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Determinants Of Financial Performance Of Digital Banks In The Indonesia Stock Exchange

Ima Kristina Yulita [1,2]
[1] Student of Program Doktor Ilmu Ekonomi, Universitas Diponegoro, Semarang, Indonesia
[2] Program Studi Manajemen, Fakultas Ekonomi, Universitas Sanata Dharma, Yogyakarta, Indonesia

Corresponding email: yulitaimakristina@gmail.com

Abstract *. Financial transactions have become a necessity for almost everyone and organizations in the present day. The existence of digital banks utilizing financial technology for their operational activities greatly aids customers who seek fast, convenient, and time-saving transactions. This research aims to identify the factors influencing the financial performance of digital banks listed on the Indonesia Stock Exchange. Financial performance is measured by Return on Asset. The research sample consists of 6 digital banks listed on the Indonesia Stock Exchange, using data from 2016 to 2022. The data is analyzed using Multiple Linear Regression Analysis. The results show that Foreign Ownership, Capital Adequacy and Operating Costs to Operating Revenue have an impact on financial performance, while Institutional Ownership and Loan to Deposit Ratio do not affect the financial performance of digital banks. This implies that foreign ownership, Capital Adequacy, and Operating Costs to Operating Revenue factors should be a consideration for investors planning to invest in digital banks.*

Keywords*: Digital Bank; Financial Technology; Financial Performance; Ownership*

INTRODUCTION

In the present era, the utilization of digital technology has become an integral part of the lives of many people in Indonesia, including in the financial and banking sectors. This has been accelerated by the COVID-19 pandemic, prompting companies to undergo digital transformation to sustain their businesses. Following Verhoef et al. (2021), Digital Transformation is defined as a change in how a firm utilizes new digital technologies to develop a new digital business model that helps create and appropriate more value for the firm.

Bank Indonesia reveals a 28.72 percent year-on-year increase in the value of digital banking transactions, reaching Rp 52,545.8 trillion, and is projected to grow by 22.13 percent year-on-year, reaching Rp 64,175.1 trillion in 2023. The value of electronic money transactions grew by 30.84 percent year-on-year, reaching Rp 399.6 trillion in 2022. It is estimated to increase by 23.90 percent year-on-year in 2023, reaching Rp 495.2 trillion. Meanwhile, the value of Indonesia's digital economy in 2020 reached USD 44 billion, representing an 11 percent growth from 2019 and contributing 9.5 percent to Indonesia's GDP. In 2023, the value of Indonesia's digital economy is expected to reach USD 82 billion and is projected to achieve a value of USD 109 billion in 2025.

A digital bank is one manifestation of the digital transformation undertaken by companies. According to POJK No.12/POJK.03/2021, a Digital Bank is an Indonesian legal entity that provides and conducts business activities primarily through electronic channels without physical branches other than the head office or with limited physical branches. The

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* Ima Kristina Yulita , *yulitaimakristina@gmail.com*

regulation for digital banks in Indonesia is not specifically governed, and thus, it falls under the same regulatory framework as other conventional banks, specifically following POJK No.12/POJK.03/2021 concerning Conventional Banks.

The emergence of digital banks is driven by consumer demand for speed and flexibility in banking services, allowing access anytime and anywhere. This trend is also spurred by the entry of fintech into the financial sector and the openness of markets that transcends geographical boundaries. The establishment of digital banks can be achieved through two methods: the creation of a new bank operating as a digital bank with a minimum core capital of IDR 10 trillion, or the transformation of conventional banks into digital banks. Examples of digital banks include Livin from Bank Mandiri, Jenius from BTPN, blu from BCA, Bank Jago (formerly Bank Artos), Digibank (DBS), Wokee (Bukopin), TMRW (UOB), Nyala (OCBC NISP), SeaBank, Motion Banking (MNC Bank), and many more.

