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The Influence of Accounting Profit, Audit Fee, Audit Opinion, Company Operational Complexity on Audit Delay

Pengaruh Laba Akuntansi, Audit Fee, Opini Audit, *Kompleksitas Operasi Perusahaan terhadap Audit Delay*

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Abstract - This study aims to analyze the influence of accounting profit, audit fees, audit opinions, and company operational complexity on audit delay in companies in the energy sector's oil, gas, and coal subsectors listed on the Indonesia Stock Exchange during the 2021-2023 period. The research population consists of 82 companies. This study employs a quantitative causal approach using secondary data in the form of audited annual reports. Using purposive sampling, 50 companies met the sampling criteria, resulting in 150 observations. Hypothesis testing was conducted using logistic regression with IBM SPSS version 25. Research's results indicate that audit fees influence audit delays, while the company operational complexity significantly affects audit delays, however, accounting profit and audit opinions do not influence audit delays. The novelty of this study lies in the use of logistic regression with audit delay measured via a dummy variable, its focus on the oil, gas, and coal subsector period 2021-2023, and the integration of four variables into a single analysis. This research provides an empirical contribution to the development of audit delay literature and serves as a basis for consideration by company management, auditors, regulators, and investors in enhancing the efficiency and promptness of financial reporting audits.

Keywords: Audit Delay, Accounting Profit, Audit Fee, Audit Opinion, Company Operational Complexity.

Abstrak *- Penelitian ini bertujuan untuk menganalisis pengaruh laba akuntansi,* audit fee*, opini audit, dan kompleksitas operasi perusahaan terhadap* audit delay *pada perusahaan sektor energi subsektor* oil, gas & coal *yang terdaftar di Bursa Efek Indonesia periode 2021-2023. Populasi penelitian terdiri dari 82 perusahaan. Penelitian ini menggunakan pendekatan kuantitatif kausalitas dengan data sekunder berupa* annual report *yang telah diaudit. Dengan menggunakan teknik* purposive sampling*, sebanyak 50 perusahaan memenuhi kriteria sampel sehingga diperoleh 150 observasi. Pengujian hipotesis dilakukan menggunakan regresi logistik dengan menggunakan IBM SPSS versi 25. Hasil riset memperlihatkan bahwa* audit fee *berpengaruh terhadap* audit delay*, kompleksitas operasi perusahaan berpengaruh signifikan terhadap* audit delay*, sedangkan laba akuntansi dan opini audit tidak berpengaruh terhadap* audit delay*. Keterbaharuan penelitian ini terletak pada penggunaan regresi logistik dengan pengukuran* audit delay *menggunakan variabel dummy, fokus pada subsektor* oil, gas & coal *periode 2021-2023, serta mengintegrasikan empat variabel ke dalam satu pengujian. Riset ini memberikan kontribusi empiris bagi pengembangan literatur* audit delay *serta menjadi bahan pertimbangan bagi manajemen perusahaan, auditor, regulator dan investor dalam meningkatkan efisiensi dan ketepatan waktu pelaporan keuangan auditan.*

Kata Kunci: *Audit Delay, Laba Akuntansi, Audit Fee, Opini Audit, Kompleksitas Operasi Perusahaan.*

INTRODUCTION

In order to be transparent and accountable to the public, public firms included on the Indonesia Stock Exchange (IDX) must exhibit audited financial accounts. Regulation No. 14/POJK.04/2022 of the Financial Services Authority (OJK) states that annual financial statements must be upluoaded ninety days prior the fiscal year's conclusion (Otoritas Jasa Keuangan, 2022). The regulator may apply administrative measures, such as written warnings, fines, or even limitations on corporate operations, if there is a delay (Otoritas Jasa Keuangan, 2021). In actuality, though, some businesses continue to encounter audit delay, a situation in which they take longer than expected to submit their audited financial accounts. The amount of time that passes between the conclusion of a company's fiscal year

and the date of the auditor's report is known as the audit delay (Ashton et al., 1989). Audit delays remain a common occurrence in Indonesia, despite sanctions imposed by regulators, because companies view such delays as a tolerable risk (Agustin et al., 2025). Based on information from the IDX, in 2021 the number of companies was 91 (11.6% of the total 785 companies) that experienced delays, which then decreased to 61 companies (7.1% of the total 858 companies) in 2022, but rose again to 129 companies (13.3% of the total 973 companies) in 2023. This situation indicates that audit delays remain a fluctuating issue and have not yet been fully minimized. When examined by industry sector, several subsectors consistently experience audit delays, one of which is the oil, gas, and coal subsector, as shown in the following graph:

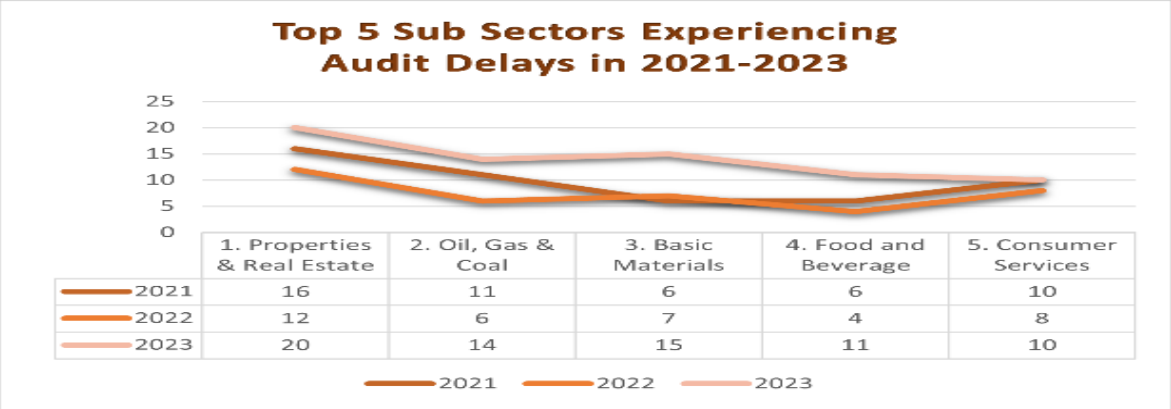

Figure 1. Graph of the Top 5 Sub Sectors Experiencing Audit Delays in 2021-2023
Source: www.idx.co.id, data processed (2026).

