejected and the REM model was chosen as the better model. On the other hand, if the value of Prob > Chi^2 is greater than the significance level (0.05), then the better model is CEM.

Table 2. Langrange Multiplier Test Results

	Model 1	Model 2
Prob > Chi2	0.0000	0.0001

Source: Stata 17 results, data processed (2025)

Referring to table 6 related to the results of the lagrange multiplier test, it is stated that the test results of model 1 and model 2 produced a Prob > Chi^2 value that is smaller than the siginfectivity level (0.05). This result states that in the lagrange multiplier test the best model to use, namely *the Random Effect Model* (REM).

a. Hausman Test

The Housman test is the last test stage that aims to determine the best regression model between the *Fixed Effect Model* (CEM) and *the Random Effect Model* (REM). The test results were focused on the probability results that had the condition that if the value of Prob > Chi^2 was greater than the significance level (0.05), then the null hypothesis was rejected and the REM model was chosen as a better model. On the other hand, if the value of Prob > Chi^2 is less than the significance level (0.05), then the better model is FEM.

Table 3. Hausman Test Results

	Model 1	Model 2
Prob > Chi2	0.1392	0.3943

Source: Stata 17 results, data processed (2025)

Referring to table 3 related to the thirst test results, it is stated that the test results from model 1 and model 2 produce a Prob > Chi^2 value that is greater than the level of siginfectancy (0.05). This result states that the lagrange multiplier test has obtained the best model to use, namely *the Random Effect Model* (REM).

Classical Assumption Test

a. Normality Test

The normality test as the first test stage is used as a guarantor related to the distribution of data which will later be categorized into 2 categories, namely whether it has been distributed normally or not. Data normality is assessed based on values *skewness* and *kurtosis.* Normally-distributed data has a condition, namely the value of *skewness* is included in the acceptable range of -3 to +3, while the value *kurtosis* It falls within the acceptable range of -10 to +10. The following table contains the test results:

Table 4. Normality Test Results

	Model 1		Model 2	
Variabel	***Skewness***	***Kurtosis***	***Skewness***	***Kurtosis***
ARL	-0.1151256	3.21607	-0.1151256	3.21607
HEAD	2.321975	8.530439	2.321975	8.530439
JOY	0.70868	2.567452	0.70868	2.567452
SPAU	0.4761327	1.36734	0.4761327	1.36734
BGD	1.20982	3.265412	1.20982	3.265412
KOP_BGD			2.450256	9.32985
KOA_BGD			1.437532	3.732774
SPAU_BGD			1.879243	5.632636

Description:
KOP = Complexity of Company Operations, KOA = Audit Committee, SPAU = Audit Quality, BGD = *Board Gender Diversity*

Source: Stata 17 results, data processed (2025)

Referring to the information presented in table 8, the test results show that all variables from both model 1 and model 2 have met the requirements where the value of *skewness* is in the range of -3 to +3 and the value of the kurtosis is in the range of -10 to +10. The results of the test that have met the requirements state that the data is assumed to have been distributed normally.

b. Multicollinearity Test

The next stage of the test is the multicollinearity test, at this stage the data from each variable is tested to detect a strong relationship between independent variables. This test refers to the VIF value and tolerance produced. The requirement in this test to take data that is free of multicollinearity is a VIF value of < 10 followed by a tolerance value (1/VIF) greater than 0.1.

Table 5. Multicollinearity Test Results

Variabel	LIVE	1/LIVE
HEAD	3.36	0.297687
JOY	2.76	0.362474
SPAU	1.91	0.523453
BGD	1.74	0.573696

Description:
KOP = Complexity of Company Operations, KOA = Audit Committee, SPAU = Audit Quality, BGD = *Board Gender Diversity*

Source: Stata 17 results, data processed (2025)

Referring to the information presented in table 9, the VIF and tolerance values generated by each variable have been below 10 and past 0.1 respectively. These values have met the requirements to be free from multicollinearity. So in this model, the variables used are not indicated by the problem of multicollinearity.