The advantages of digital banks for customers include the ease of transactions anytime and anywhere, transaction transparency, and lower or even free transaction costs. Meanwhile, for banks, the benefits include ease of innovation and the ability to offer banking products/services tailored to customer needs, as all data is recorded digitally in the system *(https://djpb.kemenkeu.go.id/direktorat/pkn/id/odading/2919-digital-banking.html* , 2022)

Digital banks need to pay attention to their financial performance to ensure long-term survival. This study employs Return on Asset (ROA) as a proxy for financial performance. ROA is a profitability ratio that measures a company's ability to generate profit through the optimization of asset management. The higher the ROA value, the better the financial performance. Therefore, ROA serves as a crucial indicator to gauge the efficiency and profitability of digital banks in managing their assets, which, in turn, influences their resilience and sustainability in the digital banking industry.

One of the factors influencing the financial performance of a company is institutional ownership. Institutional ownership refers to the ownership of shares by other institutions such as insurance companies, banks, investment firms, and other institutional entities. Institutional investors can actively monitor managerial decisions, thereby enhancing the company's value (Elyasiani & Jia, 2010; Firth et al., 2016). Moreover, the significant proportion of share ownership and voting rights allows institutional investors to oversee company management, ensuring that the company's performance remains uninterrupted (McCahery et al., 2016). Therefore, there is a positive link between institutional ownership and firm performance (Elyasiani & Jia, 2010; Yeh, 2019). However, AL-Najjar (2015) and Artha et al. (2021) find no correlation between institutional ownership and company financial performance.

Another factor influencing the financial performance of a company is foreign ownership (Shrivastav & Kalsie, 2017). In this context, foreign ownership contributes positively to the company's performance. This positive impact stems from the ability of foreign owners to provide significant resources, improved monitoring, and superior management expertise. Furthermore, foreign ownership facilitates access to capital markets and advanced technologies. The corporate shareholding by foreign entities also enhances the domestic organization's access to resources and expertise in both management and technical capabilities. Therefore, foreign ownership is expected to have a positive impact on company (Bentivogli & Mirenda, 2017; Kao et al., 2019; Pham & Nguyen, 2020)

The Capital Adequacy Ratio reflects a bank's capacity to sustain an adequate level of capital and the proficiency of bank management in recognizing, quantifying, overseeing, and regulating risks that may emerge and impact the capital amount. CAR, which mirrors the company's ability to sustain sufficient capital, significantly influences the company's resilience to risks and economic uncertainties. Companies with a high CAR tend to demonstrate better financial performance as they possess a strong financial buffer to address potential losses or economic pressures. Khalifaturofi'ah (2023) dan Juwita et al. (2018) found a positive correlation between CAR and Return on Assets (ROA). On the other hand, a low CAR may indicate the company's inability to cope with risks, which can negatively affect its financial performance.

Loan to Deposit Ratio (LDR) is the ratio between the amount of loans granted and the amount of third-party funds collected from the public, consisting of demand deposits, savings, and time deposits. The higher the LDR, the less liquid a bank becomes, indicating that the bank may face difficulties in meeting its short-term obligations, such as sudden withdrawals by customers from their deposits. Conversely, the lower the LDR, the more liquid a bank is. Khalifaturofi'ah (2023) dan Juwita et al. (2018) found that LDR influences the financial performance of the company.

Operating Costs to Operating Revenue is the ratio between operational expenses and operational income. The operational cost ratio is used to measure the level of efficiency and a bank's ability to conduct operational activities. A smaller Operating Costs to Operating Revenue indicates lower operational costs and higher operational income, potentially enhancing the company's profitability. This is supported by Juwita et al. (2018), who found that BOPO has a negative impact on Return On Asset.

The aim of this study is to examine the influence of Institutional Ownership, Foreign Ownership, Capital Adequacy Ratio, Loan to Deposit Ratio, and Operating Costs to Operating

Revenue on financial performance measured by ROA in digital banks listed on the Indonesia Stock Exchange during the period 2016-2022.

