

The Effect of Sustainable Finance, Intellectual Capital, and Investment Opportunity Set on Financial Performance

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Received : 30 October - 2024

Accepted : 23 November - 2024

Published online : 25 November - 2024

Abstract

The objective of this research is to examine the impact of sustainable finance, intellectual capital, and investment opportunity on the financial performance of 34 banking firms listed on the Indonesia Stock Exchange. Data from the years 2018 to 2022 were utilized for this study. Purposive sampling was employed as the sampling method. The required data was gathered from annual reports accessible on the websites of the respective companies. Panel data regression was utilized for data analysis. The initial hypothesis testing revealed that sustainable finance did not notably impact the financial performance of banking firms listed on the Indonesia Stock Exchange. Contrarily, the subsequent tests showed that environmental performance and investment opportunity set had a beneficial and significant influence on the financial performance of these banking companies.

Keywords: Financial Performance, Sustainable Finance, Investment Opportunity Set, Environmental Performance.

1. Introduction

In today's globalized world, with free trade agreements in place, every nation must be ready to confront intense competition in the business sector. The globalization of world trade is evident through the involvement of organizations like the World Trade Organization (WTO) on a global scale and the ASEAN Free Trade Area (AFTA) on a regional scale. International cooperation will bring Indonesia into contact with regional free trade blocs, including the ASEAN Economic Community (AEC) which is set to be implemented in 2015. AEC 2015 is a collaboration between Southeast Asian countries with the aim of improving the economy of each country (Liu et al., 2022). Hence, to ensure stability and enhance productivity, organizations need to effectively manage all resources to sustain financial performance and overall company well-being. With these regulations, companies must be able to present information that is positive, both in front of investors and creditors as stakeholders and for the community with financial reports and social accountability reports containing planning, management and results of the company's achievements in a sustainable manner (Bakti & Nengzih, 2023). Financial reports as primary information for investors and creditors in assessing the company's financial performance have a decent value in managing their capital.

The financial success of a company is determined by its accomplishments over a specific time period and is indicative of the company's overall well-being. Financial performance is a business result that represents an increase in financial value and sustainability assessment as evidence of good management (Fatimah & Setiany, 2023). For banking companies, with the



existence of policy regulations provided by the financial services authority (OJK) in implementing financial accountability as one of the drivers of a sustainable national economy, they have an obligation to be transparent in providing information on financial performance for investors and the community that is integrated in realizing a just and environmentally friendly economic system in accordance with the paradigm of economic development.

The banking sector, which acts as a creditor for companies in other sectors and for the community, must be able to have clear, precise financing plans and programs that provide the best guarantees in realizing the company's goals. For companies, governance and audit management do not only have the task of disclosing financial information. But it must also be able to disclose non-financial information that motivates investors and stakeholders. The presentation of plans, programs and achievements that have been realized by the company both financially, economically, socially and environmentally is known as Sustainable finance (Wenni Anggita et al., 2022). According to Nugraha et al. (2022), sustainable finance is about considering ESG factors during investment decision-making in the financial industry, with a focus on both enduring investments and eco-friendly economic projects. This includes considering environmental factors like addressing climate change and social factors such as relationships with stakeholders, workforce management, and human rights (Shome et al., 2023). All of these aspects require planning and costs in order to realize sustainable policies properly and efficiently for the use of these costs. If attention is solely placed on economic expansion to boost the economy, there will be consequences for the environment and societal fairness. The financial services authority's guidelines under POJK No. 51 of 2017 require banks to transparently report all financial activities in a responsible manner within the financial guidelines. The transition to a sustainable society can be significantly influenced by the financial sector, which has the power to shape markets and the business environment. Financial organizations have the potential to influence change outside of their own business practices. According to Rahi et al., (2022) and Al Amosh et al., (2023), sustainable finance represented by total ESG has been found to have a detrimental effect on financial performance indicators such as ROIC, ROE, and EPS. On the other hand, when looking at sustainable finance from a governance perspective (G), it has shown a favorable influence on the ROA value, which serves as a proxy for financial performance. Pham et al., (2021) stated that sustainable practices proxied by DJSI (Dow Jones Sustainability Index), GC (Global Compact), GRI (Global Reporting Initiative), CSRD (Corporate Social Responsibility Disclosure), RANK (Corporate Social Responsibility Ranking), RATE (Sustainable Growth Rate) and Assets have a significant effect on financial performance proxied by Tobin's Q, earning Yield, ROA, ROE and return on capital.