c. Heteroscedasticity Test

This test stage is carried out to determine if there is a difference in variance through residual observations in the model used. The study used the *Generelized Least Square* (GLS) approach through *the Random Effect Model* (REM) model in both regression models. Therefore, no additional testing stages are required for the GLS approach through the REM model because it is considered to be able to deal with heteroscedasticity problems. The use of the RE model assumes that heteroscedasticity is negligible and not a problem so no treatment is required.(Gozhali , 2018)

d. Autocorrelation Test

This test stage is carried out to determine if there is a relationship between *the error* between the t-period and the t-1 period. The study used the *Generelized Least Square* (GLS) approach through *the Random Effect Model* (REM) model in both regression models. Therefore, no autocorrelation testing stage is required for the GLS approach through the REM model.(Gozhali , 2018)

4.3.4 Uji Hypothesis

Hypothesis testing must be met after running the panel data test and classical assumptions. Based on previous tests, the best model used is *Random Effect Model* (REM) followed independently of heteroscedasticity and autocorrelation problems that were previously tested in the classical assumption test stage.

a. Determination Coefficient Test (R Square)

This test stage intends to assess the percentage of independent variables in explaining their influence on dependent variables. In the following table, the test results related to the determination coefficient are presented:

Table 6. Determination Coefficient Test Results (R^2)

	Model 1	Model 2
Number of Obs	78	78
Prob > Chi2	0.0346	0.0273
R-Squared Overall	0.1811	0.2624

Source: Satata Results 17, data processed (2025)

Referring to the information presented in table 10, in model 1 it is stated that the R-Square value is recorded as 0.1811. These results show that the variables of the complexity of the company's operations, audit committee, and audit quality can explain the dependent variables *audit report lag* 18.11%, which means that 81.89% of the variation of the dependent variable is described with other variables that are not included in the study.

Meanwhile, in model 2, the R-Square value is recorded at 0.2624. These results show that the variables of complexity of the company's operations, audit committee, and audit quality are followed by the moderation variable *board gender diversity* can explain dependent variables *audit report lag* 26.24%, which means that 73.76% of the variation of the dependent variable is described with other variables that were not adopted in the study.

b. Partial Regression Test (T Test)

Partial regression testing is aimed at obtaining values that can explain the extent to which independent variables in an individual context affect the dependent variables in the study. In this testing process, the evaluation of the probability value with a significance level of 5% ($\alpha = 0.05$) is relied upon. If the significance value shows a result of less than 0.05, then the hypothesis is acceptable. Conversely, if the significance value shows a result of more than 0.05, then the hypothesis is rejected. The following are the results of the t-test for the two regression models in the study.

Table 7. Partial Regression Test Results (T-Test) - Model 1

Regression Model: Random Effect Model – Model 1					
Variabel	***Coefficient***	**Z**	**P>|z|**	**Prediksi Hypothesis**	**Conclusion**
Constanta	83.80735	11.60	0.000		
HEAD	-0.013951	-0.16	0.874	H1: +	**H1: rejected**
JOY	6.021329	1.00	0.320	H2: -	**H2: rejected**
SPAU	-75.05304	-2.23	0.026	H3: -	**H3: Accepted**
Description:					
KOP = Complexity of Company Operations, KOA = Audit Committee, SPAU = Audit Quality					

Source: Stata 17 results, data processed (2025)

In regression model 1, the first hypothesis (H1) tests the influence of the complexity of a company's operations on audit report lag. The probability value for this variable is 87.4%, which exceeds the significance level of 0.05 (87.4% > 5%), with a coefficient value of -0.013951. As a result, H1 is rejected, and H0 is accepted, indicating that the complexity of the company's operations has no effect on audit report lag. For the second hypothesis (H2), which tests the influence of the audit committee on audit report lag, the probability value is 32%, which also exceeds the significance level of 0.05 (32% > 5%), with a coefficient value of 6.021329.

Thus, H2 is rejected, and H0 is accepted, meaning the audit committee does not affect the audit report lag. Finally, the third hypothesis (H3), which tests the effect of audit quality on audit report lag, shows a probability value of 3%, which is below the significance level of 0.05 (3% < 5%) and a coefficient value of -75.05304. This result leads to the acceptance of H3 and rejection of H0, indicating that audit quality has a negative effect on audit report lag, which is statistically significant.

Table 8. Partial Regression Test Results (T-Test) - Model 2

Regression Model: Random Effect Model – Model 2					
Variabel	***Coefficient***	**Z**	**P>|z|**	**Prediksi Hypothesis**	**Conclusion**
Constanta	88.31576	10.69	0.000		
HEAD	-0.0509172	-0.56	0.574		
JOY	6.119143	0.86	0.391		
SPAU	-83.88054	-2.18	0.030		
BGD	-52.42995	-1.44	0.149		
KOP_BGD	0.9782322	0.66	0.512	H4: +	**H4: rejected**
KOA_BGD	24.01506	0.78	0.437	H5:-	**H5: Rejected**
SPAU_BGD	-181.9691	-0.58	0.563	H6: -	**H6: rejected**

Description:
KOP = Complexity of Company Operations, KOA = Audit Committee, SPAU = Audit Quality, BGD = *Board Gender Diversity*

Source: Stata 17 results, data processed (2025)

In regression model 2, the role of board gender diversity in moderating the influence of the complexity of the company's operations, audit committees, and audit quality on audit report lag was tested for hypotheses H4, H5, and H6. For hypothesis H4, the probability value of 51.2% exceeds the significance level of 5%, with a coefficient of 0.9782, leading to the rejection of H4 and acceptance of H0, indicating that board gender diversity does not moderate the complexity of the company's operations on audit report lag.

Similarly, for hypothesis H5, the probability value of 43.7% exceeds the significance level of 5%, with a coefficient of 24.0151, leading to the rejection of H5 and acceptance of H0, meaning board gender diversity does not moderate the influence of the audit committee on audit report lag. Finally, for hypothesis H6, the probability value of 56.3% exceeds the significance level of 5%, with a coefficient of -181.9691, resulting in the rejection of H6 and acceptance of H0, indicating that board gender diversity does not moderate the effect of audit quality on audit report lag. Thus, in all three cases, board gender diversity fails to significantly moderate the relationships.

Multiple Linear Regression Analysis Model

Multiple linear regression analysis is relied upon in this study to examine and test the relationship between independent variables, namely the complexity of the company's operations, the audit committee, and the quality of the audit on *audit report lag* with moderation variables *board gender diversity.* The previous test has gone through 2 stages, namely the direct regression model and through the indirect regression model which are shown in table 11 and table 12 respectively. Data management shows the results of the multiple linear regression analysis equation as follows:

Model 1 (Direct regression model)

$ARL = 83.80735 - 0.013951\ KOP_{it} + 6.021329\ KOA_{it} - 75.05304\ SPAU_{it} + \varepsilon$

Model 2 (Indirect regression model (with moderation))

$ARL = 88.31576 - 0.0509172\ KOP_{it} + 6.119143\ KOA_{it} - 83.88054\ SPAU_{it} - 52.42995\ BGD_{it} + 0.09782322\ KOP\_BGD_{it} + 24.01506\ KOA\_BGD_{it} - 181.9691\ SPAU\_BGD_{it} + \varepsilon$

The Effect of the Complexity of Company Operations on *Audit Report Lag*

The testing results revealed that the complexity of a company's operations, measured by the number of subsidiary entities, had no significant influence on audit report lag (p-value > 0.05), with a negative coefficient value of -0.013951. As a result, the first hypothesis (H1) was rejected. Descriptive statistics showed an average operational complexity value of 19.71 with a standard deviation of 26.06, indicating high variation in the number of subsidiaries across companies. However, despite this variation, auditors generally manage to complete audits efficiently, as evidenced by an average audit report lag of 85.15 days, which is moderate compared to the maximum limit of 307 days.

These findings contradict agency theory, which suggests that greater operational complexity, such as having more subsidiaries, would increase the time required for audits. However, the study shows that auditors' use of sampling methods, risk-based procedures, and effective planning helps maintain audit efficiency, even with high complexity. Previous research supports these results, indicating that operational complexity does not significantly affect audit report lag. The number of subsidiaries or their sectoral differences does not contribute to delays, as companies often have strategies in place to ensure the audit process remains effective (Anisa Az-zukhruf, 2023; Azzuhri et al., 2019; Febria Amanda et al., 2025; Intan Desiani & Vinola Herawaty, 2024; Ovia Anisa Az-zukhruf, 2023).

The Influence of the Audit Committee on *Audit Report Lag*

The testing results revealed that the audit committee, measured by the ratio of the number of audit committee members to the board of directors (KOA), showed no significant influence on audit report lag (p-value > 0.05), with a positive coefficient value of 6.021329. As a result, the second hypothesis (H2) was rejected. Descriptive statistics showed an average KOA ratio of 0.88360 with a standard deviation of 0.47493, indicating that while some companies have implemented regulations requiring equal membership between the audit committee and the board of commissioners, the KOA ratio has not been effective in reducing audit report lag, which remains high at an average of 85.15 days.

These findings contradict agency theory, which suggests that the audit committee plays a crucial role in enhancing supervision and transparency, thus reducing conflicts of interest between management and shareholders. However, the study shows that the audit committee's number alone does not influence audit report lag. Other factors such as communication, coordination, participation, and strategies within the audit process are also essential. This aligns with previous research, which found that the audit committee does not directly affect audit report lag, emphasizing the importance of coordination with other parties for effective oversight

((Isnaini, 2017; Nurjanah et al., 2022; Prasetyo & Rohman, 2022; Simamarta & Fauzi, 2019; Tanujaya & Reny, 2022).

The Effect of Audit Quality on *Audit Report Lag*

The results of the testing phase indicate that audit quality, measured through the auditor industry specialization proxy (SPAU), has a statistically significant negative impact on audit report lag (p-value < 0.05), with a coefficient value of -75.05304. This supports the acceptance of the third hypothesis (H3). Descriptive statistics show an average SPAU value of 0.09812 with a standard deviation of 0.07059, indicating that audit quality is enhanced by auditor industry specialization. Companies with higher SPAU ratios, using auditors from KAP with industry specialization, tend to complete audits faster, as evidenced by an average audit report lag of 85.15 days, which is within acceptable time limits.

These findings align with agency theory, which asserts that management is responsible to shareholders. Companies that allocate resources to specialized auditors improve audit quality, thereby reducing audit report lag and ensuring timely, transparent information for shareholders. This is consistent with prior research, which also found that audit quality negatively affects audit report lag, as specialized KAPs use efficient methods suited to specific industries, leading to quicker audit completion (Laughter & Laughter, 2022; Hut, 2024).

Board Gender Diversity* Moderates the Influence of Company Operational Complexity on *Audit Report Lag

Statistical testing showed a recorded value of 0.512, with a probability value of 0.05 (0.512 > 0.05), indicating that the fourth hypothesis (H4), which suggested that gender diversity on the board could weaken the positive impact of operational complexity on audit report lag, is unproven and therefore rejected. Despite adopting gender diversity, it does not moderate the relationship between operational complexity and audit report lag. Descriptive statistics revealed that gender-diverse boards are only slightly adopted, with an average BGD ratio of 0.09777 and a standard deviation of 0.01464. The complexity of operations, with an average value of 19.71795 and a standard deviation of 26.06281, varies significantly, but the presence of gender-diverse boards does not reduce audit completion time.

These findings contradict agency theory, which suggests that gender diversity should enhance oversight and reduce information asymmetry, thereby speeding up audit processes. However, gender diversity has not been effective in moderating the impact of operational complexity on audit reporting delays. One reason may be that the complexity of operations—such as numerous subsidiaries, product diversity, and geographic reach—requires intensive expertise, which may not be present in all board members. This supports the finding that gender diversity does not impact corporate complexity or audit report lag, with other factors, such as comprehensive corporate strategies, playing a larger role (Fakhriyah & Bawono, 2024).