The oil, gas, and coal subsector experienced an increase in audit delays in 2023 after a decline the previous year. This trend is believed to have been influenced by rising operational complexity and transaction volumes amid the economic recuperation following the COVID-19 outbreak (Setyowicaksono et al., 2023). Therefore, this study focuses on energy companies in the oil, gas, and coal subsector. The market's access to trustworthy financial data may be delayed and the timeliness of information required by stakeholders may be diminished if audited financial statements are not submitted on time (Zhang & Guo, 2024). In addition to undermining investor trust, delays in the release of audited financial statements can result in signals of uncertainty that induce stock price swings (Santoso & Octavian, 2024). As a result, figuring out what influences this phenomenon is crucial.

Accounting profit is one element thought to affect audit delays, which is the difference between revenue and expenses in an accounting period (IASB, 2018). Companies with high profits are inclined to file their financial statements more rapidly as a favorable signal to investors (Yusuf et al., 2025). This outcome is validated by Lilianti et al. (2024) and Arzaq et al. (2021). The next factor is audit fees, which are the fees auditors receive for the audit services they provide (Kezia & Arfianti, 2024). Higher audit fees tend to accelerate the completion of audits without compromising audit quality (Baatwah et al., (2024), as found by (Hadi and Gharniscia 2023). Additionally, the audit opinion is also suspected to influence audit delay. The audit opinion is the final outcome of the audit procedure, indicating the fairness of the financial statement presentation based on audit procedures, evaluation of evidence, and the expert judgment of the auditor (Nurhidayah et al., 2024). Audit delays are typically lengthier for companies that receive an opinion other than an unqualified opinion due to they require additional procedures and consultation with senior auditors (Ichwan & Fitriyana, 2023). These findings are supported by (Utami 2025). The operational complexity of the business, which is a measure of how many subsidiaries or operations it has, is another determinant (Isnaeni & Nurcahya, 2021). It takes longer for auditors to finish an audit when a company's operations are more complex Yuni et al., (2022), as also found by (Sari and Sujana 2021).

The study by Arzaq et al. (2021) serves as the first reference to observe the effects of accounting profit, solvency, and audit opinion on audit delay in pharmaceutical companies during the 2019-2020 period, using secondary data, purposive sampling, multiple linear regression analysis, and signaling theory. The study by Kezia and Arfianti (2024) serves as the second reference, utilizing secondary

data, purposive sampling, multiple linear regression analysis, descriptive statistical analysis, agency theory, and signaling theory to investigate the impact of firm size, profitability, and audit fees on audit delay in the property and real estate sector for the 2019-2022 period. Furthermore, the research by Yuni et al. (2022) serves as the third reference, analyzing the effects of operational complexity, firm age, firm size, accounting firm size, and the audit committee on audit delay in raw material-producing firms during the 2017-2020 period, using secondary data, purposive sampling, multiple linear regression analysis, descriptive statistical analysis, and agency theory. This study shares similarities with previous research in its use of agency theory and signaling theory, secondary data, purposive sampling, and descriptive statistical analysis. However, Inconsistent results about the impact of independent variables on audit delay represent a research gap, low coefficients of determination, and differences across industrial sectors, meaning the study's results cannot yet be generalized. The uniqueness of this research stems from the utilization of logistic regression analysis, as audit delay is measured using a dummy variable unlike previous studies that employed multiple linear regression relying on the number of days. Furthermore, this study focuses on companies in the oil, gas, and coal subsector of the energy industry listed on the IDX from 2021 to 2023 a period reflecting economic recovery following the peak of the COVID-19 outbreak and integrates the variables of accounting profit, audit fees, audit opinions, and operational complexity into a single analysis, which has not previously been tested simultaneously.

Therefore, the research question for this study are whether accounting profit influences audit delay, whether audit fee influences audit delay, whether audit opinion influences audit delay, and whether company operational complexity influences audit delay in oil, gas, and coal subsector companies included on the IDX across the 2021-2023 period. This reasearch aims to give a more thorough understanding of the variables impacting the prompt filing of audited financial statements by examining the impact of accounting profit, audit fees, audit opinions, and company operational complexity on audit delays. By expanding the body of knowledge, this study contributes theoretically in the areas of financial reporting and auditing. Additionally, it helps businesses in a practical way enhance the effectiveness of the audit process, helping investors evaluate the transparency and credibility of corporations, providing regulators with a foundation for developing regulations pertaining to the promptness of financial reporting, and acting as a reference for future academics and researchers. This inspired us to carry out a study named "The Influence of Accounting Profit, Audit Fee, Audit Opinion, Company Operational Complexity on Audit Delay".

LITERATURE REVIEW

Signaling Theory

In his research "job market signaling", Michael Spence originally put forth the theory of signaling (Spence, 1973). Signaling theory explains that companies disclose relevant, accurate, and timely financial information to reduce information asymmetry between the company and external parties. Annual reports serve as one means of signaling to investors and creditors (Saragih et al., 2023:31-33). The timeliness of financial statement publication reflects a positive signal of corporate transparency (Ulfah et al., 2024). High accounting profits can signal good performance Rahmadhani & Anggono, (2023), while audit opinions are an important signal for providing information regarding the fairness of financial statements (Nurrohimah & Muniroh, 2023). Thus, signaling theory explains that the timely disclosure of information can reduce audit delays and increase investor confidence.

Agency Theory

Alchian and Demsetz first presented the agency theory in 1972, and Jensen and Mecling followed in 1976. The relationship between owners as the principal and management as the agent is explained by agency theory, which often gives rise to information asymmetry (Subroto & Endaryati, 2024:2). To reduce this information gap, independent auditors are needed to verify financial statements. If auditors identify issues, audit delays could result from the audit process taking longer (Aprilia & Cahyonowati, 2022). Additionally, managers can improve audit quality by increasing audit fees to minimize reporting errors and expedite the audit process (Evaris & Astarani, 2024). The company operational complexity can also heighten the risk of information asymmetry due to business complexity and diversification,

thereby prolonging the audit process (Sari & Sujana, 2021). Thus, agency theory explains that audits play an important part in minimizing information asymmetry and conflicts of interest between agents and principals.

Audit Delay

The time needed to finish the audit process, measured from the end of the fiscal year until the auditor signs the audit report, is known as the audit delay (Astami et al., 2024). According to Dyer and Mchugh (1975), audit delay is a gauge of the efficacy and efficiency of the audit procedure, which may affect how the public perceives the audit's quality. The discrepancy between the date of the auditor's report and the fiscal year's end is used in this study to quantify audit delay (Astami et al., 2024). A dummy variable is then used to measure it, with a score of 0 for audit delays > 90 days and 1 for audit delays ≤ 90 days. This justification leads to the conclusion that audit delay is a crucial metric for evaluating audit performance and corporate transparency. The sooner the audit report is issued, the greater the degree of confidence external parties have in the quality of the company's financial information.