Management must be able to have good governance not only in financial use but also in showing progress in utilizing intangible assets from human, customer, and structural aspects in order to maximize high company performance and value (Citra et al., 2021). Reporting on these elements is a component of information about intellectual capital. Disclosure of this information as a stimulator for the company to fulfill its obligations in developing the utilization, capabilities of human resources, experience and information technology that can be a medium for mandatory disclosure or voluntary disclosure (sustainability report) has an impact on increasing financial performance (Meiriza et al., 2022). Accurate data on the success of intellectual capital will be influenced by various factors such as the environment, social issues, and corporate governance, all of which can affect a company's financial performance that has been inconsistent in results. The finance sector, particularly investors and financial institutions, aim to guarantee that their investments in the company are secure and yield superior results over the short, medium, and long run. According to Ousama et al.,

(2019), the financial success of Islamic banks in Gulf Cooperation Council (GCC) countries is influenced by their intellectual capital (IC). This enables these banks to comprehend how to effectively utilize their IC. Nevertheless, this research argues that structural capital (SC) does not play a major role in impacting financial outcomes. The diversity in how intellectual capital affects financial performance in the Islamic financial sector is noticeable in studies conducted by Dinaroe et al., (2019), that the impact of intellectual capital on the Islamic Financial Performance Index of Islamic banking is not very substantial. There are many factors that investors and companies take into account when deciding on investments and managing the company's profits. Investors will be more drawn to the company's skill in producing favorable long-term assets, increasing competition among competitors. One of the company's parameters provides opportunities for utilizing long-term assets as seen from the investment opportunity set value. Muslih & Aqmalia (2020) reveal that investment opportunity set (IOS) is a positive signal that the company has good revenue growth to be utilized in the future.

The sustainable finance program aims to boost funding levels and also enhance the strength and competitiveness of financial services institutions. The focus on enhancing resilience and competitiveness is driven by the belief that sustainable finance presents fresh opportunities for LJK to thrive and evolve in a more robust manner. The existence of OJK regulations as stated in POJK No. 51/POJK.03/2017 in its mission to realize a green economy in order to make the financial system more accountable and transparent through the obligation to cooperate in preparing a Sustainable Finance Roadmap for the banking sector. The goal of this plan is to outline the goals to be reached regarding sustainable finance in Indonesia in the near future (2015-2019) and distant future (2015-2024) for the financial industry overseen by OJK. It also aims to identify and create markers for enhancements in sustainable finance. The financial sector has great job opportunities and always has a prospect of sustainability, especially in improving people's welfare by contributing to increasing Indonesia's domestic gross income and other sectors through financing or capital facilities. In addition, banking has a minimum capital limit policy of 8% which is one of the indicators of the health of the banking sector in providing guarantees to fulfill its obligations and minimizing the risk of bankruptcy (Aharon & Yagil, 2019).

The involvement of companies to adopt the new concept of sustainable finance banking requires financial investment, the financial impact of which cannot be obtained in the short term. Regulations governing Financial Services Institutions (LJK) are essential in securing adequate funds for sustainable development and climate change initiatives. This is crucial in addressing social inequality, preventing environmental harm, preserving biodiversity, and promoting the efficient utilization of energy and natural resources. The OJK Banking Business Orientation Survey Results Report (SBPO) on the Banking Business Orientation (IBP) index in the second quarter of 2023 was recorded at level 68, increasing from level 56 in the first quarter of 2023. Likewise, the expectation index for banking performance in the second quarter of 2023 is optimistic with an IEK of 84, increasing from 73 in the first quarter of 2023. Optimism about banking performance is driven by expectations of increased credit distribution which has an impact on increasing banking profits and capital (OJK, 2023). Based on the phenomenon and issue of financial sector performance in helping Indonesia's economic growth and the realization of obligations and volunteerism in implementing transparency for stakeholders, a study is needed that can provide empirical evidence so that financial institutions such as banks that have realized sustainable finance as part of their policies and utilization of intellectual models and the large ability to generate long-term investment opportunities in convincing investors will have a good or bad influence on improving the company's financial performance, especially in banks listed on the Indonesia Stock Exchange.

2. Theoretical Review

2.1. Agency Theory

According to agency theory, businesses are legally required to prioritize the interests of shareholders to enhance wealth and provide incentives. Shareholders expect companies to focus on projects that generate maximum profits and minimize costs to benefit them (Jensen & Meckling, 1976). The company's objective is to optimize its efficiency through this process. According to Bacha & Ajina, (2019), to reduce conflicts of interest, agents must take into account the reliability of the principal through financial statements audited by external auditors to provide assurance from material misstatements, thus ensuring that the financial statements can be used by stakeholders to analyze business operations. This conflict of interest is an information asymmetry where there is an imbalance in the collection of information between management as an information provider with shareholders and stakeholders as information providers.

2.2. Stakeholders Theory

Stakeholder theory is focused on how a company interacts with various groups and individuals to create mutually beneficial outcomes, whether it be shareholders, creditors, employees, consumers, suppliers, government, or society (Febrina & Setiany, 2021). Companies aim to prioritize the increase of shareholder value, particularly when considering short-term outcomes. Companies must fulfill the needs of various stakeholders, including employees, customers, suppliers, donors, communities, government agencies, political groups, professional associations, unions, and others, not just shareholders (Rahi et al., 2022).