Board Gender Diversity* in Moderating the Influence of Audit Committees on *Audit Report Lag

Statistical testing revealed a recorded value of 0.437, with a probability value of 0.05 (0.437 > 0.05), indicating that the fifth hypothesis (H5), which suggested that gender-diverse boards could moderate the negative impact of the audit committee on audit report lag, was not

proven and therefore rejected. Despite the adoption of gender-diverse boards, these boards do not moderate the relationship between audit committees and audit report lag.

Descriptive statistics showed that gender-diverse boards are minimally adopted, with an average BGD ratio of 0.09777 and a standard deviation of 0.01464. Companies had BGD ratios ranging from 0 to 0.5, indicating limited adoption. The average KOA ratio was 0.88360, with an average audit report lag of 85.15 days. This suggests that while the audit committee influences audit completion time, gender-diverse boards do not moderate the relationship.

These findings contradict agency theory, which expects gender diversity to improve oversight and accelerate the audit process. The lack of impact suggests that gender diversity has not effectively functioned as an oversight mechanism. This ineffectiveness may stem from the low representation of women in strategic positions, where gender diversity, though present, does not qualitatively influence corporate governance (Fakhriyah & Bawono, 2024).

Board Gender Diversity* in Moderating the Influence of Audit Quality on *Audit Report Lag

The statistical test showed a recorded value of 0.563, exceeding the significance level of 0.05, indicating that the sixth hypothesis (H6), which suggested that gender-diverse boards strengthen the negative impact of audit quality on audit report lag, is not supported and is rejected. Descriptive statistics revealed an average gender diversity board value of 0.09777 with a standard deviation of 0.01464, showing limited adoption across companies. Despite some companies having gender-diverse boards, these boards do not effectively moderate the relationship between audit quality and audit report lag. The average audit quality (SPAU proxy) was 0.09812 with a standard deviation of 0.07057, and the average audit report lag was 85.15 days with a standard deviation of 31.24, confirming that while audit quality is significant, gender-diverse boards do not influence the audit process.

These findings contradict agency theory, which suggests that board diversity, including female participation, should improve supervision and reduce information asymmetry. The failure of gender-diverse boards to moderate the relationship indicates that women's presence on boards has not significantly accelerated the audit process. This may be due to symbolic representation rather than substantive involvement, where women's participation lacks authority in strategic decision-making, including audits. Male-dominated organizational cultures and power structures may limit women's effectiveness in supervision, resulting in a limited real impact despite the structural implementation of gender diversity.

CONCLUSION

Based on the data processing results aimed at investigating the impact of the complexity of company operations, the audit committee, and audit quality on audit report lag—with gender diversity on the board as a moderating variable—in mining companies within the coal sector listed on the IDX during the 2021–2023 period, it can be concluded that the complexity of company operations and the audit committee do not have a significant effect on audit report lag. In contrast, audit quality has a negative effect on audit report lag, indicating that higher audit quality leads to a shorter audit report lag. Furthermore, gender diversity on the board does not moderate the relationship between the complexity of company operations, the audit committee, or audit quality and audit report lag. The study also faced several limitations, such as the limited literature on gender diversity on the board as a moderating variable and the

inconsistency of companies within the sample in presenting their annual reports. Therefore, it is suggested that future research expand the scope of literature, extend the research period, and explore additional variables—such as corporate culture or operational sustainability—to provide a more comprehensive understanding of audit report lag.

REFERENCES

Anisa Az-zukhruf, O. (2023). Pengaruh komite audit, kepemilikan institusional, dan kompleksitas operasi perusahaan terhadap tingkat audit report lag dengan reputasi KAP sebagai variabel moderasi. *Jurnal Riset Akuntansi Tirtayasa, 8*(1).

