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Blockchain Technology, Internal Control, and Company Size in Reducing Audit Report Lag in Manufacturing Companies on IDX Syariah

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Abstract: This study examines the influence of Blockchain Technology, Internal Control, and Company Size on Audit Report Lag (ARL) in manufacturing companies listed on the IDX Syariah for the 2021-2025 period, focusing on the potential of digital innovation and oversight mechanisms to enhance financial reporting efficiency. Utilizing a quantitative approach with multiple regression analysis, data were collected through purposive sampling from the annual reports of issuers consistently listed in the sharia index. The results indicate that, both partially and simultaneously, Blockchain Technology, Internal Control, and Company Size have no significant effect on audit report lag. The very low Adjusted R-squared value suggests that the adoption of blockchain technology and internal control structures is currently still administrative or a matter of regulatory compliance, thus failing to fundamentally transform conventional substantive audit procedures. This research provides a contribution to regulators and audit practitioners to accelerate the development of digital-based audit standards and encourage the strengthening of internal control quality so that it can provide a tangible contribution to financial reporting efficiency in the Indonesian sharia capital market.

Keywords: Audit Report Lag, Blockchain Technology, Company Size, Internal Control.

INTRODUCTION

Audited annual financial reports are a fundamental and crucial source of information for stakeholders, especially investors, in assessing the performance and health of an entity. According to OJK Regulation No. 29/POJK.04/2016, Article 7 concerning Issuers' Annual Reports, each issuer must report audited financial reports within a deadline of 120 days or the end of the fourth month after the end of the fiscal year. Given this limitation, issuers are required to present audited financial reports within a deadline of 120 days or no later than the fourth month after the end of the fiscal year. However, the company received leniency in 2020 due to the Covid-19 pandemic outbreak, which was effective from March 20, 2020. This decision was conveyed through the Decree of the Board of Directors of PT Bursa Efek Indonesia (BEI) Number: Kep-00027/BEI/03-2020, which stated that BEI had set an additional

deadline of 2 (two) months from the deadline for submitting the First Quarter Financial Report, Annual Report, and Annual Financial Report. So that the publication time of the audited financial report can be submitted within a deadline of 150 days or until the end of the 5th (fifth) month after the end of the fiscal year (Feby Rosa Utari Uly, 2022).

Further, OJK and IDX have issued regulations regarding gradual sanctions and fines for firms that cannot complete the submission of financial reports on time. However, until now, some companies still repeat the same pattern of submitting audited financial reports late (Mada, 2022). Timeliness in reporting and publishing financial reports can affect the company's prestige (L. Akuntansi & Profit, 2018). Timely dissemination of this information is imperative for the efficacy and utility of financial reports, given investors' preference for businesses promptly submitting their financial data (Wati, 2023). The speed of the audit process by the auditor directly impacts the timeliness of the publication of financial reports. The slower the audit process, the longer it will take to publish the financial reports (Putri et al., 2024). Timeliness of audit reporting is part of the company's strategy to demonstrate credibility and reduce information asymmetry between management and stakeholders (J. Akuntansi & Sihombing, 2025). The purpose of auditing financial reports is to assess the fairness or appropriateness of the presentation of financial reports that have been prepared by the company (Gusnindar & Maradina, 2026).

One innovation that is beginning to attract attention in audit practice to reduce Audit Report Lag is blockchain technology. Blockchain offers a decentralized, transparent, and immutable transaction recording system. This technology works by recording transactions into blocks that are verified by the network through a proof-of-work (PoW) mechanism, resulting in an immutable digital ledger (Bagas Suryananda, 2025). Through these characteristics, blockchain can increase efficiency, transparency, and auditors' acuity in detecting fraud. Companies with strong internal controls allow auditors to spend relatively little time conducting substance and compliance tests, thereby accelerating the audit process and minimizing delays in the release of audited financial reports to the public. As a distributed ledger system, blockchain enables secure and transparent transaction recording, thereby reducing the risk of fraud and increasing trust among stakeholders (Mikraj et al., 2025). Blockchain has successfully created a more open and transparent environment, which in turn increases user trust in financial institutions (Yulian et al., 2024). This is because blockchain data is transparent and distributed among users (Diasca et al., 2021). A sound internal control system can also reduce the risk of misstatement, ultimately making it easier for auditors to complete their duties (Rahma et al., 2024). A company's internal control system is crucial for ensuring operational effectiveness, financial reporting reliability, and legal compliance. This system serves to protect the company from the risks of errors, fraud, and irregularities, and provides accurate data for strategic decision-making (Hutasoit et al., 2025).