2.3. Previous Research

2.3.1. The Impact of Sustainable Finance on Financial Performance

The financial industry has the ability to significantly contribute to the shift towards a more sustainable community by affecting markets and the corporate environment. Furthermore, particular banks have the capability to drive transformation outside of their own activities. According to Rahi et al., (2022) and Al Amosh et al., (2023), the relationship between sustainable finance represented by total ESG and financial performance measured by ROIC, ROE, and EPS values has a detrimental effect. Nevertheless, when it comes to sustainable finance in terms of governance, it has a beneficial effect on the return on assets (ROA) value, which serves as an indicator of financial performance.

H₁: Sustainable Finance has a crucial influence on the financial performance of banking institutions listed on the Indonesia Stock Exchange.

2.3.2. The Influence of Intellectual Capital on Financial Performance

According to Fatimah & Setiany (2023), companies aim to enhance their long-term sustainability in the market through increasing their financial performance in order to boost their overall value. This is crucial for offering the highest possible returns to shareholders through an increase in stock prices, which reflects the company's intellectual capital and overall success.

Intellectual capital, a valuable intangible resource, is essential for improving company efficiency and adding worth. Disclosure of the growth in intellectual capital in the annual report offers investors reliable and valuable data to base their decisions on. Orens, Aerts, & Lybaert state that knowledge about intellectual capital is crucial for understanding a

company's performance and plays a significant role in enhancing its overall value. Intellectual capital is made up of three pivotal components in a company - human capital, structural capital, and relational capital - with the important aspect being its efficient application (Nurul Aida & Rahmawati, 2015).

According to Yuliana & Utami (2022) and Antonius & Ida (2023), intellectual capital is crucial in improving financial results by efficiently utilizing and managing the resources of a company. By skillfully developing intellectual capital, businesses can gain a competitive advantage and achieve sustained success in the long run. According to Ousama et al., (2019), Islamic banks' financial performance is influenced by intellectual capital.

H₂: Intellectual capital has a significant influence on financial performance in banking companies on the Indonesia Stock Exchange

2.3.3. The Influence of Investment Opportunity Set (IOS) on Financial Performance

The availability of investment in the future, or better known as Investment Opportunity Set (IOS) is considered a factor that influences financial performance. IOS offers investment opportunities that are crucial in the realm of corporate finance theory, taking into account the assets held by the company. These investment opportunities have implications for the company's capital structure, dividend policy, and overall performance (P Carolina et al., 2022). In accordance with the description above, a hypothesis is proposed to be proven, namely:

H₃: Investment Opportunity Set (IOS) has a significant influence on financial performance in banking companies on the Indonesia Stock Exchange.

3. Methods

3.1. Population & Sample

This research is classified as quantitative as it seeks to demonstrate and assess the impact created by the research variables under consideration (Hair et al., 2019). The focus of this study is on all banking companies that are publicly traded on the Indonesia Stock Exchange between the years 2018 and 2022. The study specifically looks at a subset of 34 banking companies listed on the Indonesia Stock Exchange during the same time frame. The method of selecting these companies was purposive sampling, which involved setting specific criteria to narrow down the selection pool to include only those banking companies with comprehensive data relevant to the variables being analyzed. The banking companies selected as samples are banks that have complete annual reports from 2018 to 2022, and conducted an initial public offering (IPO) before 2018 and did not delist throughout the observation years used.

3.2. Operational Definition and Measurement of Variables

In this research, the research variables consist of financial performance, sustainable finance, intellectual capital and investment opportunity set. The description of each of the variables above is as follows:

3.2.1. Financial Performance

According to Sartono (2016) in this investigation, the focus is on assessing a company's financial accomplishments over a specific timeframe through the effective use of its financial assets. The metric used to gauge financial performance is the return on assets (ROA), which is calculated as:

$$ROA = \frac{Net\ Profit}{Total\ Assets} \times 100\%$$

3.2.2. Sustainable Finance

According to Brigham & Houston (2017), successful financial results are attained by a business through the effective use of its financial assets during a specific timeframe. This study uses return on assets (ROA) as a measure for assessing financial effectiveness, with the formula being outlined as follows.

$$SDRI = \frac{Number\ of\ Company\ Disclosures}{Total\ Disclosure\ GRI\ 2016\ (136)} \times 100\%$$

3.2.3. Intellectual Capital

Intellectual capital is the worth found in an organization's knowledge, skills, experience, and other intellectual assets. The measurement of value added intellectual capital is used as an indicator because it provides an overview of how effective the organization is in managing and using its intellectual assets to create added value (Setiany et al., 2020). In order to determine the worth of intellectual assets, the Value Added Intellectual Capital equation is applied in the following manner:

$$VAIC^{TM} = VACA + VAHU + STVA$$

Before creating the equation above, it is necessary to first look for the attributes that form the equation, namely as follows:

$$VA = OUT - IN \dots\dots\dots (Equality\ 1)$$

$$VACA = \frac{VA}{CE} \dots\dots\dots (Equality\ II)$$

$$VAHU = \frac{VA}{HC} \dots\dots\dots (Equality\ III)$$

$$STVA = \frac{SC}{VA} \dots\dots\dots (Equality\ IV)$$

Information

VA = Value Added

OUT = Output (total revenue to total sales)

IN = