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FINANCIAL PERFORMANCE: GOVERNANCE, RISK, COMPLIANCE AND DIGITAL TRANSFORMATION

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Muhammad Naufal Hisyam Fajari ✉[1], Muhamad Muslih[2]
[1,2]Accounting Study Program, Faculty of Economics and Business, Telkom University, Indonesia
Corresponding Author: muhamadmuslih@telkomuniversity.ac.id ✉[1]
Jl. Telekomunikasi No. 1, Bandung, West Java, Indonesia

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Abstract

The disparity between aggregate banking profitability and individual bank performance, coupled with inconclusive evidence on Governance, Risk, Compliance, and Digital Transformation, necessitates further investigation. The study aims at examining their effects on the financial performance of conventional commercial banks listed on the Indonesia Stock Exchange during 2020–2024. Using 80 firm-year observations, this study employs a Random Effects Model with cluster-robust standard errors. Financial performance is measured by Return on Assets (ROA), while Governance is represented by the Board of Directors, Audit Committee, and Independent Board of Commissioners; Risk by the Non-Performing Loan (NPL) ratio; Compliance by a Compliance Disclosure Index based on GRI Standards 2021; and Digital Transformation by a Digital Transformation Index. The results show that NPL and Digital Transformation negatively affect ROA, while Governance, Compliance, CAR, and OEtOI have no significant effects. The study provides an integrated assessment of these factors in Indonesian banking.

INTRODUCTION

Within the effort to drive economic growth and preserve financial system stability, the banking sector carries out a strategic function. Public funds are pooled by banks, then redistributed via lending and financing mechanisms. Bearing that function in mind, solid financial performance stands as a necessity for ensuring banking continuity, competitive strength, and long-term growth. How effectively a bank exploits its assets to produce earnings finds reflection in its financial performance (Pertiwi &

Muslih, 2023). Across banking analysis, Return on Assets (ROA) holds a prominent place as an accounting-based performance metric, largely owing to the window it offers into how skillfully management converts bank-controlled assets into profit (Al Habsyi et al., 2021).

The banking sector provides an appropriate setting for examining Governance, Risk, Compliance, and Digital Transformation because banks operate under intensive regulatory requirements, face substantial credit and operational risks, and increasingly rely on digital technologies in delivering financial services. Indonesia provides a relevant empirical context because its banking industry has experienced rapid digital transformation while remaining subject to a strong regulatory and supervisory framework. Owing to these conditions, Indonesian banks offer a rich field for assessing the relationship between financial performance and governance mechanisms, risk management, compliance practices, and digital transformation. Current studies equally bring to the fore the significance of digital transformation capabilities and Governance, Risk, and Compliance (GRC) in determining banking performance in Indonesia (Abdurrahman et al., 2024).

This study leans on ROA as an accounting-based financial performance measure, its strength lying in the way it reveals how deftly bank management converts managed assets into profit. Prior banking research has drawn a distinction between accounting-based tools like ROA and market-based tools like Tobin's Q, reasoning that they illuminate separate dimensions of bank performance (Al-Ajmi et al., 2023; Nawaz & Ohlrogge, 2023). Therefore, this study focuses on ROA because it is consistent with examining the effectiveness of bank management in utilizing assets to generate earnings.

According to data published by the Financial Services Authority (OJK, 2024), the Indonesian banking industry experienced improvements in profitability during the 2020–2024 period. However, these industry-level developments do not fully reflect the financial performance of individual conventional commercial banks. Several banks continued to record relatively low or negative Return on Assets (ROA), including PT Bank Artha Graha Internasional Tbk., PT Bank JTrust Indonesia Tbk., PT Bank Raya Indonesia Tbk., and PT Bank Mayapada Internasional Tbk. This disparity indicates that improvements in aggregate banking profitability are not necessarily experienced uniformly across individual banks. The variation in financial performance suggests that bank-specific factors and organizational practices may play an important role in explaining differences in profitability.

