Analysis of the Effect of Company Size and Age on Audit Delay by Mediating Profitability on Companies Listed in the Indonesian Stock Exchange

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Authors’ contributions
This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Aims: This study aims to analyze profitability mediating the influence of company size and age to delay audits.

Study Design: The design of this research study is correlational.

Place and Duration of Study: Indonesian Stock Exchange (IDX) issuers in 2019.

Methodology: Its population of 792 companies listed on the Indonesian Stock Exchange (IDX) in 2019, while sample 286 was selected through purposive sampling. The data type is secondary data, collected using documentation and data analysis using multiple linear regression.

Results: Analysis result, size company influential positive significant to profitability. Age company influential positive significant to profitability. Size of company influential negative significant to delay audits. Age company influential negative significant to delay audits. Profitability is an influential negative significant to delay audits. Profitability mediates the negative influence of the size and age company to delay audits.

Conclusion: The results of this study support resource-based view (RBV) theory and signalling theory in explaining audit delay by providing empirical evidence regarding the role of profitability in mediating the effect of firm size and firm age on audit delay.

Keywords: Profitability; audit delay; size; age.

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1. INTRODUCTION

Report finance annual is essential for making decisions economy for management, holders shares, and society. Obligation report finance annual auditing issuers on the IDX no later than the end of month fourth or 120 days after year closed books [1]. On the situation pandemic covid 19, the delivery report is set to be June 30 [2]. However, still, there is a lateness delivery report finance audited in 2017 34 issuers [3], 2018 26 issuers [4], and in 2019 64 issuers [5].

Audit Delay is the whole day from the end of the fiscal yearbook until the audit reports date [6]. Research results about audit delay are affected by several variables. Ocak and Ozden [7] and Julia [8] disclose the size company's influential positive significance in delaying audits. Influence positive the contain meaning the more big company, then reporting finance auditing the more need long time, so potential too late. More companies have large and varied financial transactions, so more time composing more extended reporting in the audit process requires more samples and time a lot too. However, Dabor and Mohammed [9] and Fayyum et al. [10] state that companies' size positively influences not significantly on delaying audits.

Akingunola et al. [11], Wijayanti et al. [12], and Ustman [13] put forward size company influential negative significance in delaying audits. Negative influence is possible; the more company big, the ability to use technology and advanced information higher, own the ability to finance. Advanced technology speeds up the information and reporting finance process to decrease reporting lateness. However, Asmara and Situanti [14] and Karlina et al. [15] suggest that size is not influential or negative but not significant in delaying audits.

Ocak and Ozden [7], Karlina et al. [15], and Fayyum et al. [10] suggest that company age negatively affects audit delay. However, other researchers reveal different results; Ustman [13] states that the company's age has an insignificant negative effect. Julia [8], positive is not significant, and Dabor and Mohammed [9] have a significant positive impact. These results are supported by Irman et al. [16]. They reveal that companies with a longer lifespan are more capable of collecting, processing, and producing information when needed because they have experience, solid internal procedures, and expert accountants, thus requiring a short time to publish financial statements.

Based on the business phenomenon and research gap described above, it is interesting to conduct a re-examination and find solutions to reduce the research gap. Profitability mediation is conceptualized to reduce audit delay in this research. A variable is classified as a mediator if influenced by the independent variable; besides that, it affects the dependent variable [17] so that its position is an intermediary between the independent variable and the dependent variable.

The larger the company's resources and the length of time it has been operating, the more people will know it, have a broad market, and work more efficiently, making it easier to earn income and profit. This prediction is in line with the resource-based view (RBV) theory, which reveals that the unique characteristics of a company's resources can affect the realization of the company's economic added value [18]. On the other hand, the acquisition of high profit by the issuer is news good for investors, giving a positive signal to the market because management will inform the as soon as possible to the public [19]. Hence, the audit delay is a short time.

Connection logical mediation profitability the supported with results study before as following:

1. Size influential positive significant to profitability [20,21,22].
2. Age is influential and positively significant to profitability [22,23,24].
3. Profitability influential negatively significant to audit delay [8,16,19,25].

From the background behind that, the formula problem proposed is profitability mediate influence size company and age company to audit delay.