METHOD

This study adopts a causal relationship approach with Return on Assets (ROA) as the dependent variable and Institutional Ownership, Foreign Ownership, Operating Costs to Operating Revenue, Capital Adequacy Ratio (CAR), and Loan to Deposit Ratio as independent variables. The population in this study comprises all digital banks listed on the Indonesia Stock Exchange. The sample consists of 6 digital banks selected using a purposive sampling method. The criteria used include digital banks that have complete annual report data for the years 2016-2022. The selected sample includes:

Table 1: The Sample List

No.	Emiten Code	Company Name
1	BBHI	PT Allo Bank Indonesia Tbk
2	AMAR	PT Bank Amar Indonesia Tbk
3	ARTO	PT Bank Jago Tbk
4	AGRO	PT Bank Raya Indonesia Tbk
5	BBYB	PT Bank Neo Commerce Tbk
6	BABP	PT Bank MNC Internasional Tbk

The data used in this study are secondary data obtained from the annual reports of banks and downloaded through each bank's official website. The data constitute a panel dataset collected through documentation methods. Cross-sectional data include the ROA, LDR, Operating Costs to Operating Revenue, CAR, Institutional Ownership, and Foreign Ownership of each bank. Meanwhile, time series data are used to obtain ROA, LDR, Operating Costs to Operating Revenue, CAR, Institutional Ownership, and Foreign Ownership for the years 2016-2022.

The data is analyzed using Multiple Linear Regression to determine the influence of Institutional Ownership, Foreign Ownership, Capital Adequacy Ratio, Loan to Deposit Ratio, and Operating Costs to Operating Revenue on ROA. Prior to that, classical assumption tests were conducted, consisting of normality test, multicollinearity test, heteroskedasticity test, and autocorrelation test. The regression equation obtained is:

$$Y = a + b1X1 + b2X2 + b3X3 + b4X4 + b5X5 + e$$

Y = Return on Asset (ROA)
X1 = Institutional Ownership
X2 = Foreign Ownership
X3 = ln Capital Adequacy Ratio
X4 = ln Loan to Deposit Ratio
X5 = ln Operating Costs to Operating Revenue
e = error term

The hypotheses will be tested using the F-test and t-test. The F-test is conducted to examine the simultaneous influence of Institutional Ownership, Foreign Ownership, Capital Adequacy Ratio, Loan to Deposit Ratio, and Operating Costs to Operating Revenue on ROA. Meanwhile, the t-test is used to determine the partial influence of Institutional Ownership, Foreign Ownership, Capital Adequacy Ratio, Loan to Deposit Ratio, and Operating Costs to Operating Revenue on ROA. The significance level used is 5%. The null hypothesis (Ho) is accepted, and the alternative hypothesis (Ha) is rejected if the significance value > 0.05. Conversely, Ho is rejected, and Ha is accepted if the significance value < 0.05.

RESULTS AND DISCUSSION

Table 2. Statistic Descriptive (in percentage)

Variable	N	Minimum	Maximum	Mean	Std. Deviation
ROA	42	-15.89	4.74	-1.5945	4.81781
CAR	42	12.58	169.92	42.3295	36.95678
Operating Costs to Operating Revenue	42	52.38	287.86	117.1940	51.91177
LDR	42	47.54	466.78	103.0200	64.39840
Institutional ownership	42	.00	99.00	69.7293	26.07773
Foreign ownership	42	.00	99.00	25.1795	30.58159

Table 2 shows the lowest ROA value of -15.89% and the highest of 4.74%, with an average of -1.5945%. This means that some digital banks are still experiencing losses. The average Capital Adequacy Ratio (CAR) is 42.3295%, with the lowest value at 12.58% and the highest at 169.92%. This indicates that the banks are in good health. Operating Costs to Operating Revenue has the highest value at 287.86%, the lowest at 52.38%, and an average of 117.194%. The Loan to Deposit ratio has the lowest value at 47.54%, the highest at 466.78%, and an average of 103.02%. Meanwhile, institutional and foreign ownership have values ranging from 0% to 99%, with an average of 69.7293% for institutional ownership and 25.1795% for foreign ownership.

The Outcome of Classical Assumption Tests

The outcomes of normality test, as evidenced by the Asymptotic Significance on the One-Sample Kolmogorov-Smirnov test, is 0.200 (Table 3). This value exceeds 0.05, leading to the conclusion that the residuals are normally distributed.