Company size is also a determining factor in expediting the audit process. Large companies tend to more easily raise external capital in the form of debt to support operations and productivity, thereby increasing financial efficiency. Furthermore, large companies often provide higher-quality information due to greater public exposure, which encourages them to be more conservative in their reporting. Large companies bear broader social responsibilities, with their policies having a more significant impact on the public interest than smaller companies. This motivates managers to report company performance more conservatively in financial statements, which in turn impacts the entity's financial results (Rudiwantoro, 2022). Company size is a scale where companies are classified as large or small based on various ways, including total assets (Utama, 2022). Large assets have the potential to reduce company value when viewed subjectively from the perspective of company owners (Mutia & Kumala, 2022). Investor confidence can also be measured by company size. The larger the company, the more well-known it is to the public, meaning it is easier to obtain information that can

increase its value. Large companies with high total assets will also attract investors (Manajang, 2022). Company size is considered an indicator of the level of risk for investors investing in that company (Septianto et al., 2026).

Audit Report Lag (ARL) is the time required for an auditor to complete an audit, measured by the difference in days between the financial statement date and the audit opinion report date. This time difference identifies the audit completion timeframe. ARL can reduce the usefulness of financial statement information for decision-making, given that effective decisions require timely information support (Krisyadi, 2022). Audit Report Lag is measured by calculating the number of days from the close of the fiscal year (December 31) to the date the independent auditor completes their audit report. The duration of financial statement publication is highly dependent on the length of time spent on the audit in the field. This can influence market reactions arising from delays in information presented to the public (Jehezkiel et al., 2022).

However, there are research gaps that underlie the urgency of this study. First, while company size theoretically accelerates reporting, several previous studies have shown inconsistent results; transaction complexity in large companies sometimes actually delays the audit process. Second, discussions on blockchain technology in Indonesia are still dominated by theoretical studies and rarely empirically tested alongside internal control variables. Finally, limited ARL research focuses on manufacturing companies listed on the IDX Syariah. Companies in this index have dual responsibilities: compliance with financial accounting standards and Sharia principles, which introduce different dimensions of complexity into their financial reporting.

This study aims to bridge the inconsistency gap and expand the literature by simultaneously testing three variables that are relatively rarely studied together in one model. Blockchain technology as a driver of digital efficiency, internal control as a factor of internal process quality, and company size as a factor of entity characteristics towards Audit Report Lag. This study also focuses on manufacturing companies listed on IDX Syria, whose business characteristics are different from conventional banking or companies in other sectors, especially in terms of sharia compliance. The purpose of this study is to analyze and prove empirically: (1) the effect of Blockchain Technology on ARL (2) the influence of Internal Control on ARL (3) the effect of Company Size on ARL in Manufacturing Companies listed on IDX Syariah.

METHOD

This research uses a quantitative approach. The objective is to examine the causal relationship between the independent variables and the dependent variable. Quantitative research is an investigation of social problems based on the testing of a theory consisting of variables, measured numerically, and analyzed using statistical procedures to determine whether the theory's predictive generalizations are correct.

This research was conducted by examining issuers in the Manufacturing Company sub-sector listed on the IDX Syariah for the financial reporting period of 2021 to 2025. The sample was determined using purposive sampling.

The type of data used in this study is secondary data collected from the IDX or IDX Syariah. The data collection method used for this study is intended to produce accurate data. The sampling method used was purposive sampling, with the following criteria:

1. Manufacturing companies consistently listed on the IDX from 2022 to 2024.
2. Companies listed on the Sharia Stock Exchange (IDX Syariah).
3. Manufacturing companies that published audited financial statements and complete annual reports for each year from 2022 to 2024.

