JOURNAL OF CULTURAL ANALYSIS AND SOCIAL CHANGE

Journal of Cultural Analysis and Social Change,
2025, 10(2), 835-848
ISSN: 2589-1316

Sustainability-Driven Efficiency: Insights from Bank Central Asia Sharia's Development

Rizqon Halal Syah Aji [1*], Al Amin [2], Erika Amelia [3], Feriani Budiyah [4], Julia Adelina[5]

[1] *Ekonomi Pembangunan, Fakultas Ekonomi dan Bisnis, Univesitas Islam Negeri Syarif Hidayatullah Jakarta),* INDONESIA
Email: Risqon.hsa@gmail.com
[2] *Department of Islamic Economics, Faculty of Economics and Business, Universitas Airlangga, Surabaya,* INDONESIA.
[3] *Department of Economics and Business, Universitas Islam Negeri Bukittinggi, Bukittinggi,* INDONESIA, *Email: al.amin-2024@feb.unair.ac.id*
[4] *Fakultas Ekonomi dan Bisnis,Univesitas Islam Negeri Syarif Hidayatullah Jakarta),* INDONESIA, *Email: erika.amelia@uinjkt.ac.id*
[5] *Universitas Nahdlatul Ulama Purwokerto,*INDONESIA, *Email: ferianioffice@gmail.com*
[6] *Fakultas Pariwisata dan Perhotelan, Universitas Negeri Padang, Email: juliaadelina1@student.unp.ac.id*

*__Corresponding Author:__ Risqon.hsa@gmail.com

Citation: Aji, R. H. S., Amin, Al., Amelia, E., Budiyah, F. and Adelina, J. (2025). Sustainability-Driven Efficiency: Insights from Bank Central Asia Sharia's Development, *Journal of Cultural Analysis and Social Change*, 10(2), 835-848. https://doi.org/10.64753/jcasc.v10i2.1686

Published: November 12, 2025

ABSTRACT

Purpose: The growth of Islamic banks is evident from their total assets and the financing channeled to the public, but it becomes an obstacle when certain factors arise. The purpose of this paper is to analyze the relationship between. Profitability and operational efficiency in Islamic Commercial Banks in Indonesia, i.e., Bank Central Asia (BCA).Design/methodology/approach: This study employs a quantitative research design, utilizing data collected from 2021 to 2025. This study uses two variables: profitability, measured by return on assets (ROA) and return on equity (ROE), and operational efficiency, assessed by operating expenses and operating Income (BOPO)—data analysis techniques using data analysis with the help of WarpPLS 7.0 software. PLS is a variant-based structural equation (SEM) analysis.Findings: The results revealed that ROA has a negative and significant effect, while ROE has a positive and significant impact. This finding can be attributed to the profitability of Islamic commercial banks, particularly BCA Sharia, which enables them to reduce operational costs, thereby increasing operational efficiency in Islamic banking.Practical implications: BCA Sharia green finance and sustainability practices support its efficiency goals, as evidenced by high DEA efficiency scores and reduced operating costs through resource-saving and digitalization. Proper reporting and governance further enhance profitability, particularly regarding ROE and EPS. Although occasional short-term costs exist, strategic investment and monitoring will bolster long-term operating efficiency and ensure sustainable growth.Social implications: Sustainability in Islamic banking extends beyond environmental impact; it fosters deeper stakeholder trust, motivates employees, enhances governance, and aligns with Islamic social values. These factors combine to streamline operations, enhance decision-making, and improve community integration, all of which enhance operational efficiency at banks like BCA Sharia.Research limitations and implications: The current research highlights positive links to sustainability efficiency but is constrained by small sample sizes, inconsistent measures, and governance complexity. Future studies should adopt robust frameworks, longer time horizons, improved labor capacity, and enhanced Sharia governance practices to derive actionable insights for BCA Sharia.Originality/value: The research's originality lies in its focused, empirical, and methodological exploration of how sustainability

practices tangibly improve operational efficiency within BCA Sharia, anchored in Islamic performance indexes and advanced efficiency modeling. This makes it both academically novel and practically valuable.

Keywords: Profitability, ROA, ROE, Islamic finance, Bank Sharia, Sustainability

INTRODUCTION

Performance, Liquidity, Governance, and Relaxation of Deposit Guarantee Interest Rates in Response to Bankruptcy Risk in Indonesian Islamic Banks. This indicates that the variable operating expense ratio influences the risk of bankruptcy for Islamic banks in Indonesia. In contrast, the return on assets and net profit ratios do not impact these banks' bankruptcy risk. Liquidity, as measured by the ratio of funds to deposits, does not significantly affect Islamic banks' bankruptcy risk. As measured by GCG ratings, Islamic bank governance does not significantly impact the risk of bankruptcy among Islamic banks. The deposit insurance risk (DIR) level will decrease with the reduced impact of operating costs on Islamic banks' operating profit risk of bankruptcy. (Salim et al., 2021; Waoma, Izmuddin, et al., 2024; Waoma, Judijanto, et al., 2024)

These factors also explain microfinance institutions' (MFIs) financial performance and size. Thus, the two most important determinants in the mission orientation of MFIs are explained by operational costs. The uniqueness of this study lies in the methodology used to analyze MFIs, the construction of all indicators, and the use of regulatory environment variables and institutional development.(Ram'irez Rocha, Cervantes Zepeda, and Bernal Ponce 2019) There are independent factors that determine a bank's profitability, and some of these determinants have a significant influence on profitability, while others do not. It can be observed that macroeconomic variables have a lesser impact on determining bank profitability, whereas the GDP growth rate significantly influences bank profitability. Research that utilizes facts and figures shows that private banks outperform state banks.(RAJU, 2021)

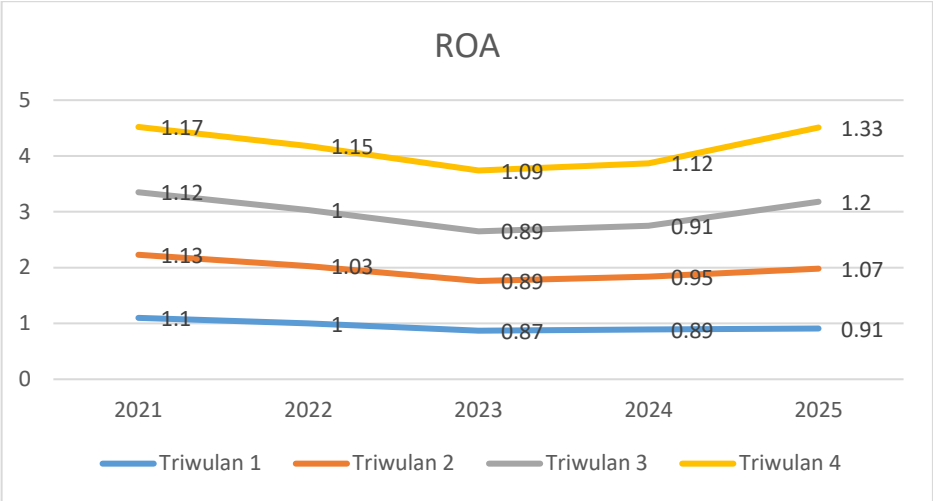
This profitability is measured as net income relative to total assets, increasing with marketing efforts. Bank managers can learn the strengths and weaknesses of marketing strategies and better coordinate marketing resources used in different business areas. This research guides bank managers in investigating weaknesses in their marketing management.(Chen, 2020) The impact of the National Bank of Economic and Social Development (BNDES) on commercial banks' assets and capital profitability. The increase in BNDES' asset holdings harms the profitability of private banks, but he said it will not impact the profitability of state-owned banks. Additionally, revenue channels from loans and private banking services were negatively impacted by BNDES' expansion, whereas trading revenues were positively affected. Regarding spending, the higher the BNDES, the higher the financial intermediation burden on state-owned banks, and the lower the operating burden on private banks.(Garcia & Meurer, 2022)