Accounting Profit

Accounting profit is the difference between revenue and expenses in an accounting period, reflecting a company's financial performance in compliance with well recognized accounting standards (IASB, 2018). The relationship within accounting profit and audit delay is that companies that generate a profit tend to expedite the audit's completion because profit is viewed as a positive signal that they wish to publish promptly, whereas companies experiencing a loss tend to delay the audit process, and auditors become more cautious, thereby extending the audit timeline (Abdurrahman & Rizki, 2025). The net profit margin (NPM) ratio is used in this study to determine accounting profit. NPM is the portion of revenue that remains as net income after all costs have been subtracted. Accounting profit can be calculated using the following formula Irawan, (2025): accounting profit = net profit/net sales × 100%. Thus, accounting profit reflects management performance, the higher the profit earned, the faster the financial statements are submitted, thereby reducing audit delays.

Audit Fee

The amount given to auditors for their professional services is known as an audit fee, and it is based on the complexity and level of skill of the services (Afenya et al., 2022). Audit fees can vary by company and year depending on the needs and complexity of the audit, therefore, it is important to estimate costs from the outset to avoid unexpected expenses (Possumah et al., 2023:100). In relation to audit delays, audit fees influence the speed of audit completion, higher fees allow auditors to allocate more adequate resources and time, facilitating a faster completion of the audit procedure (Fathonah et al., 2024). The natural logarithm (Ln) of the audit fee amounts specified in the financial statements is used in this study to calculate audit fees. If not specifically disclosed, the Ln of the professional fee is used as a proxy because it includes audit services. The audit fee is calculated using the following formula Kezia & Arfianti, (2024): audit fee = Ln (audit fee). Thus, the audit fee not only reflects the auditor's workload but also contributes to quickening the audit procedure, thereby reducing audit delays.

Audit Opinion

According to generally accepted accounting standards, an audit opinion is the auditor's assessment of the financial statements' fairness (Nurhidayah et al., 2024). The auditor assesses whether the financial statements have been fairly reported and are free of significant misstatements, whether due to fraud or error, in accordance with applicable standards. A variety of audit opinion types, such as unqualified, qualified, disclaimer, and adverse, show the degree of fairness and quality of the financial statements (Possumah et al., 2023:56-57). In terms of audit delays, businesses that usually receive an opinion other than an unqualified opinion encounter audit delays because the audit process necessitates more thorough negotiations and examinations, while businesses that receive an unqualified opinion typically finish the audit faster because it indicates a favorable outcome (Siahaan & Andayani, 2021). This study uses a dummy variable to quantify audit opinions based on research by Arzaq et al. (2021). Businesses that receive an opinion that is not unqualified (SWTP) receive a score of 0, while those that receive an unqualified opinion (WTP) receive a score of 1. Therefore, the audit opinion influences audit delay and reflects the level of financial statement transparency, the better the opinion, the faster the audit process is completed.

Company Operational Complexity

The company operational complexity reflects the large quantity of units, functions, and activities within the company resulting from an increasingly diverse division of labor (Muna & Lisiantara, 2021). This is connected to the high number of divisions or subsidiaries that require more complex coordination (Ariansyah & Diyanti, 2025). Ashton et al. (1987) state that operational complexity can prolong audit delays because auditors require additional time to audit subsidiaries before completing the audit of the parent company. According to Yuni et al. (2022), the amount of subsidiaries a firm has determines its operational complexity, in this study, a dummy variable is utilized, giving enterprises with subsidiaries a score of 1 and those without a score of 0. Because the audit process is increasingly complicated and time-consuming, the likelihood of audit delays increases with the complexity of a company's operations.

Previous research on audit delays has yielded inconsistent results regarding the effects of accounting earnings, audit fees, audit opinions, and the company operational complexity. Studies have discovered an impact, while others have shown no effect. This inconsistency indicates that audit delays are influenced by various factors, including industry characteristics, company conditions, and the economic environment. Based on signaling theory, accounting earnings and audit opinions can serve as signals that encourage the prompt delivery of financial accounts that have been audited. Meanwhile, agency theory explains that audit fees and the company operational complexity can influence audit delays through the level of supervision procedures, audit activity, and knowledge asymmetry between shareholders and management. However, the relationship between these variables and audit delays has yet to yield consistent conclusions. Furthermore, research examining all four variables simultaneously in the oil, gas, and coal subsectors remains limited, even though these subsectors are characterized by high operational complexity and business risk. Consequently, more investigation is required to offer a more thorough explanation of audit delays in these subsectors.

Hypothesis Development

The Influence of Accounting Profit on Audit Delay

Accounting profit can influence the speed at which auditors complete an audit, as changes in or the magnitude of profit require a more thorough examination to ensure the financial accounts do not contain any material misstatements (Arzaq et al., 2021). According to research by Lilianti et al. (2024), accounting profit affects audit delay. Based on signaling theory, high profits serve as a positive signal of company performance, thereby encouraging management to expedite the publication of financial statements to reduce audit delay (Rahmadhani and Anggono, 2023), where the annual report serves as a means of conveying important information to investors (Saragih et al., 2023:32-33). However, the study by Napitupulu et al. (2025) states that accounting profit has little bearing on audit delay because auditors continue to work independently in accordance with audit standards without being influenced by the amount of the profit. Thus, accounting profit tends to accelerate audit delay because it serves as a positive signal that companies wish to publish promptly, although in practice it remains dependent on auditor independence. The following hypothesis is developed in light of the conversation mentioned above:

H_1: Accounting profit affects audit delay.

The Influence of Audit Fee on Audit Delay

The smoothness of an audit process depends heavily on audit costs, which are typically derived from the fees received. The more resources and effort auditors can allocate through adequate audit fees, the more effective the audit process will be (Carson et al., 2022). As stated by Fathonah et al. (2024), the audit charge increases, the shorter the audit delay, as auditors can allocate resources time more effectively, which speeds up the audit procedure. Research by Hadi and Gharniscia (2023) also indicates that audit fees influence audit delays. An optimal employment contract occurs when the connection between agents and shareholders is balanced through the fulfillment of maximum obligations and appropriate compensation (Subroto & Endaryati, 2024:2). According to agency theory, managers tend to pay higher audit fees to secure superior auditors to minimize the risk of reporting errors and expedite the audit procedure, thereby reducing agency conflicts (Evaris & Astarani, 2024). However, studies by Kezia and Arfianti (2024) indicate that audit delays are unaffected by audit fees

because auditors continue to work independently without being influenced by the size of the fee. Auditors should not be affected by the quantity of audit fees obtained because auditors are free from external influences that could compromise audit objectivity and integrity. Thus, audit fees tend to speed up the auditing procedure because they support the optimization of the audit process, although they do not always determine the duration of the audit since auditors maintain their independence. The following hypothesis is developed in light of the conversation mentioned above:

H_2 : Audit fee affects audit delay.

The Influence of Audit Opinion on Audit Delay

According to Siahaan and Andayani (2021) audit opinions influence audit delays because the audit process involves discussions with more senior audit partners and client negotiations, audit delays are longer for businesses that obtain a qualified opinion. However, because they do not postpone the release of their financial results, companies with an unqualified assessment will experience fewer audit delays, which are filled with positive information. Research by Muhammad et al. (2023) also reveals that audit opinions influence audit delays. According to signaling theory, audit opinions serve as important signals regarding the fairness of financial statements to reduce the current information imbalance between companies and outside parties (Saragih et al., 2023:31). Although they do not always affect audit delays, adverse opinions can signal the presence of problems and influence investors' risk perceptions (Nurrohimah & Muniroh, 2023). However, based on studies conducted by Arzaq et al. (2021), audit opinions have no bearing on audit delay since other criteria like the accessibility of information and the availability of audit evidence have a stronger influence on the length of the audit procedures. In conclusion, audit opinions' impact on audit delays is not always reliable, although a qualified opinion may prolong the audit, there are other factors that can determine how quickly or slowly the audit is completed. The following hypothesis is developed in light of the conversation mentioned above:

H_3: Audit opinion affects *audit delay*.

The Influence of Company Operational Complexity on Audit Delay

The more company operational complexity increases the auditor's workload due to the large number of activities and entities that must be examined, which has the potential to prolong audit delays, whereas companies with simpler operations usually have shorter audit times (Isnaeni & Nurcahya, 2021). This is in line with the research by Yuni et al. (2022), which states that operational complexity affects audit delays. The connection between shareholders and agents is based on agency theory constitutes a contractual arrangement requiring a balance between the agent's obligations and the compensation provided (Subroto & Endaryati, 2024:2). Operational complexity increases information asymmetry between the principal and the agent because of the intricacy and diversification of business operations, thereby requiring auditors to conduct more in depth examinations, which can prolong the audit process (Sari & Sujana, 2021). However, studies by Muhammad et al. (2023) show different results, namely that robust internal control systems and accounting information systems along with effective audit strategies can maintain audit timeliness even when company operations are complex. In conclusion, the company operational complexity tends to increase audit delays by adding to the audit's complexity, however, its impact is not always certain as it can be mitigated by robust internal controls, adequate information systems, and effective audit strategies. The following hypothesis is developed in light of the conversation mentioned above:

H_4 : Company operational complexity affects *audit delay*.

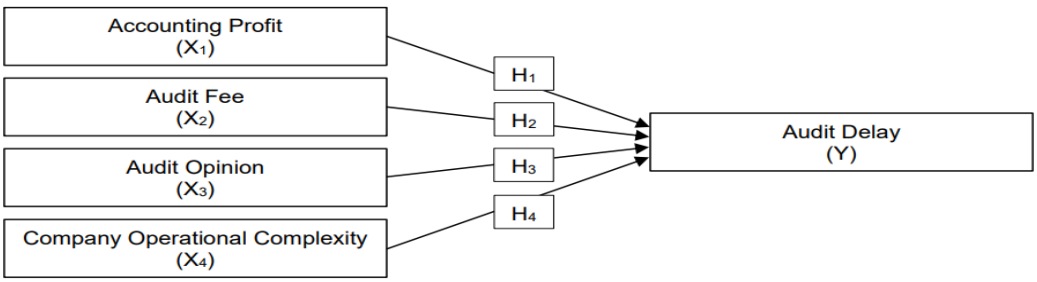

Figure 2. Conceptual Framework

RESEARCH METHOD

Research Method

The effects of accounting profit, audit fees, audit opinions, and operational complexity on audit delay were examined using a quantitative method using a causal approach. Identifying problems, formulating hypotheses, gathering and analyzing data, and reaching conclusions based on empirical evidence are all steps in the methodical process of quantitative research (Ghanad, 2023). The impacts of accounting profit, audit fees, audit opinions, and company operational complexity on audit delay, as well as the degree of each variable's influence, are investigated in this study using a causal method. The population of the study consists of 82 energy companies in the oil, gas, and coal subsectors that are included on the Indonesia Stock Exchange (IDX) between 2021-2023. The sample was chosen using purposive sampling, a nonprobability sampling technique where samples are deliberately chosen based on their relevance to the research aims and questions (Tajik et al., 2024). The criteria used by the researchers to obtain the sample data was based on the researche by Arzaq et al. (2021), Rahmadhani and Anggono (2023) as well as Firnanda et al. (2025), the following are the criteria: (1) Oil, gas, and coal companies that published annual reports and audited financial statements consecutively for the 2021-2023 period. (2) Oil, gas, and coal companies whose financial statements ends on December 31. (3) Oil, gas, and coal companies that reported positive net income over the 2021-2023 period. 50 companies were found using these criteria, resulting in 150 data observations. In collecting data, this research made use of secondary data. Secondary data refers to information that was previously available and was obtained indirectly by the researcher to respond to fresh research inquiries (Kelly et al., 2024). The data for this study came from the official IDX website, www.idx.co.id, as well as the websites of each company in the oil, gas, and coal subsector. A documentation sheet created to record and classify data from yearly reports and audited financial statements served as the study's research tool. The independent auditor's report's audit opinion, net income and total sales or revenue, audit fees or professional fees, and details about each company's subsidiaries in the oil, gas, and coal subsector for the 2021-2023 period are among the data gathered. The research methodology involved a literature review using sources such as research journals, reference books, and others. Using IBM SPSS version 25, the research phases comprised sample company selection, data collecting, variable tabulation and measurement, outlier testing, descriptive statistical analysis, and logistic regression analysis. The Hosmer and Lemeshow goodness of fit test, overall model fit, classification matrix, and Nagelkerke r square were used to evaluate the model's validity. The impacts of accounting profit, audit fees, audit opinions, and firm operational complexity on audit delay were then assessed by hypothesis testing using the Wald test.

Data Analysis Technique and Hypothesis Testing

Descriptive Statistics Analysis

The data gathered in quantitative research is summarized and explained using descriptive statistics (Miksza et al., 2023). The minimum, maximum, mean, and standard deviation of each research variable were employed in this study's descriptive statistical analysis to create an empirical summary of the data.

Logistic Regression Analysis

The data analysis process for this study made use of IBM SPSS 25 software. Since the dependent variable in the data of this study is not a metric variable, logistic regression was used. A model called logistic regression examines the relationship between risk factors or independent variables and a binary outcome on the dependent variable that is, a variable that takes the values zero (failure) and one (success) (Bui & Ding, 2025). The following regression model was employed in this investigation (Ehrman & Kline, 2022):

$$Ln\left[\frac{AD}{1-AD}\right] = \beta 0 + \beta 1\mathrm{LA} + \beta 2\mathrm{AF} + \beta 3\mathrm{OA} + \beta 4\mathrm{KOP} + e \quad \text{..... (1)}$$

AD : Audit delay
B0 : Constant
LA : Accounting profit
AF : Audit fee
OA : Audit opinion

KOP : Company operational complexity
e : Standard error

Model Testing

Goodness of Fit

The goodness of fit test is used in logistic regression to assess how well the model predicts the observed data. The test is conducted using the Hosmer and Lemeshow goodness of fit test in consideration of the chi-square value and significance. This test's objective is to evaluate the model's fit to the observed data. If the significance value is more than 0.05, the model is deemed adequate and suitable for explaining the research data (Gurning et al., 2023).

Overall Model Fit

The null hypothesis is accepted if the -2 log likelihood (-2LL) amount is less than the table chi-square value, meaning that the model prior to the addition of variable X satisfies the test requirements. Block 0 calculates the table chi-square value using DF = N-1 and a 0.05 significant level. If the -2LL number is lower than the table chi square, the hypothesis is accepted, meaning that the model satisfies the test requirements after incorporating variable X. Block 1 calculates the table chi-square value using DF = N - K - 1 and a 0.05 significance level. By comparing the -2LL values in the first stage (block 0) and the last stage (block 1), model fit is evaluated. The research data is fitted by the model well when the -2LL value decreases (Gurning et al., 2023).

Classification Matrix

Regression accuracy is utilized to assess the predictive potential of the model. This is evaluated through a classification table based on the percentage of accurately classified. The higher the accuracy level (approaching 100% and exceeding the cut-value > 0,05), the more accurately the model predicts audit delay (Anggreni et al., 2022).

Test of the Coefficient of Determination (Nagelkerke R Square)

Like the coefficient of determination (R^2) in linear regression, the model summary in logistic regression evaluates how well the independent variables (LA, AF, OA, and KOP) explain the dependent variable (audit delay). The nagelkerke r square, an modified coefficient of determination, is the metric employed. Its value, which can be given as a percentage to aid in comprehension, shows how much the independent variables contributed (Hafid et al., 2023).

Hypothesis Testing (Wald Test)

The partial impact of independent variables on the dependent variable is evaluated appliying the wald test. The test is performed by comparing the significance level (α) with the probability value (significance). If the significance level is below 0.05, the hypothesis is accepted (significant), otherwise, it is rejected (not significant) if the significance is more than 0,05 (Gurning et al., 2023).

FINDINGS AND DISCUSSION

Findings

Table 1. Research Sample

No.	Description	Number of Companies
	All Oil, Gas & Coal companies included on the IDX over the 2021-2023 period	82
1.	Companies that did not publish annual reports and audited financial statements consecutively over the 2021-2023 period	(11)
2.	Companies whose financial statements do not end on December 31	(2)
3.	Oil, Gas & Coal companies that reported a net loss over the 2021-2023 period	(19)
	Number of samples meeting the criteria	50
	Research period	3
	Total 3 years sample (50 × 3)	150

Source: Data processed by researchers (2026).

The study's final dataset consisted of 128 (150-22) data points after 22 data points were identified as outliers based on the outlier test results. Fifty oil, gas, and coal companies met the criteria, but some of the data points were considered abnormal or significantly different from the others. The outlier test's

objective is to eliminate extreme data points that would make it impossible to identify the real phenomena.

Descriptive Statistics Analysis

Table 2. Results of Descriptive Statistical Tests

	N	Min	Max	Mean	Std. Deviation
AD (Y)	128	0	1	0,93	0,257
LA (X_1)	128	0,00	59,94	0,7067	5,32936
AF (X_2)	128	14,02	27,93	21,0221	1,73474
OA (X_3)	128	0	1	0,98	0,125
KOP (X_4)	128	0	1	0,97	0,175
Valid N (listwise)	128				

Source: SPSS 25 calculation results (2026).

The descriptive statistics table shows that the audit delay (AD) variable had a minimum value of 0 and a maximum value of 1 throughout the study period using a dummy variable. For every company in the study, the mean AD value was 0,93, with a standard deviation of 0,257. Throughout the study period, the accounting profit (LA) variable had a minimum value of 0,00 and a maximum value of 59,94. For every company examined, the mean LA value was 0,7067, with a standard deviation of 5,32936. During the research period, the audit fee (AF) variable had a minimum value of 14,02 and a maximum value of 27,93. For every company examined, the mean AF value was 21,0221, with a standard deviation of 1,73474. Using a dummy variable, The minimum and maximum values of the audit opinion (OA) variable are 0 and 1, respectively throughout the study period. With a standard deviation of 0,125, the mean OA value for all companies examined is 0,98. Using a dummy variable, the company (KOP) had a minimum value of 0 and a maximum value of 1 over the study period. For every company examined, the mean KOP value was 0,97, with a standard deviation of 0,175.

Logistic Regression Analysis

Table 3. Results of Logistic Regression Tests

Variables in the Equation			
		BA	Sig.
Step 1[a]	LA	-0,186	0,293
	AF	-0,935	0,003
	OA	24,774	0,999
	KOP	6,642	0,000
	Constant	-7,074	1,000
a. Variable(s) entered on step 1: LA, AF, OA, KOP.			

Source: SPSS 25 calculation results (2026).

The logistic regression equation model used in this investigation is as follows, based on table 3:

$$Ln\left[\frac{\text{AD}}{1-\text{AD}}\right] = -7{,}074 - 0{,}186\,\text{LA} - 0{,}935\,\text{AF} + 24{,}774\,\text{OA} + 6{,}642\,\text{KOP} + 0{,}0 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

The regression model's constant term is -7,074. This figure shows that the audit delay will drop by 7,074 days when every independent variable is set to zero. With a significance of 0,293 (>0,05) and a coefficient of -0,186, accounting profit (LA) has no influence on how long the audit takes and does not raise or lower the audit delay variable. With a significance level of 0.003 (<0.05) and a coefficient of -0.935, audit fee (AF) has an impact on audit delay. Assuming every other factor remains unchanged, a 1% rise in audit fee results in a 0,935-day reduction in audit delay. A negative coefficient means that the audit is finished more quickly the greater the audit price. With a coefficient of 24,774 and a significance level of 0,999 (>0,05), audit opinion (OA) has no bearing on audit delay, and the audit delay variable does not rise or fall. With a coefficient of 6,642 and a significance level of 0,000 (<0,05), audit delay is significantly impacted by company operational complexity (KOP). A 1% increase in complexity causes an audit delay of 6,642 days if all other variables remain same. A positive coefficient means that an audit's completion time increases with the complexity of a company's operations.

Model Testing

Goodness of Fit

Table 4 shows the results of the Hosmer and Lemeshow goodness of fit test findings indicate a chi-square worth of 3,649 with a significant value of 0,887 (>0,05). Since there is no discernible

discrepancy among the data and the model, the regression model is considered suitable and competent to forecast the observed values.

Table 4. Results of Goodness of Fit Test

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	3,649	8	0,887

Source: SPSS 25 calculation results (2026).

Overall Model Fit

Table 5. Results of Overall Model Fit Tests

Block 0: Beginning Block

Iteration History[a,b,c]

Iteration		-2 Log likelihood	Coefficients
			Constant
Step 0	1	73,155	1,719
	2	65,608	2,353
	3	65,142	2,561
	4	65,138	2,582
	5	65,138	2,582

a. Constant is included in the model.
b. Initial -2 log likelihood: 65,138
c. Estimation terminated at iteration number 5 because parameter estimates changed by less than 0,001.

Block 1: Methode = Enter

Iteration History[a,b,c,d]

Iteration		-2 Log likelihood	Coefficients				
			Constant	LA	AF	OA	KOP
Step 1	1	51,878	-0,074	-0,068	-0,158	2,868	2,418
	2	33,370	2,570	-0,111	-0,412	4,956	4,029
	3	27,593	5,948	-0,149	-0,685	6,863	5,356
	4	26,349	7,763	-0,175	-0,861	8,492	6,253
	5	26,233	7,813	-0,185	-0,928	9,739	6,601
	6	26,225	6,928	-0,186	-0,935	10,771	6,641
	7	26,223	5,928	-0,186	-0,935	11,773	6,642
	8	26,222	4,927	-0,186	-0,935	12,774	6,642
	9	26,221	3,927	-0,186	-0,935	13,774	6,642
	10	26,221	2,926	-0,186	-0,935	14,774	6,642
	11	26,221	1,926	-0,186	-0,935	15,774	6,642
	12	26,221	0,926	-0,186	-0,935	16,774	6,642
	13	26,221	-0,074	-0,186	-0,935	17,774	6,642
	14	26,221	-1,074	-0,186	-0,935	18,774	6,642
	15	26,221	-2,074	-0,186	-0,935	19,774	6,642
	16	26,221	-3,074	-0,186	-0,935	20,774	6,642
	17	26,221	-4,074	-0,186	-0,935	21,774	6,642
	18	26,221	-5,074	-0,186	-0,935	22,774	6,642
	19	26,221	-6,074	-0,186	-0,935	23,774	6,642
	20	26,221	-7,074	-0,186	-0,935	24,774	6,642

a. Method: Enter
b. Constant is included in the model.
c. Initial -2 Log Likelihood: 65,138
d. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Source: SPSS 25 calculation results (2026).

The logistic regression model showed the following warning based on the estimation findings in table 5: estimation terminated at iteration number 20 because the maximum number of iterations has been reached. Final solution cannot be found, this shows that a convergence problem caused by an unbalanced data distribution in the audit opinion and company operational complexity variables. Most of the 128 observations received an unqualified audit opinion and had subsidiaries, resulting in limited

data variation. In logistic regression, this condition is known as quasi-complete separation or complete separation that is, when a category of an independent variable is so dominant that the maximum likelihood estimation process struggles to reach a stable solution (Clark et al., 2023). Nevertheless, the data were retained because they reflect the actual conditions of the population of companies in the oil, gas, and coal subsectors. Removing data could potentially reduce the sample's representativeness, therefore, the variables were retained, and the estimation results were interpreted with careful consideration of these limitations. Based on Table 5 (Iteration History, Block 0), before the independent variables were entered, the -2 log likelihood value was 65,138 with df = 127 (128 - 1), resulting table chi-square value of 154,302. Since -2LL < table chi-square, the model meets the criteria. In Block 1, after the variables LA, AF, OA, and KOP were included, the -2LL value decreased to 26,221 with df = 123 (128 - 4 - 1), resulting in a table chi-square value of 149,885. The model is still valid because the -2LL value is below the table chi-square value. The model is considered to fit and align with the study data since the addition of independent variables enhances the model fit, as seen by the decrease in the -2LL value by 4,417 (154,302 - 149,885) with df = 4 (127 - 123).

Classification Matrix

Table 6. Results of Classification Matrix Tests

Classification Table[a]					
Observed			Predicted		
			AD		Percentage Correct
			Experiencing Audit Delay	Not Experiencing Audit Delay	
Step 1	AD	Experiencing Audit Delay	6	3	66,7
		Not Experiencing Audit Delay	2	117	98,3
	Overall Percentage				96,1

a. The cut value is 0,500

Source: SPSS 25 calculation results (2026).

Based on table 6 (classification table), there are 6 data with audit delays and 117 without. The overall percentage before the independent variables were included was 96,1% (123/128). This indicates that the model's predictive accuracy is high (over 50% or approaching 100%), because the predicted and observed data do not significantly differ, the logistic regression model is deemed to be good.

Test of the Coefficient of Determination (Nagelkerke R Square)

Table 7. Results of Coefficient of Determination Tests (Nagelkerke R Square)

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	26,221[a]	0,262	0,657

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Source: SPSS 25 calculation results (2026).

The model summary table shows that the nagelkerke's r square worth is 0,657 and the cox & snell's r square worth is 0,262. This shows that 34,3% The change in the dependent variable is impacted by factors not covered by the model, whereas the independent variables account for 65,7% of the variation. A moderately strong connection is demonstrated by the nagelkerke's r square worth of 0,657.

Hypothesis Testing (Wald Test)

Table 8. Results of Wald Tests

Variables in the Equation			
		B	Sig.
Step 1[a]	LA	-0,186	0,293
	AF	-0,935	0,003
	OA	24,774	0,999
	KOP	6,642	0,000
	Constant	-7,074	1,000

a. Variable(s) entered on step 1: LA, AF, OA, KOP.

Source: SPSS 25 calculation results (2026).

The first hypothesis (H_1) is rejected because, according to table 8, hypothesis testing using logistic regression analysis reveals that accounting profit (LA) has a coefficient of -0,186 with a significance level of 0,293 (>0,05), showing that it has no impact on audit delay. The second hypothesis (H_2) is supported since the audit fee (AF) has an impact on audit delay with a coefficient of -0,935 and a significance level of 0,003 (<0,05). The third hypothesis (H_3) is rejected because audit opinion (OA) has a coefficient of 24,774 with a significance level of 0,999 (>0,05), showing that it has no impact on audit delay. The fourth hypothesis (H_4) is accepted because company operational complexity (KOP) has a significant effect on audit time, with a coefficient of 6,642 and a significance level of 0,000 (<0,05).

Discussion

The Influence of Accounting Profit on Audit Delay

The length of the audit is unaffected by accounting profit, whether it is big or low. These outcomes contradict the signaling theory, which holds that large earnings are a good indicator, leading businesses should release financial statements faster (Rahmadhani & Anggono, 2023). However, this discrepancy does not refute signaling theory, rather, it highlights its limitations in empirically explaining audit delays within specific industries. In practice, audit duration is more influenced by technical factors such as the possibility of significant misrepresentation, transaction complexity, and the volume of audit proof, rather than merely reported earnings (Sutanto & Meiden, 2023). These results align with Napitupulu et al. (2025) who state that auditors continue to work independently in accordance with standards without being influenced by the magnitude of earnings. However, this contradicts Lilianti et al. (2024) and Arzaq et al. (2021) who state that profit influences audit delay because it requires a more in depth examination. This difference is influenced by industry characteristics. In the pharmaceutical sector, profit serves as a sensitive indicator due to the short operating cycle, so low profit can delay the publication of financial statements. Conversely, in the oil, gas, and coal subsector, profit is not the primary signal because it is influenced by long term contracts and commodity price fluctuations, so audit delay is more determined by operational complexity. The phenomenon 2021-2023 indicates that audit delays continue to occur despite OJK sanctions, affecting both high and low profit companies. As shown in descriptive statistics, the average NPM for companies in the oil, gas, and coal subsector is 70,67%, which is above the industry average of 20% (Kasmir, 2019:203), and is therefore considered good. However, these high profits do not accelerate the completion of the audit. This is due to the auditing procedure is conducted independently in compliance with IAPI standards and is more influenced by operational complexity, auditor prudence, and compliance with regulations as stipulated in SA 315, SA 200, and SA 500 (IAPI, 2021). These findings indicate that accounting profit is not a major factor determining the promptness of audit completion in companies in the oil, gas, and coal subsectors. Unlike studies in the manufacturing and pharmaceutical sectors, this study demonstrates that audit completion is more influenced by a company's operational characteristics and audit procedures than by its level of profitability. These discoveries enhance the signaling theory perspective by demonstrating that positive financial signals are not always followed by accelerated audit completion, particularly in industries with high operational complexity.

The Influence of Audit Fee on Audit Delay

The length of an audit is influenced by audit fees, the greater the audit charge, the quicker the audit time. This is due to higher fees allow for more optimal allocation of resources and time. The more resources and effort auditors can allocate through adequate audit fees, the more effective the audit process will be (Carson et al., 2022). This finding is consistent with, Hadi and Gharniscia (2023) as well as Fathonah et al. (2024). This aligns using agency theory, in which supervisors, as agents, are ready to spend more money to get better audit quality and reduce agency conflicts (Evaris & Astarani, 2024). However, these results contradict those of Kezia and Arfianti (2024), who stated that audit fees have no effect because auditors remain independent. Research findings in the oil, gas, and coal subsector demonstrate that audit fees influence audit delays, in accordance with SA 300 (IAPI, 2021), higher audit fees allow for more optimal resource allocation and planning, enabling audits to be completed more quickly, whereas lower fees tend to prolong the audit process. According to IAPI No. KEP-024/IAPI/VII/2008, audit fees are calculated based on working hours according to company size.

Based on descriptive statistics, the average audit fee for businesses in the coal, oil, and gas subsector is Rp 1,35 billion, indicating that all companies fall into the high-fee category and thus have adequate audit resources. The conclusion is that audit fees influence audit delays because higher costs allow for more optimal resource allocation and audit planning, resulting in a more efficient and timely audit process. The novelty of these findings lies in the fact that audit fees not only serve as compensation for audit services but also support the efficient distribution of audit resources. In the oil, gas, and coal subsectors, audit fees were found to play a greater role in reducing audit delays than accounting profits. These results imply that the adequacy of audit resources is more relevant to improving audit timeliness than a company's level of profitability. These findings theoretically expand on agency theory by showing that higher audit fees enable auditors to allocate more adequate resources to lessen the knowledge asymmetry between principals and agents, which will enable audits to be finished more quickly and effectively.