The variables are measured as follows:

The dependent variable in this study is the Audit Report Lag (ARL), which is measured as the difference in days between the annual financial closing date (December 31) and the date of signing the independent auditor's report. Furthermore, the independent variables consist of three main indicators: first, technology implementation, measured using a dummy variable with a score of 1 if the company discloses the use of blockchain technology or digitalization in its annual report and 0 otherwise; second, the internal control system, measured through the effectiveness of the audit committee or the disclosure score of internal control points in the annual report; and third, company size, represented by total assets, using the natural logarithm (Ln) to standardize the variable value.

Table 1. Research Sample

NO	ISSUER NAME	CODE
1	PT. Asahimas Flat Glass Tbk.	AMFG
2	PT. Ateliers Mecaniques D'Indonesie Tbk.	AMIN
3	PT. Arwana Citramulia Tbk.	ARNA
4	PT. Perma Plasindo Tbk.	BINO
5	PT. Cahayaputra Asa Keramik Tbk.	CAKK
6	PT. Sumi Indo Kabel Tbk.	IKBI
7	PT. Impack Pratama Industri Tbk.	IMPC
8	PT. Jasuindo Tiga Perkasa Tbk.	JTPE
9	PT. KMI Wire & Cable Tbk.	KBLI
10	PT. Kabelindo Murni Tbk.	KBLM
11	PT. Keramik Indonesia Assosiasi Tbk.	KIAS
12	PT. Ladangbaja Murni Tbk.	LABA
13	PT. Lion Metal Works Tbk.	LION
14	PT. Mark Dynamics Tbk.	MARK
15	PT. Mulia Industrindo Tbk.	MLIA
16	PT. Nusatama Berkah Tbk.	NTBK
17	PT. Supreme Cable Manufacturing & Commerce Tbk.	SCCO
18	PT Tira Austenite Tbk	TIRA
19	PT Surya Toto Indonesia Tbk	TOTO
20	PT Voksel Electric Tbk	VOKS

Source: IDX Syariah

RESULTS AND DISCUSSION

Table 2. T-test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7,378,795	1,813,779	4,068,188	0.0002
X1	-1,412,018	8,874,108	-1,591,167	0.1181
X2	2,491,773	8,565,533	0.290907	0.7724
X3	3,660,618	8,479,775	0.431688	0.6679
X4	1,556,465	1,336,974	0.116417	0.9078
X5	4.48E-06	9.48E-06	0.472147	0.6390

Source: Eviews Output Results 26, 2026

Variable X1: Has a t-statistic value of -1.591167 with a significance value (Prob.) of 0.1181. Since the Prob. value is > 0.05, it can be concluded that variable X1 does not have a significant effect on the dependent variable.

Variable X2: Has a t-statistic value of 0.290907 with a significance value (Prob.) of 0.7724. Since the Prob. value is > 0.05 , it can be concluded that variable X2 does not have a significant effect on the dependent variable.

Variable X3: Has a t-statistic value of 0.431688 with a significance value (Prob.) of 0.6679. Since the Prob. value is > 0.05 , it can be concluded that variable X3 does not have a significant effect on the dependent variable.

Variable X4: Has a t-statistic value of 0.116417 with a significance value (Prob.) of 0.9078. Since the Prob. value is > 0.05 , it can be concluded that variable X4 does not have a significant effect on the dependent variable.

Variable X5: Has a t-statistic value of 0.472147 with a significance value (Prob.) of 0.6390. Since the Prob. value is > 0.05 , it can be concluded that variable X5 does not have a significant effect on the dependent variable.

Constant (C): Has a t-statistic value of 4.068188 with a significance value (Prob.) of 0.0002. Because the Prob. value is < 0.05 , the constant value in this model is significant.

Regression Equation

$$Y = 73.7879462596 - 14.120184427*X1 + 2.49177318397*X2 + 3.66061804891*X3 + 1.55646470698*X4 + 4.47780985436e-06*X5$$

Based on the results of multiple regression analysis, constant values and regression coefficients were obtained for each independent variable (X1, X2, X3, X4, and X5) which show the direction and magnitude of their influence on the dependent variable (Y).