The market structure of Indonesia's non-life insurance industry and the impact of market share, operating expenses to operating Income (OEOI), and debt ratio (DR) to profitability as measured by return on assets (ROA). Based on panel data analysis, BOPO variables significantly negatively influence company profitability. Furthermore, the variable debt ratio significantly negatively influences the profitability of non-life insurance companies in Indonesia. Company efficiency can increase profits compared to controlling market share.(Ahmad, Habibah, and others, 2021)

The difference between sales and operating income is an indicator used to measure business performance, and we use the difference between operating cash flow and operating income as a measure of operating cash flow. There is no significant relationship between the working capital management component and financial performance and operating cash flow. Net profit represents a company's financial position change resulting from its decisions to conduct revenue-generating operations over time. Net revenue is revenue minus expenses because a company cannot choose to engage in revenue-generating activities without incurring costs. For ease of understanding, costs are often categorized into separate sections. The value obtained by subtracting the cost of goods sold from sales is equivalent to gross profit. Operating profit is gross profit minus operating expenses.(Sameni & Fakour, 2019)

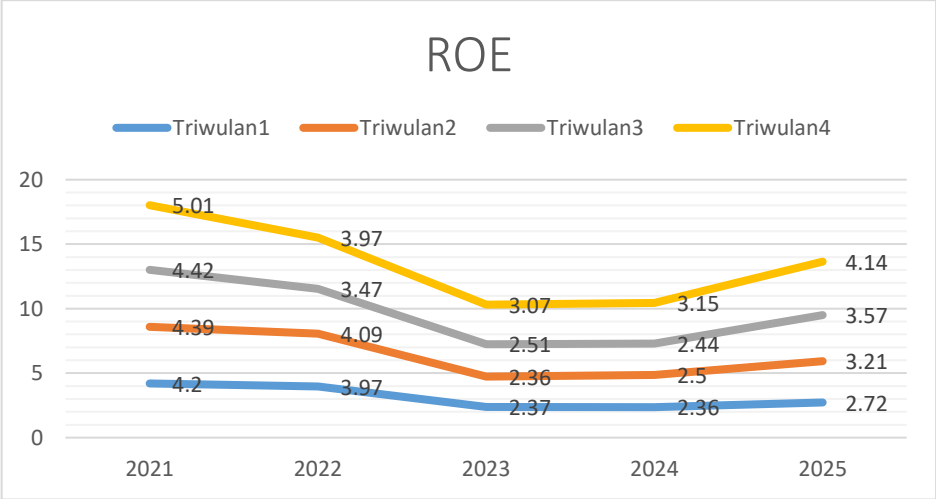
This increase can likely be attributed to a rise in non-interest Income and a decrease in operating expenses. In contrast, the impact on public banks is insignificant. High borrowing rates have led some countries, such as Kenya, to impose interest rate caps, only to subsequently lift them. Other countries, such as Uganda, are considering a rate cap but have delayed making a decision. The study may be the first to examine the effect of changes in interest rate regulations on the financial performance of countries in the East African region. (Ngaruiya et al., 2022) .

Gambar 1. Return On Asset (ROA) Bank BCA Sharia Periode 2021-2025



Based on Table 1 above, it is explained that Bank BCA Sharia's ROA has unstable asset growth. According to annual data, 2021 experienced a wear of 1.2%, and 2022 also experienced the same at 1.2%. However, in 2023, Bank BCA Sharia's profitability fluctuated, decreasing from 1.2% to 1.1%, and this trend continued in 2024. In 2025, there was a drastic increase in profitability, 1.3% higher than the previous year.

Figure 2. Return On Equity Bank BCA Sharia Period 2021-2025



The Operational Expenses to Operating Income (BOPO) ratio is often used to measure operational efficiency. It serves as a scale to determine a company's management capabilities in managing funds. (IBADIL & Haryanto, 2013) In its operational activities, Bank BCA Sharia will determine the level of company efficiency based on the impact of these activities on the level of Income achieved through profitability. (S. Sholihin, 2023). If efficiency in using operational costs results in increased profitability, and if Bank BCA Sharia does the opposite, it will harm its financial performance. Operating Costs and BOPO Operating Income at Bank BCA Sharia are collected from 2021 to 2025, as presented in Figure 2 below.

Figure 3. BOPO Bank BCA Sharia for the 2021-2025 Period

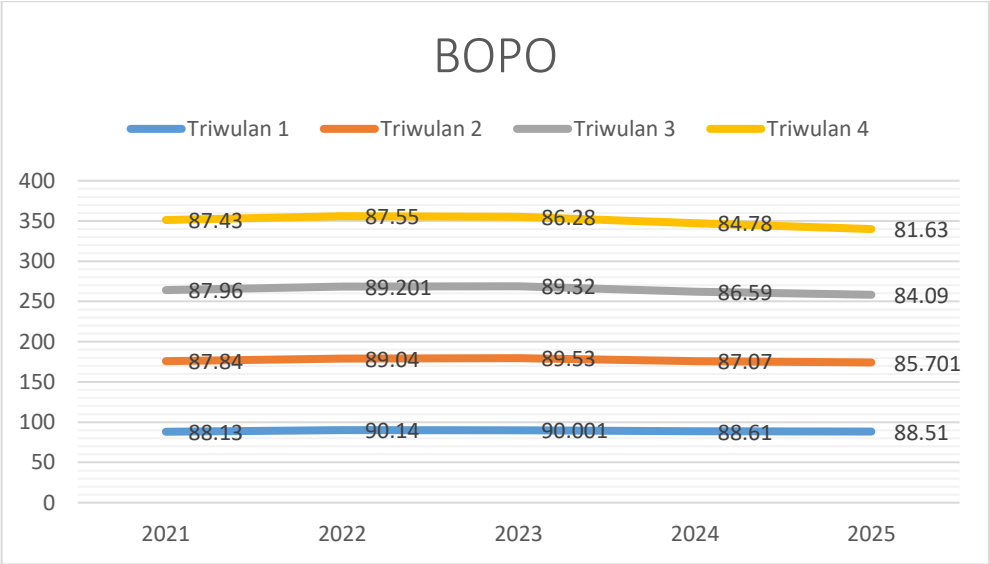


Figure 3 above describes that from 2021 to 2025, there was instability. There are fluctuations sharia in Operational Expenses To Operating Income (BOPO), which continuously shows that Bank BCA uses inconsistent operational costs, this will have an impact on the company's financial performance in obtaining profitability, which is allegedly Bank bca sharia's expenditure which is not optimal with an uneven average increase based on the percentage in 2021 which is 87.2% and in 2022 it increased by 87.4% and in 2023 it increased again by 87.6%. 2024 there was a significant decrease of 84.8%; now, in 2025, it decreased again to 81.6%. Per year, the figure fluctuates significantly in expenditure, which cannot necessarily balance the income received by Bank BCA Sharia. According to the state, BOPO affects profitability, where the higher the cost of expenses incurred by banks, the lower the profit will be, and it can even be fatal, namely, the budget deficit. Meanwhile, according to (Yuliana and Listari, 2021), The smaller costs incurred will have a positive effect on profitability growth because expenses that can be minimized will minimize the risk of Bank BCA Sharia.