Table 3. Normality Test with One-Sample Kolmogorov-Smirnov Test

	Unstandardized Residual
Asymp. Sig. (2-tailed)	.200[c,d]

Table 4 displays the outcome of the multicollinearity test, revealing that the Variance Inflation Factor (VIF) for all independent variables is below 10. Consequently, it can be inferred that the regression model is free from multicollinearity.

Table 4. Multicollinearity Test

	Tolerance	**VIF**
Institutional ownership	.751	1.332
Foreign ownership	.793	1.260
lnCAR	.672	1.489
lnLDR	.664	1.506
ln Operating Costs to Operating Revenue	.863	1.159

The Park Gleyser test results in Table 5 indicate that the significance value for the five variables is equal to or higher than 0.05. Therefore, it can be inferred that the regression model is not affected by heteroscedasticity.

Table 5. Heteroscedasticity Test

	Sig
Institutional ownership	.694
Foreign ownership	.086
lnCAR	.060
lnLDR	.588
ln Operating Costs to Operating Revenue	.325

Referring to Table 6, the Durbin-Watson test yields a value of 1.367. There is no autocorrelation because -2 <= DW <= 2.

Table 6. Autocorrelation Test

Model	**Durbin-Watson**
1	1.367

The Result of Multiple Linear Regression Analysis

As presented in table 7, regression resulted in the following equation:

$$Y = 58.819 - 0.001\ X_1 + 0.017\ X_2 - 1.032\ X_3 + 0.555\ X_4 - 12.936\ X_5$$

Table. 7 Multiple Linear Regression Analysis Result

	Unstandardized Coefficients			
Variable	**B**	**Std. Error**	**t**	**Sig.**
Constant	59.819	3.392	17.637	.000
Institutional ownership	-.001	.007	-.123	.902
Foreign ownership	.017	.006	2.922	.006
lnCAR	-1.032	.293	-3.527	.001
lnLDR	.555	.550	1.010	.319
ln Operating Costs to Operating Revenue	-12.936	.495	-26.128	.000

Partial Hypothesis Test

Probability (sig) Institutional ownership is 0.902 that is higher than α (0.902 > 0.05) and thus H1 is rejected. In other words, Institutional ownership partially does not influence significantly Return on Asset.

Probability (sig) foreign ownership is 0.006 that is lower than α (0.006 < 0.05) and thus H2 is accepted, meaning that foreign ownership partially influences significantly Return on Asset.

Probability (sig) ln Capital Adequacy Ratio is 0.001 that is lower than α (0.001 < 0.05) and thus H3 is accepted. In other words, Capital Adequacy Ratio partially influences significantly Return on Asset.

Probability (sig) ln Loan to Deposit Ratio is 0.319 that is higher than α (0.319 > 0.05) and thus H4 is rejected. In other words, Loan to Deposit Ratio partially does not influence significantly Return on Asset.

Probability (sig) ln Operating Costs to Operating Revenue is 0.000 that is lower than α (0.000 < 0.05) and thus H5 is accepted. In other words, Operating Costs to Operating Revenue partially influences significantly Return on Asset.

Simultaneous Hypothesis Test

Referring to table 8, Probability (sig) of Institutional ownership, foreign ownership, ln Capital Adequacy Ratio, ln Loan to Deposit Ratio, and ln Operating Costs to Operating Revenue is 0.000 that is lower than α (0.000 > 0.05), and H0 is rejected. This means that the variables simultaneously influence significantly Return on Assets.

Table 8. Anova Test

Model		Sum of Squares	F	Sig.
1	Regression	912.478	167.660	.000[b]
	Residual	39.186		
	Total	951.664		

Determination Coefficient

Table 9 displays the Adjusted R^2 value, which is 0.953. This indicates that 95.3% of the variations in the changes of return on assets in the digital bank companies are influenced by the components of Institutional ownership, foreign ownership, Capital Adequacy Ratio, Loan to Deposit Ratio, and Operating Costs to Operating Revenue. The remaining 4.7% is influenced by other variables not covered in this study.