In addition to differences in financial performance, the Indonesian banking industry has experienced rapid digital transformation. According to Bank Indonesia (2024), the value of electronic money transactions increased substantially from IDR 504.96 trillion in 2020 to IDR 2,503.96 trillion in 2024. This development reflects the growing importance of digital financial services in banking operations. To remain competitive, banks continue to invest in digital technologies, including mobile banking, artificial intelligence, cloud computing, blockchain, and big data analytics. However, digital transformation requires substantial investment in technology, system integration, employee training, and organizational adaptation. These costs create uncertainty regarding whether digital transformation can generate immediate improvements in financial performance.

Effective oversight, accountability, and organizational performance hinge on corporate governance, which serves as a crucial instrument for attaining them. As Agency Theory sets out, governance mechanisms prove indispensable for narrowing conflicts of interest that emerge once ownership and control diverge between shareholders and management (Jensen & Meckling, 1976). Effective monitoring is therefore necessary to align managerial actions with shareholders' interests and minimize agency problems (Fama & Jensen, 1983). The Board of Directors plays a crucial role in directing corporate strategy, supervising managerial activities, and ensuring effective decision-making processes (Okoye et al., 2020). Governance gains reinforcement from the Audit Committee, which keeps watch over the quality of financial reporting, internal control systems, and compliance processes (Karim et al., 2024). In parallel, the Independent Board of Commissioners operates as a self-standing supervisory mechanism that keeps management in check, advances accountability, and safeguards the interests of shareholders (Rachmadianti & Iswajuni, 2020). Therefore, effective governance structures are expected to improve transparency, reduce information asymmetry, and enhance organizational performance.

Governance, Risk, and Compliance (GRC) form a vital triad within banking management. Accountability and sound oversight gain momentum through governance, potential risks get spotted and mitigated by risk management, and adherence to prevailing regulations and policies finds assurance via compliance (Al Habsyi et al., 2021; Muslih & Meynisa, 2024). Although these elements are interconnected, their respective mechanisms might have different implications for financial performance. Therefore, this study examines Governance, Risk, and Compliance as separate dimensions to provide a more detailed assessment of their relationships with bank financial performance. In parallel, Digital Transformation enables banks to optimize processes, improve services, and develop innovative products in response to changing customer needs (Bui & Duong, 2025).

The mounting prominence of Governance, Risk, and Compliance (GRC) and Digital Transformation notwithstanding, prior investigations have yielded contradictory evidence on the extent of their effect upon financial performance. On governance, Abdul Gafoor et al. 2018 established that board characteristics shaped bank financial performance in a positive direction by reinforcing strategic decision-making and oversight. Abiad et al. (2025) echoed this pattern, reporting that board characteristics favorably impacted banks' financial performance throughout the Gulf Cooperation Council countries. Agrawal & Lakshmi (2020), however, reached the opposite conclusion, showing that board composition and board size yielded no significant enhancement of corporate financial performance. Karim et al. (2024) similarly determined that audit committee characteristics held no significant association with firms' financial performance. Independent commissioners, as found by Rachmadianti & Iswajuni (2020), exerted no significant influence on firm performance. Overall, these divergent results suggest that the governance mechanisms and financial performance nexus remains inconclusive, particularly in the context of Indonesian conventional commercial banks.

On the risk front, Ekinci & Poyraz (2019) determined that credit risk, proxied by the Non-Performing Loan (NPL) ratio, drags down the financial performance of deposit banks. A parallel result surfaced from Saleh et al. (2021), who documented that rising non-performing loans eroded banks' profitability and liquidity. Shkodra et al. (2024) went further, affirming that elevated NPL ratios inflicted significant damage on commercial bank profitability. Even so, the bulk of earlier investigations took place beyond Indonesia. As a result, empirical proof touching the impact of NPL on the financial performance of Indonesian listed conventional commercial banks stays thin, especially throughout the post-pandemic digital transformation period.

Where compliance comes into play, compliance with the Global Reporting Initiative (GRI) framework was demonstrated by AL-Janabi et al. (2024) to exert a favorable influence on banks' financial performance. A further argument from Lee et al. (2023) holds that superior sustainability reporting sharpens transparency and helps push corporate financial performance upward. Nonetheless, scholarship relying on the Global Reporting Initiative (GRI) 2021 disclosure indicators to proxy compliance remains thin, especially within the Indonesian banking sector.

Turning to digital transformation, Bui & Duong (2025) found that digital transformation strategies improve bank performance by enhancing operational efficiency and competitiveness. Conversely, Guo & Xu (2021) argued that digital transformation requires substantial technological investment before financial benefits can be realized. Similarly, Nguyen-Thi-Huong et al. (2023) reported that digital transformation negatively affects banks' Return on Assets (ROA) and Return on Equity (ROE) during the initial implementation period. These contradictory findings indicate that the financial implications of digital transformation remain inconclusive, particularly in Indonesian conventional commercial banks that continue to invest heavily in digital technologies.

Financial performance might further link to factors peculiar to individual banks, apart from Governance, Risk, Compliance, and Digital Transformation. How far a bank could absorb potential losses and sustain financial stability shows up in capital adequacy, and how deftly it controls operating expenses relative to operating income shows up in operational efficiency. With that in mind, the Capital Adequacy Ratio (CAR) and Operating Expenses to Operating Income (OEtOI) come aboard as control variables, catering to contrasts in capital strength and operational efficiency across banks. Earlier cross-country work has folded capital adequacy and the cost-to-income ratio into its set of bank-specific

control variables when assessing bank profitability, underscoring their weight in explaining divergent financial performance (Zheng et al., 2023).

Unlike previous studies, which generally treat Governance, Risk, and Compliance (GRC) as an integrated framework combining governance, risk management, and compliance functions to support organizational objectives (Shahim et al., 2012; Stiawan, 2026), this study makes four contributions. First, it decomposes GRC into governance, risk, and compliance dimensions, enabling a more detailed assessment of each component's relationship with financial performance. Governance is represented by the Board of Directors, Audit Committee, and Independent Board of Commissioners, while Risk is proxied by the Non-Performing Loan (NPL) ratio. Second, Compliance is measured using disclosure indicators based on the Global Reporting Initiative (GRI) Standards 2021, providing a structured disclosure-based measure of compliance practices. Third, this study incorporates Digital Transformation as a contemporary factor associated with banking financial performance using a Digital Transformation Index (DTI) constructed from annual report content analysis and adapted from previous studies (Bui & Duong, 2025; He et al., 2025; Xie & Wang, 2023). Moreover, the study incorporates the Capital Adequacy Ratio (CAR) and Operating Expenses to Operating Income (OEtOI) as bank-specific control variables to account for differences in capital adequacy and operational efficiency. These contributions extend the literature by providing a more comprehensive examination of financial performance among Indonesian conventional commercial banks.

The principal theoretical anchor for this inquiry lies in Agency Theory, whose lens clarifies the part played by Governance, Risk, and Compliance in whittling down agency problems alongside information asymmetry. Managerial accountability stands to gain strength from effective monitoring carried out by the Board of Directors, Audit Committee, and Independent Board of Commissioners, while excessive risk-taking can be restrained and adherence to applicable regulations encouraged through risk management and compliance mechanisms (Fama & Jensen, 1983; Jensen & Meckling, 1976). An organizational capability reading of Digital Transformation comes courtesy of the Resource-Based View (RBV), which dovetails with this perspective. Digital technologies yield value provided banks carry the capabilities to embed and leverage them successfully (Barney, 1991; Wernerfelt, 1984). Accordingly, the financial effects of Digital Transformation might depend on how effectively technological resources are converted into operational and financial value.

This investigation therefore scrutinizes the ties binding Governance, Risk, Compliance, and Digital Transformation to the financial performance of conventional commercial banks quoted on the Indonesia Stock Exchange throughout 2020–2024. Governance finds representation through the Board of Directors (X1), Audit Committee (X2), and Independent Board of Commissioners (X3); Risk takes the Non-Performing Loan (X4) as its proxy; Compliance draws measurement from the Compliance Disclosure Index (X5); and the Digital Transformation Index (X6) supplies the gauge for Digital Transformation. Control variables come in the form of the Capital Adequacy Ratio (C1) and Operating Expenses to Operating Income (C2). The theoretical framework of this study is presented in Figure 1.

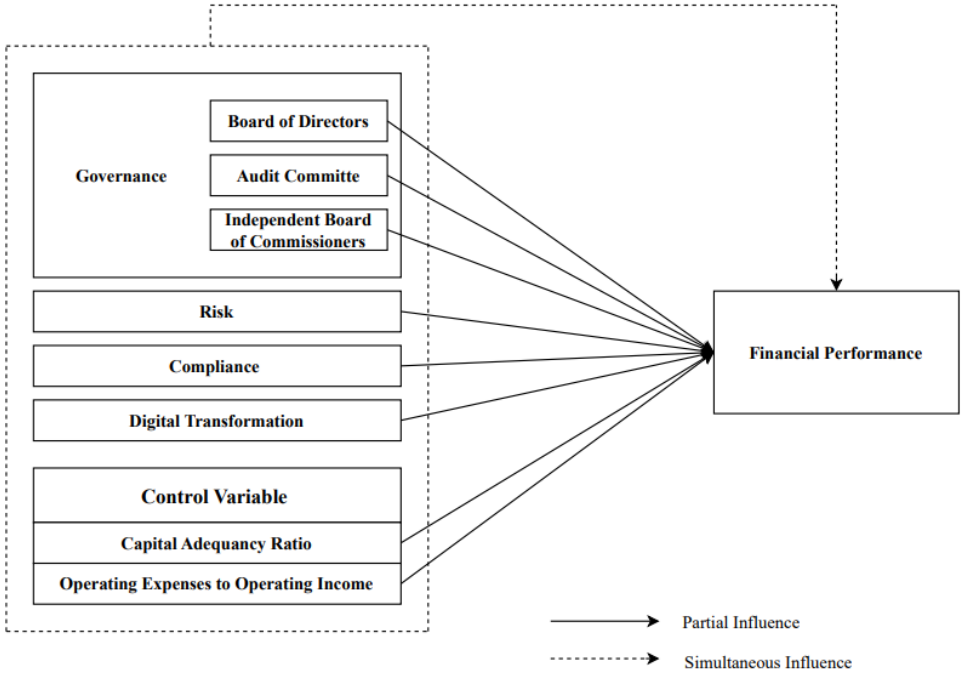


Figure 1. Theoretical Framework

METHOD

This study focuses exclusively on conventional commercial banks because they operate under a uniform regulatory framework and business model based on interest-based intermediation. In contrast, Islamic banks operate under Sharia principles, which involve different governance structures, risk management practices, compliance requirements, and financial reporting standards. These differences might affect financial performance and reduce the comparability of observations. Therefore, restricting the sample to conventional commercial banks enhances internal consistency and minimizes potential bias arising from differences in banking systems.

Secondary data are drawn from annual reports and financial statements of conventional commercial banks and serve as the backbone of this investigation. Sample selection relied on a purposive sampling technique guided by criteria fixed in advance, yielding a balanced panel dataset that spans a five-year observation window.

Regression analysis on panel data was run in Stata 17. To settle on the fitting panel model, the Chow, Hausman, and Lagrange Multiplier tests were carried out. The Random Effects Model (REM) emerged as the choice, with standard errors clustered at the bank level so that groupwise heteroskedasticity could be tackled. Robustness analysis further drew on a one-period lagged specification.

The sample selection criteria and the number of observations included in this study are presented in Table 1.

Table 1. Population and Sample Selection

Criteria	Amount
Conventional commercial banks listed on the Indonesia Stock Exchange (IDX) during 2020–2024	43
Banks that were not continuously listed during the observation period	-1
Banks that did not publish sustainability reports or did not fully disclose GRI indicators during 2020–2024	-26
Final Sample	16
Total Observations (16 × 5)	80

This study investigates the role that Governance, Risk and Compliance (GRC) and Digital Transformation play in shaping the financial performance of conventional commercial banks listed on the Indonesia Stock Exchange across 2020–2024. Sample determination rested on purposive sampling with criteria established beforehand. Out of 43 listed conventional commercial banks, 16 cleared the selection criteria and were retained in the analysis, yielding a balanced panel comprising 80 firm-year observations. Table 2 presents the operational definitions together with the measurement of every research variable.

Table 2. Variable Measurement and Operationalization

Variable	Definition	Measurement
Financial Performance (Y)	Financial performance is measured by Return on Assets (ROA), which reflects management's effectiveness at generating earnings from the bank's total assets (Al Habsyi et al., 2021).	$ROA = \frac{\text{Net Income}}{\text{Total Assets}}$
Board of Directors(X_1)	The Board of Directors is responsible for formulating strategic decisions, managing the company's operations, and ensuring that organizational objectives are achieved through effective leadership and oversight. (Okoye et al., 2020).	BoD = Number of members of the Board of Directors
Audit Committee(X_2)	The audit committee oversees financial reporting, internal control, and audit processes to support corporate transparency and accountability (Karim et al., 2024).	AC = Number of Audit Committee members
Independent Board of Commissioners(X_3)	Independent Board of Commissioners are members of the board who perform supervisory functions objectively and independently, thereby strengthening corporate governance, protecting shareholders' interests, and reducing information asymmetry. (Rachmadianti & Iswajuni, 2020).	$IBoC = \frac{\text{Total Number of IBoC}}{\text{Total Number of BoC}}$
Non-Performing Loan Ratio(X_4)	The Non-Performing Loan (NPL) ratio represents the proportion of problematic loans relative to total outstanding loans and serves as an indicator of a bank's credit risk management effectiveness. A higher NPL ratio reflects poorer credit quality and greater credit risk exposure (Otoritas Jasa Keuangan, 2024).	$NPL = \frac{\text{Non-Performing Loan}}{\text{Total Loans}}$
Compliance(X_5)	Compliance refers to the extent to which a bank adheres to applicable standards and regulatory requirements through the disclosure of sustainability information based on the GRI Standards 2021 (Global Reporting Initiative, 2021).	$CDI = \frac{\sum CD_i}{\sum N}$
Digital Transformation(X_6)	Digital transformation is the integration of digital technologies into organizational operations to improve efficiency and value creation (Bui & Duong, 2025)	$DTI = \frac{DT_i}{9}$
Capital Adequacy Ratio (C_1)	Capital Adequacy Ratio represents the bank's capacity to absorb potential losses and maintain financial stability.	$CAR = \frac{\text{Bank Capital}}{\text{Risk-Weighted Assets}}$
Operating Expenses to Operating Income (C_2)	Operating Expenses to Operating Income represents operational efficiency by measuring the proportion of operating expenses relative to operating income.	$OEtOI = \frac{\text{Operating Expenses}}{\text{Operating Income}}$

Panel data regression analysis was employed to examine the effects of Governance, Risk, Compliance, and Digital Transformation on financial performance. The regression model is formulated as follows:

$$ROA_{it} = \propto + \beta_1 DD_1 + \beta_2 AC_2 + \beta_3 IBoC_3 + \beta_4 NPL_4 + \beta_5 CDI_5 + \beta_6 DT_6 + \beta_7 CAR_7 + \beta_8 OEtOI_8 + \varepsilon..(1)$$

Within this study, financial performance holds the dependent slot, quantified by means of Return on Assets (ROA). Governance is represented by the Board of Directors (BoD), Audit Committee (AC), and Independent Board of Commissioners (IBoC). Risk is measured by the Non-Performing Loan (NPL) ratio as its proxy; compliance is measured via the Compliance Disclosure Index (CDI) grounded in GRI Standards 2021, while the Digital Transformation Index (DTI) furnishes the gauge for Digital Transformation. CAR alongside OEtOI are brought into the model as control variables. For robustness purposes, a one-period lagged specification was applied, in which the explanatory and control variables were shifted back by one year, whereas ROA remained in place as the dependent variable.

RESULTS

Descriptive statistics for the study variables appear in Table 3, encompassing financial performance, Governance, Risk, Compliance, Digital Transformation, along with the control variables. Mean, standard deviation, minimum, and maximum values for the 2020–2024 observation window make up the reported statistics.