Previous research related to Sustainable Profitability Against Operating Expenses Operating Income (BOPO) in Bank Development, namely (Prihatna et al., 2021) Explained that the strategic role of rural banks in the BPR Blueprint states that most micro and small entrepreneurs and people in rural and suburban areas do not have access to banking and financial services in terms of loans and deposits. The right and strategic financial institution to serve regional needs is BPR. According to Anggraini, Rahmani, and Harahap (2023), the Capital Adequacy Ratio (CAR) has a slight positive influence on the Financial Sustainability Ratio (FSR). Sometimes, BOPO negatively and significantly impacts the Financial Sustainability Ratio (FSR). In some cases, the Net Core Operating Margin (NCOM) can positively and significantly impact the Financial Sustainability Ratio (FSR). The relationship and contribution of BOPO, Capital Adequacy, and Financing Musharakah variables, whether considered simultaneously or separately, yield the same results: inter-mediated and related.(Wardoyo et al., 2020) Capital adequacy ratio, non-performing financials, and operating expenses simultaneously affect profitability. In part, the capital adequacy ratio does not directly impact profitability, and problematic finances do not necessarily hurt profitability. While operating expenses reduce operating Income, they hurt profitability.

Furthermore, a bank's financial performance represents its financial condition over a specific period, typically involving fundraising or the allocation of funds, which is usually assessed through several indicators, such as capital adequacy, liquidity, and bank profitability. In the banking industry, profitability is the most accurate measure of a bank's performance. The instruments used to measure profitability are Return on Equity (ROE) and Return on Assets (ROA). The study results (Sapiri & Putra, 2023) explain that Banks must minimize the BOPO ratio, as it negatively influences ROA. Then (Susanti, Putra, and Bahtiar 2023) & (Adhitya & Sembel, 2020). These findings are crucial for banks to accelerate technology adoption and increase their competitiveness against competitors, thereby adapting to an ever-changing market. In contrast to the paper that will be examined next, this author focuses on Return on Assets (ROA) and Return on Equity (ROE) in relation to Operating Expenses and Operating Income (BOPO), which are considered key growth factors and challenges in measuring sustainability and profitability in Islamic banking.

This paper aims to examine the growth and development of Bank Central Asia Sharia by analyzing the ratio of Return On Assets (ROA) and Return On Equity (ROE) to Operating Expenses and Operating Income (BOPO) contained in the financial statements of Bank Central Asia Sharia for the quarterly period. As seen from the results above, the report will determine the growth and development of an Islamic bank. Fluctuating benefits from year to year increase and decrease due to certain factors. This study is expected to contribute to developing policies that enhance Islamic banks' governance and financial reporting in Indonesia, specifically Bank Central Asia Sharia,

thereby improving the Company's competitiveness in overcoming obstacles that hinder declining revenue at Bank Central Asia Sharia.

LITERATURE REVIEW

Operating Expenses to Operating Income (BOPO)

Experts have several definitions of the BOPO ratio. Among them, according to Rivai et al. (2013: 480), the BOPO ratio compares operating expenses and operating Income to measure the level of efficiency and the ability of banks to carry out their operations. The smaller the BOPO ratio, the better, because the bank concerned can cover operating expenses with its operating Income. The standard ratio of operating expenses to operating Income (BOPO), as per Bank Indonesia Circular Letter Number 6/23/DPNP dated May 31, 2004, is 94%-96%. The BOPO ratio formula is: BOPO = Operating Expenses ÷ Operating Income × 100%.(Kurniasari, 2017)

Components of Operating Costs and Operating Income (BOPO) The complete components of Income and operating expenses, according to Kasmir, are as follows: 1. Interest Income, which includes all bank Income in the form of savings in rupiah and foreign exchange (forex) generated through operational activities. This post also includes income in commissions and provisions received for providing credit. 2. Interest expense, this post includes all expenses paid by banks in the form of interest expenses in rupiah and foreign currencies to residents and non-residents. This post also includes commissions and provisions paid by banks in the form of loan provisions. 3. Other operating Income: This post includes other operating Income from residents and non-residents, consisting of provision Income, foreign exchange transaction Income, and securities value increase Income. 4. Expense (Income) write-off of productive assets 5. This post outlines the estimated expense of loss of commitment and consequence, including depreciation, amortization, and write-off of administrative account transactions. 6. Other operational expenses: This post contains all expenses incurred by the bank to support its operational activities.(Fitriyani, 2019)

$$BOPO = \frac{Operating\ Costs}{Operating\ Income} X100\%$$

Meanwhile, according to Mujiana (2020), income and expenses are as follows: 1. Bank income consists of: a. Interest yield, which is interest income from loans provided and bank plantings, b. Provision and Commission is bank Income that will be received and recognized as Income when the bank approves the credit. c. Income on Foreign Exchange Transactions is Income derived from exchange rate differences. d. Other Operating Income, namely other Income, is a direct result of other activities that are bank operations that are not included in the above Income account, such as dividends received from shares. e. Non-operating Income is a type of Income generated from activities that are not part of the bank's core business. f. Extraordinary Income is profit received suddenly or never foreseen. g. Past Correction, namely correction of errors in the financial statements of the past period stemming from miscalculation or improper application of accounting principles, failure to record a transaction, and errors of a mathematical nature. h. The Cumulative Effect of Changes in Accounting Principles is the difference between the amount of retained earnings at the beginning of the change period and the amount of retained earnings that should have been reported if the new accounting principles had been applied for the entire period affected. 2. Bank Expenses consist of: a. Interest Cost, which is the interest cost of funds owned by the bank. b. Foreign Exchange Fees, arising from foreign exchange losses. c. Overhead Costs are expenses banks incur that have no benefit in future periods. These costs include expenses related to employees, depreciation of fixed assets, office operating costs, and other costs incurred or related to the financial reporting period. d. Employee Costs, namely, all costs incurred by the bank to finance its employees. Depreciation Cost is an allocation of costs charged into the Income statement according to criteria or based on time. f. Non-operating costs are unrelated to the bank's main activities, such as losses from the sale of fixed assets. g. Extraordinary Expenses, namely costs whose occurrence is abnormal or unrelated to the company's activities and do not occur often or will not be repeated in the future. h. Past Correction, if there has been a miscalculation, improper accounting principle error, failure to record a transaction, etc., Income Tax.

Profitability

Profitability is the basis of the relationship between operational efficiency and the quality of services produced by a bank. Profitability is a specific measure of a bank's performance, where the goal of company management is to maximize shareholder value, optimize various levels of return, and minimize existing risks. (Adyani and Sampurno 2011). The profitability ratio is a measure used to assess a company's overall management effectiveness, as indicated by the amount of profit it earns. The profitability ratio is considered the most valid tool for measuring a company's operational results, as it compares various investment alternatives based on risk levels. The greater the investment risk, the higher the expected profitability is likely to be. The purpose of a bank's profitability analysis is to measure the level of business efficiency and profitability achieved by the bank concerned. (Hijriyani and Setiawan 2017). The company's management expects a high net profit before tax (earnings before interest, taxes,

depreciation, amortization, or EBITDA) because the higher the company's profit, the more flexible it is in carrying out its operational activities. Therefore, the company's EBT will increase if its financial performance improves. Profit before tax is the net profit from operating activities before tax. Meanwhile, the average total assets is the average volume of business or assets. (Putri et al., 2023).

Return on Asset (ROA)

ROA is a ratio that measures a bank's ability to generate profit and operate efficiently and thoroughly. According to Hery in (Amalia & Diana, 2022) It is stated that profitability is a ratio that can estimate a company's ability to generate profits from its business activities. This assumption suggests that the profitability ratio indicates how much the company generates profits from its activities. In determining the level of profitability, it can be proxied by the return on assets ROA as follows:

$$ROA = \frac{Profit\ After\ Tax}{Total\ Asset} X100\%$$

Return on Equity (ROE)

While the return on capital measures the return on all capital invested in an asset, the return on equity focuses solely on the equity component of the investment. It refers to the Income remaining for equity investors after debt service charges have been deducted from the equity invested in the asset. The accounting definition of return on equity (ROE) reflects this, which indicates the extent to which a company manages its capital (net worth) effectively, measuring the profitability of owners' investments in the company's capital or shareholders' equity. The higher the Return on Equity (ROE) ratio, the greater the profit growth. Return on Equity (ROE) measures the profitability of a company's capital, often referred to as a key indicator of business profitability. The higher the value, the higher the level of ROE of profit generated because additional working capital can be used to finance the company's operations which in the end can generate profits, Return On Equity (ROE) affects profit growth This is because the nature and pattern of investment made by the company is very appropriate so that all assets can be used efficiently so that profits are maximized. Additionally, Income generated from capital through debt can be used to cover capital costs (Heikal, Khaddafi, and Ummah).

$$ROE = \frac{Nrt\ Profit\ After\ Tax}{Total\ Equity} \text{x}100\%$$

Financial statements are prepared to provide company financial information to stakeholders (management, owners, creditors, investors, government, and other parties). A measure of profitability ratios allows analysts to evaluate a company's profits at a certain level of sales, assets, or an owner's investment. Owners, creditors, investors, management, and shareholders pay close attention to increasing profits because of the market's importance on earnings.(Ichsani & Suhardi, 2015).

Sustainability

Sustainability is a broad concept that addresses most aspects of the human world. (Beier et al., 2017). Sustainability is not limited to environmentalism but also involves preserving economic and social resources (Ford & Despeisse, 2016). The United Nations defines sustainability as a movement to ensure better and more sustainable well-being for all, including future generations, to address the enduring global problems of injustice, inequality, peace, climate change, pollution, and environmental degradation. Although sustainability is a relatively new concept, its roots are in enduring movements such as conservationism or socio-economic justice. (CaraDonna, Iler, and Inouye 2014). Sustainability has a rich literature, and academics have made significant contributions to conceptualizing and materializing the three pillars underlying environmental, economic, and social sustainability. (Kamble et al., 2018). Economic sustainability concerns long-term economic growth while preserving environmental and social resources. From this perspective, economic capital growth should not come at the expense of a natural or social capital decline. Thus, economic growth must not neglect the balance of natural resources, ecosystems, social welfare, and wealth distribution. Social sustainability recognizes and manages the positive and negative impacts of business, environmental, economic, and technological activities on humans. The ultimate goal of social sustainability is the creation of healthy and livable communities where everyone is protected from discrimination and has access to universal human rights and basic facilities such as security or health care. (Ghobakhloo, 2020)

METHODOLOGY

The type of research used is quantitative research. The comparative causal method is used to obtain an explanation of a problem related to the cause-and-effect relationship (Sugiyono, 2015). The data used in the

documentary data research, especially in the quarterly annual report, namely Operating Income and Operating Expenses (BOPO) by Bank BCA Syariah during the 2021-2025 vulnerable period, is collected through the official website. Relevance for Annual Reports: Annual and quarterly reports can provide consistent empirical data to analyze financial performance, corporate governance, or sustainability disclosures (Demir & Ucsak, 2025; Di Tullio et al., 2022). Quarterly data provides higher temporal resolution than annual reports, thus increasing model validity with more measurable data variability. (Goswami et al., 2023; Rouf & Al-Faryan, 2024). In the context of PLS-SEM, quarterly reports can be used as formative or reflective indicators that form latent constructs such as "Financial Performance," "Transparency," or "Corporate Sustainability. (Hair et al., 2011; Richter et al., 2016; Sarstedt et al., 2021).

Table 1. Variable Operational Definition

Variable	Defense	Ratio
ROA (X1)	Profitability in banking refers to a bank's ability to generate profits within a predetermined period (Lopes & Carvalho, 2021).	$ROA = \frac{Profit\ After\ Tax}{Total\ Asset} X100\%$
ROE (X2)	Return on Equity is also referred to as Return on Equity. This ratio assesses how much a company utilizes its resources to generate a return on equity. (Weidman et al., 2019).	$ROE = \frac{B}{EPS} x100\%$
BOPO (Y)	The Operating Efficiency Ratio compares a company's operating expenses and Income (Puteh et al., 2018).	$BOPO = \frac{Operational\ Costs}{Operating\ Income} X100\%$

To see the relationship between construction variables that contain elements of several variables and other variables to predict endogenous variables Profitability, exogenous variables Capital Adequacy Ratio, Operating Expenses, Operating Income (BOPO), and Financing to Deposit Ratio (FDR) for the period 2021 to 2025, utilize data analysis techniques using data analysis with the help of WarpPLS 7.0 software. PLS is a variant-based structural equation (SEM) analysis that can simultaneously test measurement models as well as structural models (Kock & Hadaya, 2018; D. R. M. Sholihin, 2013).

Research Model

Two model specifications must be met. First, the evaluation of the external model consists of convergent validity, discriminant validity, and composite reliability. Inner Models Have Goodness of Fit criteria that must be met as follows:

Table 2. Criteria Goodness of Fit

No	Model Fit and Quality Indices	Fit Criteria
1	Average path BOPOficient (APC)	P<0,05
2	Average R-squared (ARS)	P<0,05
3	Average Adjusted R-squared (AARS)	P<0,05
4	Average block VIF (AVIF)	acceptable if <= 5, ideally <= 3.3
5	Average Full Collinearity VIF (AFVIF)	acceptable if <= 5, ideally <= 3.3

The hypothesis test results consist of two main components: first, an analysis of the direct effect relationship is performed. This is done by looking at BOPOficient's direct influence path. The criteria to be met are p-values less than 0.05; Then it can be said that the results are significant, or the hypothesis is accepted. Second, by analyzing

the relationship of indirect effects. This is done by looking at the significant indirect influence of BOPOficient (axb); it can be said that profitability can mediate (Sholihin, 2013).

Hypothesis

From a review of the results of several previous studies that support the research, the hypotheses that will be proposed for further testing are as follows: The results show that Return on Assets (ROA) has a direct, significant, and adverse effect on BOPO (Operating Costs to Operating Income). These findings indicate that the higher the level of profitability of the company, which is reflected in the ability of the assets to generate net profit, the more efficient the operational cost structure is, as shown by the decrease in the BOPO ratio. Theoretically, the negative relationship between ROA and BOPO supports the efficiency *hypothesis* perspective in financial management and banking. The increase in ROA indicates that the company can use its asset resources optimally so that the operating income obtained is greater than the costs incurred. This has an impact on reducing the proportion of costs to operating income. Conversely, low ROA reflects the asset's low profit-making ability, which has implications for high operating expenses relative to revenue earned. The academic implication of these findings is that a company's profitability is important to determine operational cost efficiency. Thus, strengthening asset management strategies not only has an impact on increasing profitability but also on overall operational efficiency. The results indicate that Return on Assets (ROA) has a significant and negative direct effect on BOPO. This finding implies that an increase in profitability, as reflected by ROA, leads to improved operational efficiency, evidenced by a reduction in the BOPO ratio. The result is consistent with the efficiency hypothesis, whereby higher asset productivity reduces the relative burden of operational costs. (Almazari, 2014; Athanasoglou et al., 2008; Mulyaningsih et al., 2015; Sufian & Habibullah, 2009).

H_1 Return on Assets has a significant and negative direct effect on BOPO.

This study found that Return on Equity (ROE) has a direct, significant, and adverse effect on BOPO (Operating Costs to Operating Income). The findings show that the increase in the company's ability to generate profits based on its equity is correlated with a decrease in operating expenses relative to operating income. In other words, the higher the ROE achieved, the lower the BOPO ratio formed, so the company's operational efficiency will improve. Conceptually, this negative relationship reinforces the *efficiency hypothesis*, explaining that high profitability performance contributes to a company's ability to reduce the cost-to-revenue ratio. High ROE reflects management's effectiveness in optimizing shareholder equity to generate profits. This effectiveness generates greater operational revenue than the costs incurred, thus impacting the decline of BOPO. Conversely, when ROE is low, profitability weakens and the cost-to-revenue portion tends to increase. The academic implication of these results is that equity-based profitability is an important factor in determining operational cost efficiency. This shows that a value-enhancing strategy for shareholders increases investment attractiveness and contributes to the company's overall operational effectiveness. The analysis reveals that Return on Equity (ROE) has a direct, significant, and adverse effect on BOPO. This finding implies that higher returns to shareholders correspond with lower operating expense ratios, demonstrating that profitability strengthens operational efficiency. The result reinforces the efficiency hypothesis, highlighting that effective equity utilization leads to cost savings relative to income generation. (Athanasoglou et al., 2008; Mulyaningsih et al., 2015; Saona, 2016; Sufian & others, 2011).

H_2 Return on Equity directly, significantly, and adversely affects BOPO.

.

RESULTS and DISCUSSION

Evaluation of the Inner Model

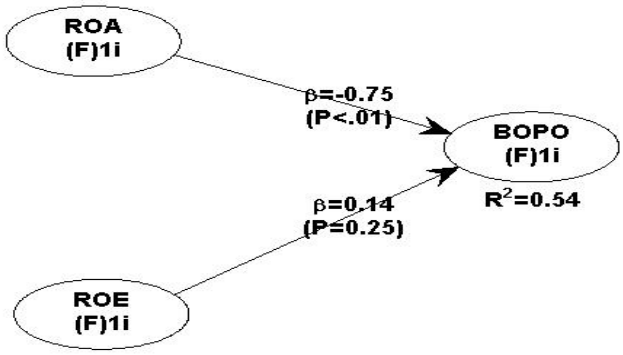
Model evaluation is done by assessing the model fit test (goodness of fit) to determine if a model is considered good. The goodness-of-fit criteria that must be met are APC, ARS, AARS, AVIF, and AFIF. (Hair et al., 2024; D. R. M. Sholihin, 2013). Based on Table 6, it is evident that the model has a good fit, as the goodness-of-fit criteria are met.

.

Table 3. Model Fit and Quality Indices

Model Fit	Index	P-value	Criterion	Information
APC	0.444	P=0.004	P<0.05	Good

			P=0.00		
ARS		0.539	1	P<0.05	Good
		0.048	P=0.00		
AARS	5		1	P<0.05	Good
AVIF		1.165		acceptable if <= 5, ideally <= 3.3	Ideal
AFVIF		1.267		acceptable if <= 5, ideally <= 3.3	Ideal



This illustrates the relationship between Return on Assets (ROA) and Book of Prizes (BOPO). The figure yields a negative path BOPO coefficient of -0.75 with a p-value of 0.01 or 0.05. This indicates a negative relationship between ROA and the increase in BOPO, with a contribution of 0.54, equivalent to 54%. ROA has a negative and significant effect on BOPO, with an influence of 54%. ROA against BOPO. The figure yields a positive path BOPO coefficient of 0.14 with a p-value of 0.25 or 0.05. This indicates a positive relationship between ROE and BOPO, with a contribution of 14%.

Table 4. Indirect and Total Effects

Indirect effects for paths with two segments			
	TWO PEOPLE	**ROE**	**BOPO**
TWO PEOPLE			
ROE			
BOPO			0.141
P-values of indirect effects for paths with two segments			
	TWO PEOPLE	**ROE**	**BOPO**
TWO PEOPLE			
ROE			
BOPO			0.250

Based on the analysis in Table 2, which examines whether ROA and ROE are at odds in the BOPO table, the results indicate that the influence of ROA variables has an adverse effect. ROE positively affects BOPO, with a P-value of 0.250 greater than 0.05.

Table 5. Latent Variable CBOPOficients

	ROA	**ROE**	**BOPO**
R-squared			0.893

Table 3 shows the R-squared for the variable Operating Expenses Operating Income is 0.893. This indicates that the contribution of the influence of ROA (X1) and ROE (X2) variables on Operating Costs and Operating Income is 89.3%. In comparison, other variables outside the research model and errors account for the remaining 10.7%.

DISCUSSION

The results of this study reveal several important insights into the relationship between the dimensions of Return on Assets and Return on Equity, as well as their impact on Operating Expenses and Operating Income. Return on Assets significantly impacts both Operating Expenses and Operating Income.(Jha & Dangwal, 2024). This is evident in the relationship between ROA and BOPO. The figure yields a negative path cBOPOficient of -0.75 with a p-value of 0.01 or 0.05. This has a negative ROA relationship with the increase in BOPO, with a contribution of 0.54, or 54%. To accept H1, it can be concluded that ROA has a positive and significant effect on BOPO, with an influence of 54**%.** This is based on the results of research. (A Kadim et al., 2017; Ho et al., 2023) This shows that profitability (ROA), the ratio of operating expenses to operating income (BOPO), has a significant positive effect.

Return on Equity has a significant effect on Operating Expenses and Operating Income. This results in a positive path coefficient of 0.14 with a P-value of 0.25 or 0.05. This indicates a positive relationship between ROE and BOPO, with a contribution of 14%. This results in a positive path coefficient of 0.14 with a P-value of 0.25 or 0.05. This indicates a positive relationship between ROE and BOPO, with a contribution of 14%. Therefore, it can be concluded that ROA has a positive and significant effect on BOPO, with an effect of 14%.(Karamoy & Tulung, 2020; Suryanto et al., 2022) The study's results indicated no difference in ROA for BOPO, which did not experience an adverse effect.