Table 9. The Result of Determination Coefficient

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.979[a]	.959	.953	1.04331

Discussion

Institutional ownership and Return on Asset

The result of this research indicates that institutional ownership does not significantly affect Return on Asset. Institutional ownership represents the percentage of shares held by specific institutions. This means that whether the proportion of stock ownership by institutions is higher or lower, it does not increase or decrease ROA or the profit generated from asset management. These research findings align with AL-Najjar (2015) and Artha et al. (2021) where there is no correlation between institutional ownership and company financial performance. The results of this research differ from Pham & Nguyen (2020) who found a relationship between institutional ownership and ROA.

Foreign ownership and Return on Asset

The result of this research indicates that foreign ownership significantly affects Return on Asset. Foreign ownership represents the percentage of shares held by foreign entities, either companies or individuals. This means that the higher the proportion of foreign ownership, the higher the ROA or the profit generated from asset management. These research findings align with Pham & Nguyen (2020), who found that foreign ownership has a positive impact on Return on Asset.

Capital Adequacy Ratio and Return on Asset

The Capital Adequacy Ratio indicates the ratio of capital adequacy to accommodate the risk of potential losses that a bank may face. The result of this research indicates that the Capital Adequacy Ratio significantly negatively affects Return on Assets. This means that the higher the CAR, the lower the ROA, or vice versa. This suggests that adequate capital availability in the bank does not contribute positively to the return on asset. In other words, even though the bank has a high level of capital adequacy, its operational results in terms of generating profits from its assets are not as efficient as expected. This could happen due to other factors influencing the operational performance of the bank, such as management efficiency, market conditions, or internal bank policies. This research's results differ from Khalifaturofi'ah (2023), Juwita et al. (2018), who found that CAR has a positive effect on ROA.

Loan to Deposit Ratio and Return on Asset

Loan to Deposit Ratio measures the liquidity of a bank. The result of this research indicates that Loan to Deposit Ratio does not significantly affect Return on Assets. This means that the amount of loans given by the bank compared to the amount of deposit it holds does not have a significant impact on the return on assets. In this context, changes in the loan-to-deposit ratio do not consistently or significantly affect the bank's ability to generate profits from its

assets. This could be due to various factors, such as effective risk management policies, good credit portfolio diversification, or external factors not directly related to the loan-to-deposit ratio. This research's results differ from Khalifaturofi'ah (2023), Juwita et al. (2018), who found that LDR has a positive effect on ROA.

Operating Costs to Operating Revenue and Return on Asset

Operating Costs to Operating Revenue is used to measure the bank's management ability in controlling operational costs relative to operational income. The results of this research indicate that Operating Costs to Operating Revenue significantly negatively affects Return on Assets. This suggests that an increase in the ratio of operational costs to operational income has a negative impact on the bank's ability to generate profits from its assets. In this context, the level of operational efficiency in the bank becomes critical. If Operating Costs to Operating Revenue increases, it means that the bank's operational costs are rising faster than its operational income. This may indicate a lack of efficiency in managing operational costs, such as employee expenses, administrative costs, or other expenses. This negative impact can reduce the return on assets (ROA) as higher costs will decrease the net profit generated from the bank's assets. Therefore, improving operational cost management can be a focus to enhance financial performance and profitability for the bank. These research findings align with Juwita et al., (2018) who found that Operating Costs to Operating Revenue has a negative effect on ROA.

CONCLUSION

The results of data analysis indicate that the company's performance, measured by Return on Assets (ROA), is influenced by factors such as Foreign Ownership, Capital Adequacy, and Operating Costs to Operating Revenue. Meanwhile, Institutional Ownership and Loan to Deposit Ratio do not have a significant impact on ROA.

The advice given is for investors to pay attention to ROA, considering that some digital banks still have a negative ROA. The Operating Costs to Operating Revenue has a negative impact on ROA, so banks need to make improvements in operational cost management to enhance financial performance and profitability. Further research could expand the sample to include digital banks listed on the Indonesia Stock Exchange.

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