Table 3. Descriptive Statistics Results

Variable	Obs	Mean	Std. Dev	Min	Max
FP	80	.0127	.01007	-.006	.038
BoD	80	8.65	2.619	4	12
AC	80	4.287	1.468	3	9
IBoC	80	.5562	.0854	.333	.75
NPL	80	.0244	.0103	.01	.05
CDI	80	.5623	.1486	.197	.974
DT	80	.5208	.2256	.111	.889
CAR	80	.2482	.0811	.105	.5012
OEtOI	80	.8357	.2905	.417	2.8786

Source: Stata 17, 2026

Before the regression estimation took place, panel data model selection proceeded through three tests, namely Chow, Lagrange Multiplier, and Hausman. The Chow test favored the Fixed Effects Model over the Common Effects Model. Meanwhile, the Lagrange Multiplier test favored the Random Effects Model over the Common Effects Model. The Hausman test yielded a probability value of 0.7811 (> 0.05), a result pointing to the Random Effects Model as superior to the Fixed Effects Model. Accordingly, the Random Effects Model (REM) stood as the estimation model ultimately adopted.

Groupwise heteroskedasticity surfaced via the Modified Wald test ($X2(16) = 84.81$; $p < 0.001$). Accordingly, the final regression model employed cluster-robust standard errors at the bank level. Table 4 lays out the simultaneous test results, intended to scrutinize the joint significance of the research variables in accounting for financial performance.

Table 4. Simultaneous Test Results

Wald $chi^2(8)$	=	62.75
Prob > chi^2	=	0.0000
R-squared (Overall)		0.5867
Observations	=	80
Groups	=	16

Source: Stata 17, 2026

Statistical significance for the regression model gains confirmation from the simultaneous test, which yields a Wald chi-square value of 62.75 alongside a p-value of 0.0000 (< 0.05). From this outcome, one gathers that the variables folded into the model jointly shed light on financial performance. An overall R-squared of 0.5867 comes with the model, which denotes that the variables folded into the model capture 58.67% of the variation in financial performance.

Results of the partial regression analysis for every variable appear in Table 5. Estimated coefficients, robust standard errors, z-statistics, and p-values are reported in the table, serving to assess the individual relationships linking the explanatory variables, control variables, and financial performance.

Table 5. Partial Regression Results

fc	Coefficient	Robust Std. err.	z	P > | z |	[95% conf. interval]	
bod	.0009	.0007	1.35	0.178	-.0004	.0023
ac	.0009	.0012	0.83	0.408	-.0013	.0033
iboc	.0105	.0074	1.41	0.159	-.0041	.0251
npl	-.2280	.1097	-2.08	0.038	-.4431	-.0129
cdi	.0044	.0058	0.75	0.453	-.0071	.0159
dt	-.0073	.0032	-2.30	0.022	-.0137	-.0010
car	-.0055	.0055	- 0.68	0.500	-.0216	.0105
oetoi	-.0068	.0055	- 1.23	0.128	-.0178	.0040
_cons	.0084	.0110	0.77	0.441	-.0130	.0300

Source: Stata 17, 2026

The Board of Directors (BoD), Audit Committee (AC), and Independent Board of Commissioners (IBoC) display no significant relationship with financial performance, as documented in Table 5 through p-values of 0.178, 0.408, and 0.159, respectively. Much the same pattern applies to Compliance (CDI), Capital Adequacy Ratio (CAR), and Operating Expenses to Operating Income (OEtOI), each of which lacks a statistically significant association with financial performance, carrying p-values of 0.453, 0.500, and 0.128, respectively.

Credit risk, with the Non-Performing Loan (NPL) ratio as its proxy, moves in a statistically significant negative direction relative to financial performance ($\beta = -0.2280$, $p = 0.038$). Statistical significance likewise marks the negative direction taken by Digital Transformation (DT) relative to financial performance ($\beta = -0.0073$; $p = 0.022$).

To tackle worries over the temporal link between the explanatory variables and financial performance, an extra one-period lagged regression was carried out. Under this specification, the explanatory and control variables were lagged by one year, whereas ROA stayed on as the dependent variable. The lagged specification produced 64 firm-year observations, since the first observation year for each bank was dropped owing to the absence of prior-year values. Table 6 shows the results.

Table 6. Lagged Regression Results

fc	Coefficient	Robust Std. err.	z	P > | z |	[95% conf. interval]	
bod L1.	.0016	.0007	2.07	0.038	.0001	.0032
Ac L1.	.0005	.0013	0.44	0.663	-.0020	.0032
iboc L1.	.0012	.0082	0.15	0.884	-.0149	.0173
npl L1.	-.1894	.1157	-1.64	0.102	-.4163	.0375
cdi L1.	-.0054	.0069	-0.78	0.434	-.0191	.0082
dt L1.	-.0059	.0019	-3.14	0.002	-.0097	- .0022
car L1.	-.0054	.0119	- 0.46	0.648	-.0288	.0179
oetoi L1.	-.0042	.0039	- 1.07	0.283	-.0120	.0035
_cons	.0119	.0123	0.97	0.333	-.0122	.0360

Source: Stata 17, 2026

Evidence from the lagged regression points to a statistically significant positive tie between the lagged Board of Directors (BoD) and current financial performance (β = 0.0016, p = 0.038). A statistically significant negative tie, by contrast, links lagged Digital Transformation (DT) to current financial performance (β = −0.0059, p = 0.002). Statistical significance eludes the lagged Audit Committee (AC), Independent Board of Commissioners (IBoC), Non-Performing Loan (NPL), Compliance (CDI), Capital Adequacy Ratio (CAR), and Operating Expenses to Operating Income (OEtOI), whose p-values sit above 0.05.

The lagged specification provides additional evidence regarding the temporal stability of the relationships examined. By relating prior-year explanatory and control variables to current-year ROA, the analysis considers the temporal relationship between the variables. However, the lagged specification does not constitute a formal endogeneity test.

DISCUSSION

The variables folded into the model share a joint association with financial performance, per the simultaneous test. Such a significant Wald chi-square result carries the implication that Governance, Risk, Compliance, Digital Transformation, and the control variables join forces in shedding light on variations in financial performance. With an overall R-squared of 0.5867, the model accounts for 58.67% of the variation in financial performance, a point the figure underscores.

Regarding the governance variables, the Board of Directors, Audit Committee, and Independent Board of Commissioners do not significantly affect financial performance. This finding suggests that governance mechanisms alone are insufficient to improve bank profitability unless supported by effective monitoring and decision-making, consistent with Agency Theory (Fama & Jensen, 1983; Jensen & Meckling, 1976). The insignificant effects of the Board of Directors are consistent with Okoye et al. (2020), Kafidipe et al. (2021), and Agrawal & Lakshmi (2020), but differ from Abdul Gafoor et al. 2018, Abiad et al. (2025), and Riyadh et al. (2019). Similarly, the insignificant effects of the Audit Committee and Independent Board of Commissioners are supported by Karim et al. (2024), Ahmed et al. (2026), Herdjiono & Sari (2017), Rachmadianti & Iswajuni (2020), and Kristiani & Ekadjaja (2025), although the Audit Committee result differs from Bazhair (2022). Overall, these findings indicate that governance quality depends not on the size or composition of governance bodies, but on their ability to effectively perform monitoring and strategic oversight to enhance organizational performance. Descriptively, BBCA and BMRI maintained relatively stable governance structures during the observation period. However, the regression results indicate that board composition alone was insufficient to significantly improve financial performance, suggesting that governance effectiveness depends more on the quality of oversight than on board composition.

Unlike the governance variables, which were found to be insignificant, the risk variable exhibits a significant negative effect on financial performance. This finding indicates that higher credit risk is associated with lower bank profitability. Descriptively, BBCA maintained NPL ratios below 2.2% while its ROA increased from 2.52% in 2020 to 3.78% in 2024. Similarly, BMRI experienced an increase in ROA from 1.19% to 2.52%, accompanied by a decline in NPL from 3.12% to 1.11%. In contrast, AGRO and MAYA exhibited relatively higher NPL ratios and lower ROA during the observation period. These findings are consistent with Ekinci & Poyraz (2019), Saleh et al. (2021), and Shkodra et al. (2024), who reported that higher credit risk significantly reduces bank profitability.

Turning to the compliance variable, Compliance Disclosure (CDI) turns out to carry no significant effect on financial performance (β = 0.0044, p = 0.453). Such an outcome implies that a bank does not enjoy greater profitability simply because its compliance disclosure rises. Gutiérrez-Ponce & Wibowo (2023) reached a consonant conclusion, observing that the nexus between sustainability-related disclosure and bank financial performance shifts depending on which performance measures and disclosure dimensions come under scrutiny Ellili & Nobanee (2023), by contrast, uncovered a positive and significant effect of sustainability disclosure on bank performance, whereas Gupta (2026) documented a negative effect on future bank performance. Descriptively, BBCA kept compliance disclosure scores above 0.50 throughout the observation period even as it posted

relatively strong ROA. The regression results nonetheless signal that gaps in compliance disclosure fell short of accounting for variations in financial performance.