The results show that applying sustainability principles in Bank Central Asia (BCA) Sharia's operational strategy improves cost efficiency and long-term performance. Sustainability includes environmental, social, and governance (ESG) dimensions integrated into the sharia business model, resulting in *sustainability-driven efficiency.* (Rohendi et al., 2024).

First, from the environmental side, the reduction of resource-intensive activities (e.g., digitization of services and energy optimization) reduces the burden of operational costs while supporting *the green banking* agenda. (Appiagyei & Donkor, 2024). This efficiency is reflected in reducing the cost-to-revenue ratio (BOPO) without sacrificing service quality. Second, from the social dimension, applying the principles of Islamic financial inclusion and community empowerment programs supports increasing the customer base and loyalty.(Appiagyei et al., 2023). Efficiencies are created not only from cost management, but also from increased operating income due to broader and sustainable market expansion. Third, regarding governance, BCA Sharia's transparency and accountability strengthen stakeholder trust. This has implications for the stability of third-party funding sources, which ultimately reduces the *cost of funds* and increases banks' profit margins.

Theoretically, these findings are consistent with the *Resource-Based View (RBV)* approach, which emphasizes that unique resources such as sustainability reputation, digital technology, and strong governance can be *strategic capabilities* to achieve efficiency. In the context of Islamic banks, these findings also reinforce the *Maqashid Shariah theory,* which emphasizes the balance between profitability, social sustainability, and business blessings (Sheikh & Hussain, 2024). The academic implication is that sustainability-driven efficiency can be a strategic model for Islamic banks in responding to the challenges of the modern banking industry, especially amid the pressures of digitalization and global sustainability demands. The practical implication is that BCA Sharia can be a *benchmark* for other Islamic banks in integrating ESG principles with cost efficiency and growth strategies.

CONCLUSION

This study was conducted at BCA Sharia, examining the relationship between variables, including profitability, operating costs, and Operating Income, with analysis assisted by WarpPLS 7.0 software, yielding the following results. ROA has a negative and significant impact on BOPO, while ROE has a positive and significant impact on BOPO. These results reject the proposed hypothesis based on previous studies showing a negative and significant relationship and influence. This study, therefore, rejects the proposed hypothesis. The data test results indicate that BCA Sharia can optimize its operating costs and Income, thereby increasing profitability. BOPO is a measure for BCA Sharia in disbursing financing, which indicates that BCA Sharia can achieve maximum profitability from its financing activities. Based on the study's results, it is hoped that this research will enrich future studies on the

profitability of Islamic banking in Indonesia. This research is expected to provide theoretical scientific contributions to Islamic banking. For variables that are not widely prevalent, further research is recommended to measure the impact of health on Islamic banking, NPF, and NPL on company profitability, which can be proxied by the Return on Equity (ROE). This research also aims to serve as a reference for practitioners in determining Islamic banking strategies in Indonesia to maximize profit generation.

Implications, *Theoretical Implications*. This research provides several important theoretical implications in Islamic banking and sustainability management: Integration of Sustainability Theory with Operational Efficiency Theory. This study strengthens the understanding that sustainability is oriented to environmental and social dimensions and directly relates to operational efficiency. This confirms the relevance of the Triple Bottom Line Theory (economic, social, environmental) with efficiency management theory in Islamic banking. Enrichment of the Literature on Sustainable Islamic Banking. The theoretical implications of this study are the enrichment of literature related to sustainable Islamic banking by showing that sustainability practices align with sharia principles (maqashid al-shariah), especially in the aspects of justice, welfare, and social responsibility. Thus, sustainability can be positioned as a strategic instrument in the development of Islamic banks. Contribution to Stakeholder Theory and Legitimacy, The results of the study expand the application of stakeholder theory and legitimacy by emphasizing that the implementation of sustainability not only improves the bank's image in the eyes of the public but also contributes to increasing cost efficiency, product innovation, and more effective operations. A New Conceptual Model in the Sustainability–Efficiency Relationship. This research provides the basis for developing a conceptual model that explains the mechanism of the relationship between sustainability practices and operational efficiency. For example, through energy efficiency, digitization of services, and transparent governance, sustainability can directly or indirectly improve the operational performance of Islamic banks. Relevance in the Context of Emerging Markets. Theoretically, this study shows that the impact of sustainability on operational efficiency not only applies to global banks in developed countries but is also relevant in developing countries such as Indonesia. Thus, these findings extend the generalization of sustainability theory into the framework of Islamic banking in emerging markets.

Practical Implications for Islamic Banks, Conventional Banks, Regulators, and the State, For Islamic Banks: Improving Efficiency through Sustainability Practices. Islamic banks can integrate sustainability principles in daily operations, such as service digitalization, energy efficiency, and transparent governance, directly contributing to cost efficiency and service effectiveness. Market Differentiation: The implementation of sustainability can be a competitive differentiation factor that strengthens the image of Islamic banks as institutions that are not only sharia-compliant but also committed to social and environmental sustainability. Increasing Customer Trust. Consistent sustainability practices will increase public and investor trust, which aligns with the principles of *maqashid al-shariah* in safeguarding the welfare of the people. For Conventional Banks: Benchmarks for Sustainability-Based Efficiency Conventional banks can use Islamic bank practices as an example of how sustainability has a positive impact on operational efficiency, so that it can be adopted to improve internal processes. Green Product Innovation Opportunities: With the increasing trend *of green finance*, conventional banks can develop sustainable finance products, such as *green loans* or green bonds, to attract new market segments. Increasing Global Competitiveness: Implementing sustainability not only as *compliance* but also as an efficient operational strategy can increase the competitiveness of conventional banks at the regional and global levels. For OJK (Regulators and financial authorities): Regulations supporting sustainable Finance. The findings of this study provide a basis for OJK to strengthen the regulations and policies *of the Sustainable Finance Roadmap*, so that sustainability becomes a standard practice in the banking industry, with incentives for Sustainable Banks. The OJK can provide incentives in the form of regulatory relief, access to liquidity, or awards for banks that have proven successful in improving operational efficiency through sustainability practices. Performance Monitoring and Measurement. This research emphasizes the importance of sustainability indicators in bank performance measurement, encouraging transparency and accountability in the banking sector. For Emerging and Developed Countries: Knowledge Transfer and Best Practice. Developing countries can learn from BCA Sharia's experience in integrating sustainability with operational efficiency to replicate it according to the local context. Increasing the attractiveness of state investment that encourages sustainable practices in the banking sector can increase the confidence of global investors, especially in the capital market that focuses on environmental, social, and governance *(ESG).* Adaptation to the Global Agenda. These findings align with global agendas such as *the Sustainable Development Goals (SDGs),* which encourage countries to make the banking sector a driving force for sustainability.