The constant value (*intercept*) obtained is 73.788. This value can be interpreted as meaning that if all independent variables, namely X1, X2, X3, X4, and X5, are at zero or do not experience any change, then the value of the dependent variable (Y) is 73.788. This constant reflects the baseline value of the Y variable before being influenced by changes in the independent variables in the research model.

Furthermore, the regression coefficient of variable X1 is -14.120. This negative value indicates a negative relationship between variable X1 and variable Y. This means that every one-unit increase in variable X1, assuming other independent variables remain constant (*ceteris paribus*), will cause a decrease in the value of variable Y by 14.120 units. Conversely, if variable X1 decreases by one unit, then variable Y will increase by 14.120 units.

The regression coefficient of variable X2 has a value of 2.492 and is positive. This indicates a unidirectional relationship between variable X2 and variable Y. This means that every one-unit increase in variable X2, assuming other independent variables are constant, will cause an increase in the value of variable Y by 2.492 units. Likewise, if variable X2 experiences a decrease of one unit, then variable Y will also decrease by 2.492 units. This coefficient value indicates that X2 has the potential to contribute positively to the increase in Y in the model.

The regression coefficient of variable X3 has a value of 3.661 and is positive. This indicates a unidirectional relationship between variable X3 and variable Y. This means that every one-unit increase in variable X3, assuming other independent variables remain constant, will cause an increase in the value of variable Y by 3.661 units. This relationship indicates that an increase in X3 tends to be followed by an increase in Y.

The regression coefficient of variable X4 has a value of 1.556 and is positive. This indicates a unidirectional relationship between variable X4 and variable Y. This means that every one-unit increase in variable X4 will cause an increase in the value of variable Y by 1.556 units. Conversely, a one-unit decrease in X4 will decrease the value of Y by 1.556 units.

Finally, the regression coefficient for variable X5 is positive at 0.0000045. This indicates a unidirectional relationship between variable X5 and variable Y. This means that every one-unit increase in variable X5 will result in a 0.0000045 increase in the value of variable Y.

Although the value is very small, this coefficient still indicates a positive influence on variable Y in the research model.

Table 3. Simultaneous test results and coefficient of determination

Weighted Statistics			
R-squared	0.066044	Mean dependent var	8,094,444
Adjusted R-squared	-0.031243	SD dependent var	1,818,813
SE of regression	1,847,007	Akaike info criterion	8,774,620
Sum squared residual	16374.89	Schwarz criterion	8,995,618
Log likelihood	-2,309,147	Hannan-Quinn criterion	8,859,850
F-statistic	0.678858	Durbin-Waston stat	1,303,570
prob (F-statistic)	0.641565		

Source: Eviews Output Results 12, 2026

Analysis of F Test Results (Simultaneous)

Weighted Statistics table above, the F-statistic value is 0.678858 with a Prob (F-statistic) value of 0.641565. Because the significance value is greater than the specified real level ($0.641565 > 0.05$), it can be concluded that the independent variables (X1, X2, X3, X4, and X5) do not have a significant effect simultaneously (together) on the dependent variable (Y).

Analysis of the Results of the Determination Coefficient (R2) Test

Weighted Statistics table , the Adjusted R-squared value is -0.031243. This negative value indicates that the independent variables in the model have very weak ability to explain the variation of the dependent variable (Y). This concludes that the contribution of the independent variables to the dependent variable simultaneously (concurrently) is 0% (or there is no significant contribution). Meanwhile, the remaining is influenced by other variables outside this study.

The Impact of Blockchain Technology on Audit Report Lag

The study results show that blockchain technology has no significant impact on audit report delays. This indicates that the level of blockchain technology adoption within a company is not a determining factor for auditors to expedite their audit process. This phenomenon is thought to occur because auditors have not fully integrated *smart contracts* or *real-time auditing* into formal audit procedures, so audits continue to rely on conventional substantive methods. Furthermore, the limitations of audit standards governing blockchain-based digital evidence have led auditors to be cautious and continue to conduct manual verification to avoid the risk of detection. Therefore, blockchain is currently still considered a support system for internal company record-keeping rather than a tool that can directly simplify the tasks of external auditors.