2. OVERVIEW LIBRARIES AND COMPIILATION HYPOTHESIS

2.1 Size and Profitability

From the RBV theory perspective, company resources are tangible and intangible assets [18]. Tangible resources include money, land, buildings, vehicles, machinery, equipment, materials, technology, skilled personnel, etc. Intangible resources have experience, expertise,
efficient procedures, brand names, sales contracts, inventory access, etc.

Information is supported by a study that the size of companies is positively influential and significant to profitability [21,22]. It means the bigger the company size, the will upgrade profitability. The bigger company has an extensive product market, so that chance to get high sales and high-profit performance. Besides that, big companies also have efficient operation height and source more money efficiency, resulting in savings costs because of that potential upgrade profit [20]. From the description, so arranged hypothesis 1 (H1): company size is an influential positive on profitability.

2.2 Age and Profitability

Age more old company will own potency more branding fine, because more known by the public and a larger market share wide, so own force more sales big, then acquisition profit could high. That is in tune with the research results that reveal that age positively affects profitability [22,23,24]. Influence positive indicates that the longer the company operates, the more the profitability increases, and in connection, he has experienced more wrestling in his business. From the description, so arranged hypothesis 2 (H2): age company is an influential positive on profitability.

2.3 Size and Audit Delay

Big companies own source more power for applying system strong internal control, which speeds up composing reports yearly. More companies big also have source more power big, so they hold more positions good for completing more audit tasks efficient than company small. Besides that, more companies are big under more pressure to release information at appropriate financial times to avoid public criticism [26].

Akingunola et al. [11], Wijayanti et al. [12], and Ustman [13] put forward size company influential negative significance in delaying audits. Influence negative could possible, the more company big, then the ability for use technology advanced information higher, because own ability finance. Advanced technology speeds up the information and reporting finance process, so the lateness of reporting will be decreased. From the description, so arranged hypothesis 3 (H3): company size is an influential negative on delay audits.

2.4 Age and Audit Delay

Companies that have aged longer are rated as more capable of collecting, processing, and producing information when necessary, have experienced, strong internal procedures, and have an expert accountant, so they need time short for publication of report finance (Irman et al., 2020). It has also been proven by Irman et al. [16] that company age influences negative significant delaying audits. Finding by following the results of the research by Ocak and Ozden [7], Karлина et al. [15], and Fayyum et al. [10]. From the description, so arranged hypothesis 4 (H4): age of company influential negative on delay audits.

2.5 Profitability and Audit Delay

Fanny et al. [19] revealed that companies with high profits are good news, thus giving a positive signal to the market; therefore, management will inform the market as soon as possible, so the audit delay is short.

Studies before about profitability and audit delay were proposed by Ocak and Ozden [7], Irman et al. [16], Fanny et al. [19], and Yuyanti and Mulya [25], with results profitability influential negative significant to delay audits. From the description, so arranged hypothesis 5 (H5): profitability is influential negative against delay audits.

2.6 Mediation Profitability in Connection Company Size against Delay Audits

Mediation profitability in connection size company with audit delay approached draft Signaling theory in research. With the acquisition of high profit, the more big company will give investors a positive signal because the management will as soon as possible publish, so audit delay decreased. Logic the supported results study before influencing a size company to profitability with positive results [21,22,23]. Besides that, profitability is influential and negatively significant to audit delay [7,16,19,25]. The second results study indicates profitability could mediate the effect of size on audit delay, then arranged hypothesis 6 (H6): profitability mediates the influence of company of size to delay audits.
2.7 Profitability Mediate the Influence of Company Age on Audit Delay

Research this links company age to audit delay with mediation profitability through the Signalling theory approach. Company age is the long the company operates, counting from the year of establishment company until the year closed book. Companies that started a long time ago have to experience more running their business and will produce high profitability compared to companies new start their efforts. Because more companies young usually have expenditure bigger, especially for marketing nor investment beginning as purchase assets and capital goods.

Studies about the age company and profitability stated by Kartiningsih and Daryanto [22], Samosir [23], and Al Nawaiseh [24] noted that company age is influential positive and significant to profitability. Besides that, profitability is influential and negatively significant to audit delay [6,16,19,25]. Based on the discussion above, profitability could mediate the influence of age on audit delay, then arranged hypothesis 7 (H7): Profitability mediates the influence of age company to delay audits.