Limitations and Future Research, Data limitations: This study only uses data from Bank Central Asia (BCA) Sharia in a specific period, so the findings cannot necessarily be generalized for all Islamic banks and conventional banks in Indonesia. Limited Variables The analysis focuses on the relationship between *sustainability* and operational efficiency. The research model does not fully consider other external factors, such as macroeconomic conditions, government regulations, and industrial competition. Sustainability Measurement The

sustainability indicators used are still limited to quantitatively measurable aspects, so they do not fully cover qualitative aspects such as organizational culture, religious values, and public perception. Geographical and Cultural Context The study was conducted in the Indonesian context, with specific characteristics of the Islamic banking system and local regulations, so the study results may be different if applied to countries with different banking systems or cultures. If using a quantitative approach, this study may overlook the deep dimensions of sustainability practices that can be explored through qualitative methods, such as interviews with management or comparative case studies. Future Research: Comparative Study. The subsequent research can be done to compare Islamic banks and conventional banks, both in Indonesia and other countries, to determine the difference in the impact of sustainability on operational efficiency. Expansion of Research Variables: Other variables, such as profitability, asset quality, customer loyalty, and digital innovation, should be added so that the relationship between sustainability and bank performance can be understood more comprehensively—mixed Methods Approach. Future research can combine quantitative and qualitative methods to measure performance statistically while understanding management, customers, and stakeholders' perceptions of sustainability practices. Long-Term Analysis Longitudinal studies are needed to look at the impact of sustainability on operational efficiency in the long term, not just in short periods. Global Perspective and ESG Future research can examine the relationship between the implementation *of Environmental, Social, and Governance (ESG)* and the performance of Islamic and conventional banks at the regional (ASEAN) and global levels. The role of Regulation and Policy Studies in the future can further examine how regulatory policies, such as OJK, Bank Indonesia, or international institutions, affect the effectiveness of sustainability implementation in improving bank efficiency.

ACKNOWLEGDMENT

Acknowledgments to all parties involved in this research. This study utilized SKUNDER data and will be further developed in my final project. The end is also completed thanks to the support of lecturers and friends willing to help and the Central Asia Sharia Bank, which has allowed us to utilize their data as a secondary source in this research. Again, thank you very much for your support.

FUNDING

No funding for this research.

Disclosure Statement

The authors reported no potential competing interests.

Data Availability

The data is available in the Scopus database. Data are available from the authors upon request.

REFERENCES

A Kadim, K., Yuli Zain, Y. Z., & Sumarjaya, S. (2017). Determinants of Cost Efficiency and Implications on Sharia Bank in Indonesia's Profitability in 2012-2016. International Journal of Economic Research, 14(16), 107–126.

Adhitya, A., & Sembel, H. M. R. (2020). Mobile banking technology adoption impacts big banks' financial and stock performance in Indonesia. South East Asia Journal of Contemporary Business, Economics and Law, 22(1), 63–73.

Adyani, L. R., & Sampurno, R. D. (2011). Analisis faktor-faktor yang mempengaruhi profitabilitas (ROA). Jurnal Dinamika Ekonomi Pembangunan, 7(1), 46–54.

Ahmad, A. A., Habibah, S. N., & others. (2021). Market Structure and Determinants of Firm Profitability in the General Insurance Industry in Indonesia. Studies in Business and Economics, 16(1), 26–41.

Almazari, A. A. (2014). Impact of internal factors on bank profitability: Comparative study between Saudi Arabia and Jordan. Journal of Applied Finance and Banking, 4(1), 125.

Amalia, D., & Diana, N. (2022). Pengaruh Biaya Operasional Terhadap Pendapatan Operasional (BOPO), Capital Adequacy Ratio (CAR), dan Financing to Deposit Ratio (FDR) Terhadap Profitabilitas (ROA) Pada Bank Bukopin Syariah Periode 2013-2020. Jurnal Ilmiah Ekonomi Islam, 8(01), 1095–1102.

Appiagyei, K., Djajadikerta, H. G., & Mat Roni, S. (2023). The impact of corporate governance on integrated reporting (IR) quality and sustainability performance: evidence from listed companies in South Africa. Meditari Accountancy Research, 31(4), 1068–1092.

Appiagyei, K., & Donkor, A. (2024). Integrated reporting quality and sustainability performance: Does firms' environmental sensitivity matter? Journal of Accounting in Emerging Economies, 14(1), 25–47.

Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific, and macroeconomic determinants of bank profitability. Journal of International Financial Markets, Institutions and Money, 18(2), 121–136.

Beier, G., Niehoff, S., Ziems, T., & Xue, B. (2017). Sustainability aspects of a digitalized industry--A comparative study from China and Germany. International Journal of Precision Engineering and Manufacturing-Green Technology, 4, 227–234.

CaraDonna, P. J., Iler, A. M., & Inouye, D. W. (2014). Shifts in flowering phenology reshape a subalpine plant community. Proceedings of the National Academy of Sciences, 111(13), 4916–4921.

Chen, K. (2020). The effects of marketing on commercial banks' operating businesses and profitability: evidence from US bank holding companies. International Journal of Bank Marketing, 38(5), 1059–1079.

Demir, S., & U\csak, M. (2025). Analyzing the Implementation of PLS-SEM in Educational Technology Research: A Review of the Past 10 Years. SAGE Open, 15(2), 21582440251345950.

Di Tullio, P., La Torre, M., Dumay, J., & Rea, M. A. (2022). Accountingisation and the narrative (re) turn of business model information in corporate reporting. Journal of Accounting \& Organizational Change, 18(4), 592–615.

Fitriyani, H. A. (2019). Pengaruh Net Profit Margin (NPM) Dan Biaya Operasional Pendapatan Operasional (BOPO) Terhadap Return On Assets (ROA)(Pada Perusahaan Transportasi Yang Terdaftar di Bursa Efek Indonesia Tahun 2013-2015). Jurnal Bisnis \& Akuntansi Unsurya, 4(2).

Garcia, A. S., & Meurer, R. (2022). Effects of a development bank on the profitability of commercial banks: Evidence for Brazil. The Quarterly Review of Economics and Finance, 85, 246–259.

Ghobakhloo, M. (2020). Industry 4.0, digitization, and opportunities for sustainability. Journal of Cleaner Production, 252, 119869.

Goswami, R., Maji, S. G., & Hussain, F. (2023). Annual report readability and agency cost: the influence of firm size. Business Perspectives and Research, 22785337221148830.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed, a silver bullet. Journal of Marketing Theory and Practice, 19(2), 139–152.

Hair, J. F., Sarstedt, M., Ringle, C. M., Sharma, P. N., & Liengaard, B. D. (2024). Going beyond the untold facts in PLS--SEM and moving forward. European Journal of Marketing, 58(13), 81–106.

Hijriyani, N. Z., & Setiawan, S. (2017). Analisis Profitabilitas Perbankan Syariah di Indonesia sebagai Dampak Dari Efisiensi Operasional. Jurnal Kajian Akuntansi, 1(2).

Ho, T. T., Tran, O. K. T., & Van Nguyen, D. (2023). A BAYESIAN ANALYSIS OF DETERMINANTS OF NET INTEREST MARGINS OF COMMERCIAL BANKS IN VIETNAM. Advances in Business-Related Scientific Research Journal, 14(1).

IBADIL, M. M., & Haryanto, A. M. (2013). Analisis Pengaruh Risiko, Tingkat Efisiensi, Dan Good Corporate Governance Terhadap Kinerja Keuangan Perbankan (Pendekatan Beberapa Komponen Metode Risk Based Bank Rating SEBI 13/24/DPNP/2011)(Studi Kasus Pada Bank Umum Yang Terdaftar Di BEI Periode 2008-. Fakultas Ekonomika dan Bisnis.