Digital transformation, moreover, inflicts a significant negative effect on financial performance. Such an outcome implies that embracing digital technologies fails to lift financial performance right away, since firms bear sizeable outlays for technology investments, system integration, employee training, and organizational adaptation. As a result, the financial payoff of digital transformation might surface only in the long term. Guo & Xu (2021) and Nguyen-Thi-Huong et al. (2023) lend support to this outcome, having documented that digital transformation demands hefty investment and time before yielding positive financial outcomes Bui & Duong (2025), nonetheless, part ways with this result, reporting that digital transformation elevates bank performance through gains in operational efficiency and competitiveness. Viewed through the Resource-Based View (RBV), digital transformation generates value only once digital technologies mesh effectively with organizational capabilities and strategic resources. Hence, fruitful digital transformation hinges not solely on technological investment but equally on how well an organization harnesses digital resources to sharpen financial performance.

Regarding the control variables, both Capital Adequacy Ratio (CAR) and Operating Expenses to Operating Income (OEtOI) do not significantly affect financial performance, with p-values of 0.500 and 0.128, respectively. The insignificant effects suggest that differences in capital adequacy and operational efficiency were insufficient to explain variations in ROA among the sampled banks. These variables are nevertheless relevant bank-specific factors, as previous international evidence has incorporated capital adequacy and cost-to-income ratios as controls when examining bank profitability (Zheng et al., 2023).

The lagged analysis provides additional evidence regarding the temporal relationships between the explanatory variables and financial performance. Lagged Board of Directors (BoD) has a significant positive relationship with current-year ROA ($\beta = 0.0016$, $p = 0.038$), while lagged Digital Transformation (DT) has a significant negative relationship with current-year ROA ($\beta = -0.0060$, $p = 0.002$). The remaining lagged variables are statistically insignificant. These findings indicate that some relationships remain evident when prior-year characteristics are related to current financial performance. However, the lagged specification does not constitute a formal endogeneity test.

CONCLUSION

The study aims at examining the effects of Governance, Risk and Compliance (GRC) and Digital Transformation on the financial performance of conventional commercial banks listed on the Indonesia Stock Exchange during 2020–2024. The findings indicate that Governance, Risk, Compliance, Digital Transformation, and the control variables are jointly associated with financial performance. Individually, the Board of Directors, Audit Committee, Independent Board of Commissioners, and Compliance Disclosure Index do not significantly affect financial performance. Risk, measured by the Non-Performing Loan (NPL) ratio, has a negative and significant effect, while Digital Transformation has a negative and significant effect on financial performance. The control variables, Capital Adequacy Ratio (CAR) and Operating Expenses to Operating Income (OEtOI), do not significantly affect financial performance. The lagged analysis further shows that lagged Board of Directors has a positive and significant relationship with current-year ROA, while lagged Digital Transformation has a negative and significant relationship. These findings contribute theoretically by providing empirical evidence for Agency Theory and the Resource-Based View (RBV) in explaining the financial performance of Indonesian banks. The findings also have practical implications, indicating that effective credit risk management and the implementation of digital transformation are important considerations for improving bank financial performance.

This study has several limitations. First, the sample was limited to conventional commercial banks that met the research criteria, reducing the number of eligible observations. Second, differences in the extent of sustainability and digital disclosures across banks may have affected the consistency of the content analysis used to measure the Compliance Disclosure Index (CDI) and Digital Transformation Index (DTI). In conclusion, Future studies are encouraged to expand the sample and

observation period and incorporate additional bank-specific factors to provide a more comprehensive explanation of financial performance.

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AI Disclosure

The authors used ChatGPT and Grammarly during the preparation of this manuscript to support language refinement, grammar checking, and paraphrasing. All intellectual contributions, including the research design, data analysis, interpretation of results, and conclusions, were conducted and verified by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the manuscript.