Based on the literature, the empirical research model developed is illustrated in Fig. 1.

![Research framework](source: developed in this study (2021))

3. RESEARCH METHODS

The population in the study was 792 companies listed on the Indonesia Stock Exchange (IDX) in 2019. The sample totalled 286 specified issuers with purposive sampling, while the data was collected with method documentation. Method analysis used multiple linear regression with the equation:

Path 1: \( \text{ROA} = a1 + b1 \text{Size} + b2 \text{Age} + e1 \)

Path 2: \( \text{AD} = a2 + b3 \text{Size} + b4 \text{Age} + b5 \text{ROA} + e2 \)

Where:

- ROA: Return on Assets= profit divided by total assets in percentage [27].
- Size: Company Size, measured with Ln total assets [7].
- Age: Company Age, measured with Ln year closed book - year company standing [16].
- AD: Audit Delay, full day from date closing yearbook until date publication report finance audited [6].
- a: constant, b: regression coefficient and e: errors

The analysis steps consist of:

1. Multiple linear regression classical assumption test (normality test, multicollinearity test, heteroscedasticity test and autocorrelation test and).
2. Test the fit of the model using the F test.
3. Hypothesis test (t-test for direct effect, and Sobel test for mediating relationship).

The process uses the SPSS 23 program, except for mediation using the online Sobel calculator.
4. RESULTS AND DISCUSSION

4.1 Multiple Linear Regression Classical Assumption Test Results

The classical assumption test of multiple linear regression includes tests for normality, multicollinearity, heteroscedasticity, and autocorrelation [28]. The normality test of the data uses the normal P-P Plot graph with normal criteria if the data spread around the diagonal line and follows the direction of the diagonal line [28], and the results of the graphs in Fig. 2 and Fig. 3 show these criteria. Hence, the data in this study are normal.

![Normal P-P Plot of Regression Standardized Residual](image)

**Fig. 2. Normality test results-equation 1**
*Source: Processed secondary data (2021)*

![Normal P-P Plot of Regression Standardized Residual](image)

**Fig. 3. Normality test results-equation 2**
*Source: Processed secondary data (2021)*
The multicollinear problem-free test uses the criteria for a tolerance value above 0.1 and a VIF value less than 10 [28]. Table 1 shows these criteria; the regression model is multicollinear problem-free.

The heterogeneity problem-free test uses a scatterplot graph with the points spread above and below the 0 axis and does not form a certain pattern. The regression model is free from the heteroscedasticity problem [28], and the results of the scatterplot graph in Figs. 4 and 5 show these criteria; then, the regression model is free from the heteroscedasticity problem.

Autocorrelation problem-free test using the run test, with Asymp criteria. Sig. (2-tailed) above 0.05 [28], and Table 2 shows a value of 0.124 for equation 1 and 0.407 for equation 2, so the regression model is free of autocorrelation problems.

### Table 1. Hasil uji multicollinearity

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics Equation 1</th>
<th>Collinearity Statistics Equation 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
<td>VIF</td>
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<tr>
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<td>Size</td>
<td>.874</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>.874</td>
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<tr>
<td></td>
<td>ROA</td>
<td>.998</td>
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<tr>
<td></td>
<td>Dependent Variable: ROA</td>
<td>Audit_Delay</td>
</tr>
</tbody>
</table>

*Source: Processed secondary data (2021)*

### Fig. 4. Heteroscedasticity test results-equation 1

*Source: Processed secondary data (2021)*

### Table 2. Autocorrelation test results

<table>
<thead>
<tr>
<th>Description</th>
<th>Runs Test Equation 1</th>
<th>Runs Test Equation 2</th>
</tr>
</thead>
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<td>Unstandardized Residual</td>
<td>Unstandardized Residual</td>
</tr>
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<td>-2.29800</td>
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<tr>
<td>Cases &lt; Test Value</td>
<td>143</td>
<td>143</td>
</tr>
<tr>
<td>Cases &gt;= Test Value</td>
<td>143</td>
<td>143</td>
</tr>
<tr>
<td>Total Cases</td>
<td>286</td>
<td>286</td>
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<tr>
<td>Number of Runs</td>
<td>131</td>
<td>137</td>
</tr>
<tr>
<td>Z</td>
<td>-1.540</td>
<td>-0.829</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.124</td>
<td>.407</td>
</tr>
<tr>
<td>a. Median</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Processed secondary data (2021)*
4.2 Model Fit Test Results

The feasibility test of the model uses the criteria for a sig value of less than 0.05 [28], and Table 3 shows a sig value of 0.000 and Table 4 a sig value of 0.000, so the regression model is feasible to use.

4.3 Hypothesis Test Results

4.3.1 Effect of size and age on profitability

Statistical t-test produced number 5.535 for company size with a significance of 0.000 smaller than 0.05, which means the size of the company is positively significant to profitability (ROA), so hypothesis 1 is accepted. These results strengthen the assumption that larger companies have greater resources that they can use to achieve increased profits because they already have a wider market, are better known, and operate more efficiently. The results of hypothesis 1 are per Alarussi and Alhaderi [21] and Kartiningisih and Daryanto [22].

The statistical t-test produced a value of 2.072. The significance is 0.039 smaller than 0.05 for the company's age, which means the company's age is influential and positively significant to profitability (ROA), so hypothesis 2 is accepted. These results strengthen the assumption that companies operating longer have more experience, are better known to the public, and have strong branding, making it easier to market their products and earn a profit. The results of hypothesis 2 are similar to Kartiningisih and Daryanto research [22], Samosir [23], and Al Nawaiseh [24].

The results of hypotheses 1 and 2 are also per the perspective of the resource-based view (RBV) theory which reveals that the unique characteristics of the company's resources (size and age) can affect the realization of the company's economic added value [18].

Table 3. Results of model fit-test-equation 1

| Model | Sum of Squares | Df | Mean Square | F     | Sig.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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<tr>
<td>1</td>
<td>Regression</td>
<td>2006.870</td>
<td>2</td>
<td>1003.435</td>
<td>24.654</td>
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<tr>
<td></td>
<td>Residual</td>
<td>11518.135</td>
<td>283</td>
<td>40.700</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>13525.005</td>
<td>285</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROA
b. Predictors: (Constant), Size, Age

Adjusted R Square: .142

Source: Processed secondary data (2021)
Table 4. Results of model fit test-equation 2

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
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<td>6822.092</td>
<td>8.330</td>
<td>.000</td>
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<tr>
<td></td>
<td>Residual</td>
<td>282</td>
<td>818.950</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>285</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Audit Delay
b. Predictors: (Constant), ROA, Size, Age
Adjusted R Square: .072

Source: Processed secondary data (2021)

Table 5. Results of t-test-equation 1

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.262</td>
<td>.876</td>
<td>.298</td>
</tr>
<tr>
<td></td>
<td>Size</td>
<td>-.270</td>
<td>.135</td>
<td>-1.991</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>-.239</td>
<td>.073</td>
<td>-1.114</td>
</tr>
<tr>
<td></td>
<td>ROA</td>
<td>-.829</td>
<td>.272</td>
<td>-3.042</td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROA

Source: Processed secondary data (2021)

4.3.2 Company size, company age, profitability, and audit delay

The statistical t-test yields a value of -1.991 and a significant 0.047 smaller than 0.05 for Firm Size, meaning that it is significant, so Firm Size has a significant negative effect on Audit Delay so that Hypothesis 3 is accepted. These results strengthen the assumption that larger companies can use more sophisticated information technology to make the process of financial information and reporting faster, reducing reporting delays. The results of hypothesis 3 are the same as those researched by Akingunola et al. [11], Wijayanti et al. [12], and Ustman [13].

The statistical t-test yields a value of -3.268 for Firm Age with a significant value of 0.001 smaller than 0.05, meaning that Firm Age has a significant negative effect on Audit Delay, so hypothesis 4 is accepted. These results reinforce that companies with a longer lifespan are more experienced and have better information resources, so they need a shorter time to publish financial statements. The results of hypothesis 4 support research by Ocak and Ozden [7], Fanyum et al. [10], Karlina et al. [15], and Irman et al. [16], which state that company age has a significant negative effect on audit delay.

The statistical t-test yields a value of -3.042 for Profitability (ROA) with a significant value of 0.003 smaller than 0.05, meaning that Profitability (ROA) has a significant negative effect on Audit Delay so that Hypothesis 5 is accepted. This study proves that profitability gives investors a positive signal or good news, so management will try to avoid delays in financial reporting. The results of hypothesis 5 support the research of Ocak and Ozden [7], Irman et al. [16], Fanny et al. [19], and Yuyanti and Mulya [25], which state that profitability has a significant negative effect on audit delay.