The Effect of Internal Control on Audit Report Lag

The results of the study indicate that Internal Control, projected through the existence of the Audit Committee, the *Whistleblowing system* , and the role of Internal Audit, has no effect on *Audit Report Lag* . This indicates that a strong company's internal oversight structure does not necessarily provide a real contribution in accelerating the duration of external audit completion. This finding is in line with research by Triana Amelia (2025) and Anisa Purnawati (2025) which emphasized that oversight mechanisms such as audit committees are not the main determinant of audit duration.

Theoretically, strong internal controls should provide a positive signal for audit efficiency. However, in practice, external auditors often view these indicators as merely routine or administrative information. There is a suspicion that the operational effectiveness of these control components remains a formality for regulatory compliance purposes, *lacking* substantial implementation quality. Consequently, auditors maintain in-depth and extensive substantive testing to mitigate inherent risk. Auditors are reluctant to reduce audit procedures solely based on the "paper appearance" of a company's internal structure, so the audit duration remains stable regardless of the reported effectiveness of the internal control system.

The Effect of Company Size on Audit Report Lag

Company size was found to have no significant contribution in influencing *Audit Report Lag*. This indicates that the scale of total assets is not a determining variable in the overall audit risk assessment that impacts the reporting timeline. In the audit literature, it is often stated that auditors will prioritize their time on accounts with high materiality, while indicators such as company size, which have minimal influence, will be ignored in determining the financial report release schedule.

The results of this study align with research conducted by Rhicardo (2023), which states that company size, as measured by assets, does not affect audit completion time (*audit report lag*), so the accuracy of financial report submission is not affected by company size. This occurs because, when conducting audits on companies of both large and small sizes, auditors still carry out the audit process in the same manner and in accordance with Public Accounting Professional Standards.

CONCLUSION

Based on the research results and data analysis, it can be concluded that the variables of Blockchain Technology, Internal Control, and Company Size, individually or simultaneously, do not have a significant influence on *Audit Report Lag* (ARL) in manufacturing companies listed on the IDX Syariah for the 2021–2025 period. This finding indicates that the adoption of blockchain technology and internal control structures in companies is currently still viewed as an administrative instrument or a formality to fulfill regulations (*compliance*) rather than as a driver of audit process efficiency. External auditors tend to maintain conventional substantive audit procedures to mitigate risks, so technological innovation and internal oversight have not been able to significantly accelerate reporting duration. Furthermore, company size is not a primary determinant because auditors apply the same stringent Public Accounting Professional Standards regardless of the scale of the company's assets.

This study has several limitations that may affect the generalizability of its results. Among them, the scope of observation is limited to the manufacturing sector in IDX Syariah, thus the characteristics of other industries that may have different levels of technology adoption are not represented. Furthermore, the measurement of Blockchain Technology variables still relies on qualitative disclosures in annual reports that are often less detailed, making it difficult to distinguish between companies that have truly integrated blockchain into their accounting systems and those that have only partially used it. Another limitation is reflected in the very low Adjusted R-squared value, which indicates that this research model is unable to capture other fundamental factors such as transaction complexity, the reputation of the Public Accounting Firm (KAP), or the company's financial condition, which have historically had a more dominant influence on audit completion time.

Based on the research results showing the low influence of independent variables on Audit Report Lag, future researchers are advised to expand the sample coverage to industrial sectors with higher technology intensity, such as the banking or financial services sector, to obtain a more accurate picture of the effectiveness of blockchain in a more mature digital

ecosystem. In addition, it is important to add other fundamental variables that have historically had a strong influence, such as the reputation of the Public Accounting Firm (KAP), the complexity of the company's operations, and the issuer's financial condition (profit/loss), to increase the value of the coefficient of determination (R²) in the research model. Future researchers can also consider the moderating variable in the form of auditor IT competence is also very important, considering that audit efficiency is highly dependent on the auditor's expertise in operating the related technology.

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