Azzuhri, H., Kamaliah, & Rasuli, M. (2019). Pengaruh audit tenure, kompleksitas operasi perusahaan, kualitas dan opini audit terhadap audit report lag dengan spesialisasi industri auditor eksternal sebagai variabel moderasi. *Jurnal Pendidikan Ekonomi dan Bisnis, 11*(2).

Basuki, A. T., & Prawoto, N. (2016). *Analisis regresi dalam penelitian ekonomi & bisnis: Dilengkapi aplikasi SPSS & EViews*. Rajawali Pers.

Febria Amanda, Pangaribuan, D., & Sianipar, P. B. H. (2025). Pengaruh kompleksitas operasi, ukuran perusahaan, dan komite audit terhadap kualitas audit dengan audit delay sebagai moderasi. *Jurnal Riset Ekonomi dan Akuntansi, 3*(1). https://doi.org/10.54066/jrea-itb.v3i1.3072

Fakhriyah, A. L., & Bawono, A. D. B. (2024). Pengaruh kualitas audit, pergantian auditor, dan kompleksitas operasi perusahaan terhadap audit report lag dengan board gender diversity sebagai variabel moderasi. *Jurnal Edunomika, 8*(2), 1–14. https://doi.org/10.29040/jie.v8i2.13176

Ghozali, I. (2018). *Aplikasi analisis multivariate dengan program IBM SPSS 25* (Edisi ke-9). Badan Penerbit Universitas Diponegoro.

Harahap, A., & Ja, H. (2022). Pengaruh profitabilitas, ukuran perusahaan, auditor switching, dan kualitas audit terhadap audit report lag. *Jurnal Bonanza, 2*(1), 19–24. http://jurnal.alazhar-university.ac.id/index.php/bonanza/article/view/127

Intan Desiani, & Herawaty, V. (2024). Pengaruh opini audit, kualitas audit, dan kompleksitas operasi perusahaan terhadap audit report lag dengan efektivitas komite audit sebagai variabel moderasi. *Jurnal Ekonomi Trisakti, 4*(2). https://doi.org/10.25105/v4i2.20932

Isnaini, R. T. (2017). Pengaruh profitabilitas, solvabilitas, kompleksitas, reputasi KAP, dan umur perusahaan terhadap audit report lag. *Vestnik Roszdravnadzora, 6*.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Larisa, E., & Salim, D. S. (2022). Analisis pengaruh karakteristik perusahaan terhadap audit report lag tahun 2019–2020. *Jurnal Ekonomi, 26*(11), 83–102. https://doi.org/10.24912/je.v26i11.768

Ningsih, A. C., & Agustina, Y. (2020). Pengaruh opini audit, pergantian auditor, dan profitabilitas terhadap audit report lag pada perusahaan sektor perdagangan eceran yang terdaftar di Bursa Efek Indonesia periode 2011–2018. *Jurnal Ilmiah Akuntansi Rahmaniyah, 3*(1), 68–81.

Nurjanah, V., Andreas, A., & Silalahi, S. P. (2022). Pengaruh profitabilitas, kompleksitas operasional, komite audit, audit tenure, dan reputasi KAP terhadap audit report lag. *CURRENT: Jurnal Kajian Akuntansi dan Bisnis Terkini, 3*(3), 383–396. https://doi.org/10.31258/current.3.3.383-396

Prasetyo, D., & Rohman, A. (2022). Pengaruh opini audit, komite audit, dan umur perusahaan terhadap audit report lag. *Diponegoro Journal of Accounting, 11*(3).

Simamarta, J., & Fauzi, R. (2019). Pengaruh profitabilitas, leverage, kompleksitas operasi, reputasi KAP, dan komite audit terhadap audit delay. *Jurnal Liabilitas, 4*(1).

Tanujaya, K., & Reny. (2022). Pengaruh karakteristik perusahaan dan komite audit terhadap audit report lag. *Jurnal Ilmiah Akuntansi dan Keuangan, 4*(3).