Ichsani, S., & Suhardi, A. R. (2015). The effect of return on equity (ROE) and return on investment (ROI) on trading volume. Procedia-Social and Behavioral Sciences, 211, 896–902.

Jha, S., & Dangwal, R. C. (2024). Determinants of investment-related FinTech services among retail investors of India: a multi-group analysis using PLS-SEM. Journal of Modelling in Management, 19(5), 1719–1747.

Kamble, S. S., Gunasekaran, A., & Gawankar, S. A. (2018). Sustainable Industry 4.0 framework: A systematic literature review identifying the current trends and future perspectives. Process Safety and Environmental Protection, 117, 408–425.

Karamoy, H., & Tulung, J. E. (2020). The impact of banking risk on regional development banks in Indonesia. Banks and Bank Systems, 15(2).

Kock, N., & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods. Information Systems Journal, 28(1), 227–261.

Kurniasari, R. (2017). Analisis Biaya Operasional Dan Pendapatan Operasional (BOPO) Terhadap Return On Assets (ROA). Perspektif: Jurnal Ekonomi Dan Manajemen Akademi Bina Sarana Informatika, 15(1), 71–78.

Lopes, F. C., & Carvalho, L. (2021). Intangible assets and business performance in Latin America. RAUSP Management Journal, 56(4), 408–424.

Mulyaningsih, T., Daly, A., & Miranti, R. (2015). Foreign participation and banking competition: Evidence from the Indonesian banking industry. Journal of Financial Stability, 19, 70–82.

Ngaruiya, J., Obi, P., & Mathuva, D. (2022). The Effect of Interest Rate Regulation Changes on Banks' Financial Performance in Kenya. International Workshop on Enterprise Applications, Markets and Services in the Finance Industry, 68–81.

Prihatna, N., Rahman, S., Anwar, M., & Herwany, A. (2021). Sustainable Operating Efficiency and Profitability of the Rural Bank in West Java, Indonesia. ITALIENISCH, 11(2), 140–152.

Puteh, A., Rasyidin, M., & Mawaddah, N. (2018). Islamic banks in indonesia: Analysis of efficiency. In Proceedings of MICoMS 2017 (pp. 331–336). Emerald Publishing Limited.

Putri, C. Y., Pane, J., Erika, F. S., Polem, I., & Fitriani, K. (2023). Pengaruh Adopsi International Financial Reporting Standard (IFRS) Terhadap Return On Assets (ROA)(Studi Pada PT. Bank BRI syariah Tbk Tahun 2018-2022 Yang Terdaftar Di Bursa Efek Indonesia (BEI). Materialitas, 1(1), 1–9.

RAJU, M. A. (2021). Determinants of Banks' Profitability: An Empirical Study on Select Indian Public and Private Sector Banks. Finance India, 35(2).

Ram'irez Rocha, A., Cervantes Zepeda, M., & Bernal Ponce, L. A. (2019). Factores determinantes de alcance y rentabilidad en las IMF: una aproximación con ecuaciones estructurales. Revista Mexicana de Econom{\'\i}a y Finanzas, 14(1), 129–146.

Richter, N. F., Cepeda, G., Roldán, J. L., & Ringle, C. M. (2016). European management research using partial least squares structural equation modeling (PLS-SEM).

Rohendi, H., Ghozali, I., & Ratmono, D. (2024). Environmental, social, and governance (ESG) disclosure and firm value: the role of competitive advantage as a mediator. Cogent Business \& Management, 11(1), 2297446.

Rouf, M. A., & Al-Faryan, M. A. S. (2024). Does corporate governance affect environmental reporting? PSU Research Review, 8(2), 514–527.

Salim, U., Indrawati, N. K., & others. (2021). Bankruptcy risk of Shariah banks in Indonesia. Academy of Strategic Management Journal, 20(3), 1–7.

Sameni, A. A., & Fakour, R. (2019). The Effect of working capital management on financial performance and operational cash flows of companies accepted in Tehran Securities Exchange. Humanities \& Social Sciences Reviews, 7(6), 625–632.

Saona, P. (2016). Intra-and extra-bank determinants of Latin American Banks' profitability. International Review of Economics \& Finance, 45, 197–214.

Sapiri, M., & Putra, A. H. P. K. (2023). Causality of Bank Financial Performance, Green Bond, CSR, Green Financing Portfolio, and CO2 Emissions in Transportation: Evidence from Indonesia.

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In Handbook of market research (pp. 587–632). Springer.

Sheikh, R., & Hussain, K. (2024). Reimagining Islamic banking in the light of Maqasid Shariah. Qualitative Research in Financial Markets.

Sholihin, D. R. M. (2013). analisis SEM-PLS Dengan Warppls Untuk Hubungan Non Linear Dalam Penelitian Sosial Dan Bisnis. Penerbit ANDI.

Sholihin, S. (2023). Analisis Dampak Penetrasi Pembiayaan Fintech Lending \& Market Power Industri Perbankan Syariah Terhadap Profitabilitas Serta Stabilitas Bank Umum Syariah. Universitas Islam Indonesia.

Sufian, F., & Habibullah, M. S. (2009). Bank-specific and macroeconomic determinants of bank profitability: Empirical evidence from the Chinese banking sector. Frontiers of Economics in China, 4(2), 274–291.

Sufian, F., & others. (2011). Profitability of the Korean banking sector: Panel evidence on bank-specific and macroeconomic determinants. Journal of Economics and Management, 7(1), 43–72.

Suryanto, S., Muhyi, H. A., Kuirniati, P. S., & Mustapha, N. (2022). Banking financial performance in the industry in the financial technology era. Journal of Eastern European and Central Asian Research (JEECAR), 9(5), 889–900.

Susanti, Putra, R., & Bahtiar, M. D. (2023). Banking performance before and during the COVID-19 pandemic: Perspectives from Indonesia. Cogent Economics \& Finance, 11(1), 2202965.

Waoma, S., Izmuddin, I., Judijanto, L., & others. (2024). Perceptual Mapping Marketplace TikTok Shop, Tokopedia, Shopee, Lazada, Blibli: Positioning Marketplace Based on Indonesian Online Shopper Preferences. Journal of Ecohumanism, 3(4), 2726–2737.

Waoma, S., Judijanto, L., Izmuddin, I., Wati, F. S., & others. (2024). A Bibliometric Analysis of Halal Production in Relation to Halal Authentication (Database Scopus 2013-2023). Revista de Gestão Social e Ambiental, 18(6), e05425--e05425.

Wardoyo, D. U., Kristanti, F. T., & Oktavianta, M. (2020). The Effect of Capital Adequacy Ratio (CAR), Non-Performance Financing (NPF), and Operational Costs of Operating Revenue (BOPO) on The Profitability of Islamic Commercial Banks in Indonesia For The Period 2016-2020. Seybold Rep, 1484–1499.

Weidman, S. M., McFarland, D. J., Meric, G., & Meric, I. (2019). Determinants of return-on-equity in USA, German, and Japanese manufacturing firms. Managerial Finance, 45(3), 445–451.

Yuliana, I. R., & Listari, S. (2021). Pengaruh CAR, FDR, Dan BOPO Terhadap ROA Pada Bank Syariah Di Indonesia. Jurnal Ilmiah Akuntansi Kesatuan, 9(2), 310–330. https://doi.org/10.37641/jiakes.v9i2.870.

.