Table 6. Results of t-test-equation 2

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
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<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
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</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
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<td></td>
<td>Size</td>
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<td>.135</td>
<td>-1.991</td>
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<td></td>
<td>Age</td>
<td>-.239</td>
<td>.073</td>
<td>-1.114</td>
</tr>
<tr>
<td></td>
<td>ROA</td>
<td>-.829</td>
<td>.272</td>
<td>-3.042</td>
</tr>
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</table>

a. Dependent Variable: Audit_Delay

Source: Processed secondary data (2021)
Table 7. Sobel test results hypothesis 6

<table>
<thead>
<tr>
<th>Input</th>
<th>Test statistic</th>
<th>Std. Error</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a : 0.246</td>
<td>Sobel test: -2.67600558</td>
<td>0.07620836</td>
<td>0.00745054</td>
</tr>
<tr>
<td>b : -0.826</td>
<td>Aroian test: -2.64360512</td>
<td>0.07714238</td>
<td>0.00820283</td>
</tr>
<tr>
<td>S_a: 0.044</td>
<td>Goodman test: -2.70962733</td>
<td>0.07526275</td>
<td>0.00673588</td>
</tr>
<tr>
<td>S_b: 0.272</td>
<td>Reset all</td>
<td>Calculate</td>
<td></td>
</tr>
</tbody>
</table>

Source: Processed secondary data (2021)

Table 8. Results of the sobel test of hypothesis 7

<table>
<thead>
<tr>
<th>Input</th>
<th>Test statistic</th>
<th>Std. Error</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a : 0.075</td>
<td>Sobel test: -2.27215173</td>
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<td>0.02307735</td>
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<tr>
<td>b : -0.826</td>
<td>Aroian test: -2.21969655</td>
<td>0.02801059</td>
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<tr>
<td>S_a: 0.022</td>
<td>Goodman test: -2.32851061</td>
<td>0.02670162</td>
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<tr>
<td>S_b: 0.272</td>
<td>Reset all</td>
<td>Calculate</td>
<td></td>
</tr>
</tbody>
</table>

Source: Processed secondary data (2021)

4.3.3 Mediation results

Statistical t-test produces value -2.676 for profitability (ROA) mediates company size against audit delay with mark significant 0.007 smaller than 0.05, it means profitability (ROA) effect negative significant in mediate company size against audit delay, so Hypothesis 6 is accepted. These results can be interpreted that the increase in the company size can increase profitability, and the audit delay will decrease.

Statistical t-test produces a value of -2.272 for profitability (ROA) mediates company age against audit delay with a mark of 0.023 smaller than 0.05. It means Profitability (ROA) has a negative effect in mediating company age to audit delay, so Hypothesis 7 is accepted. These results can be interpreted that the increasing age of the company can increase profitability, and the audit delay will decrease.

5. CONCLUSION

This research concludes that the company’s size and age positively and significantly affect profitability (ROA) individually. Company Size, Company Age, and Profitability (ROA) have a negative and significant effect on Audit Delay individually. Profitability (ROA) mediates firm size and age’s negative and significant impact on reducing audit delays.

The results of this study indicate limitations in the observation period which is only for one year, namely 2019, so the results cannot be used as a reference regarding the effect of Audit Delay for different periods. In addition, the results of Adjusted R Square are relatively small, equation 1 is 14.2%, and equation 2 is 7.2%, indicating that the remaining 85.8% and 92.8% are explained by variables other than those observed in this study. Based on the study’s limitations, it is recommended to expand the year of observation and add other independent variables, for example, the reputation of a public accounting firm, audit opinion, liquidity, ownership structure, Etc.

The results of this study support RBV theory and signalling theory in explaining audit delay by providing empirical evidence regarding the role of profitability in mediating the effect of firm size and firm age on audit delay. As for the practical implications, auditors and public accounting firms can attract attention to profitability, company size, and company age in an audit of the company's financial statements. For investors as a reference in making decisions in investing in the company, they choose attention to the role of profitability in mediating the influence of company size and company age on audit delay.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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