The Influence of Audit Opinion on Audit Delay

Signaling theory states that businesses are motivated to offer precise financial statements in order to lessen information asymmetry (Saragih et al., 2023:31). However, research findings indicate that audit delays are unaffected by audit opinions, which contradicts signaling theory, which views audit opinions as important signals for investors (Nurrohimah & Muniroh, 2023). This disparity results from the fact that the process of releasing an opinion regarding the fairness of financial statements is the last step in the audit process, therefore the length of the audit will not be impacted by the kind of opinion that is produced (Wulandari, 2021). These results are in line with those of Arzaq et al. (2021), who claim that other criteria, like the accessibility of information and the availability of audit evidence, have a greater impact on audit delays. These results, however, run counter to studies by Muhammad et al. (2023) as well as Siahaan and Andayani (2021) that claim audit delays are influenced by audit opinions due to additional processes such as negotiations for companies receiving a qualified opinion. This difference is due to industry characteristics. In the banking sector, audit opinions are crucial as indicators of risk and compliance, which can extend audit delays. Conversely, in the oil, gas, and coal subsectors, audits focus more on operational complexity, so audit opinions do not affect audit duration. Based on descriptive statistics, the majority of businesses in the coal, oil, and gas subsector received an unqualified opinion with an average of 0,98 and low variability, meaning that differences in audit opinions were not significant. This indicates that the audit delay is unaffected by the audit opinion, as all companies are audited using the same procedures in accordance with SA 700 and SA 705 (IAPI, 2021). Furthermore, the high average audit fee (Rp 1,35 billion) means that audit delay in the oil, gas, and coal subsector is more influenced by audit costs than by the audit opinion. These findings contribute to signaling theory by demonstrating that audit opinions do not always determine the promptness of financial reporting. Although audit opinions are an important signal for investors, the findings of this research show that audit duration is more influenced by audit procedures, transaction complexity, and the company's operational characteristics than by the type of opinion issued by the auditor. In the oil, gas, and coal subsector, the low variation in audit opinions because the majority of businesses receive unqualified opinions means that audit opinions are not a major factor explaining audit delays. This finding enriches the literature on audit delays by showing that in industries with high levels of regulation and operational complexity, audit opinions serve more as the final outcome of the audit process (audit outcome) than as a factor influencing the length of the audit.

The Influence of Company Operational Complexity on Audit Delay

The company operational complexity has a significant result on audit delays. The audit takes longer if the operations are more complicated, as auditors must conduct a more extensive examination. These results concur with those of Yuni et al. (2022) as well as Isnaeni and Nurcahya (2021). This study aligns with agency theory, which clarifies why there is an information asymmetry between principals and agents because agents possess broader information (Subroto & Endaryati, 2024:2). The danger increases with a company's operational complexity of information asymmetry, so auditors need to conduct a more thorough examination, which can prolong audit delay (Sari & Sujana, 2021). However, this study contradicts Muhammad et al. (2023) who claim that a company's operational complexity has no bearing on audit delay. This is because robust internal control systems and information systems,

along with effective audit procedures, can ensure the audit process remains on schedule even if the company has numerous subsidiaries. Based on the phenomenon of audit delays in the Indonesian capital market over the 2021-2023 period, it is evident that these delays are related to the company operational complexity. Companies with numerous subsidiaries require more in-depth audits, which consequently take longer to complete. The increase in audit delays in 2023, despite the economic recovery, underscores that operational complexity remains a major obstacle. This supports the notion that operational complexity is a key factor influencing audit delays. In this study, the existence of subsidiaries was used to gauge a company's operational complexity, companies with one or more subsidiaries were considered complex. The low standard deviation of 0,175 and the average of 0,97 show that nearly all companies exhibit a high degree of complexity. This condition needs broader and more in depth audit procedures, thereby extending the audit duration. According to SA 315 (IAPI, 2021), company operational complexity is considered a source of materiality risk requiring extensive procedures, which prolongs the audit duration. This empirical finding supports the research results that a company's operational complexity influences audit delays. These findings expand agency theory by demonstrating that operational complexity increases information asymmetry between principals and agents. The more subsidiaries and operational activities a company has, the greater broad the auditing processes necessary to obtain sufficient audit evidence, thereby lengthening the time necessary to finalize the audit. These results confirm that auditors require a more in-depth examination of companies with complex organizational structures and business activities. Furthermore, this study finds that operational complexity is the most dominant factor influencing audit delays. These findings provide empirical evidence that, in the oil, gas, and coal subsectors, a company's operational characteristics play a greater role in explaining audit delays than financial or reporting factors.

Overall, this study's originality is found in the discovery that operational factors are more dominant than financial factors in explaining audit delays among companies in the oil, gas, and coal subsectors listed on the IDX over the 2021-2023 period. The findings reveal that audit fees and the company operational complexity influence audit delays, whereas accounting profits and audit opinions do not. These findings indicate that in industries with high operational complexity, the timeliness of audit completion is determined more by the adequacy of audit resources and the complexity of the company's activities than by financial signals. Thus, this study expands our understanding of signaling theory and agency theory and provides empirical evidence that a company's operational characteristics play a more dominant role in explaining audit delays in the oil, gas, and coal subsectors.

CONCLUSION

The goal of this research is to assess how audit delays among energy businesses in the oil, gas, and coal subsectors included on the IDX between 2021 and 2023 are influenced by accounting profit, audit fee, audit opinion, and company operational complexity. The findings show that accounting profit has no bearing, because businesses with both large and low profits still go through the audit procedure in compliance with the applicable criteria, and the audit is more influenced by auditor caution and operational complexity. Audit fees have an impact because their magnitude permits more efficient resource allocation and audit planning, which makes the audit process more timely. Because all audit processes, whether for a qualified or unqualified opinion, adhere to the same norms and procedures, the audit opinion has no bearing. A company operational complexity has a big impact since it necessitates more extensive audit methods to handle the more intricate needs of consolidated financial statements, which lengthens the time needed to finish the audit. Theoretically, these results support signal theory and agency theory, indicating that operational complexity and audit resources have a greater influence on reporting timeliness than by earnings performance or audit opinions. In addition, this study shows that operational factors play a more dominant role than financial factors in explaining audit delays at companies in the oil, gas, and coal subsectors. Practically, companies are advised to improve audit planning and coordination and provide adequate audit fees, investors should consider operational complexity, and regulators should enhance oversight of complex companies. This study has several limitations, namely the presence of abnormal data within the 3 year study period, therefore, it is recommended that researchers in the future prolong the study time in order to even if there is a

significant amount of abnormal data, there will still be a reserve of other usable data. Another limitation is that the logistic regression model encountered a convergence warning due to the highly skewed distribution of audit opinions and the highly uneven company operational complexity of the companies, thus it is recommended that future investigation extend the observation period or expand the sample size to ensure a more varied data distribution and reduce the likelihood of convergence issues in the logistic regression model. Another limitation is the use of only four independent variables accounting profit, audit fees, audit opinions, and company operational complexity which explain 65.7% of audit delays, thus, future researchers are advised to add or select variables such as firm size, leverage, the reputation of KAP, and profitability. Another limitation is the limited measurement of audit fees, as some companies do not disclose them separately, consequently, professional fees were used as a proxy, and companies are advised to improve transparency by separating audit fees in their annual reports.

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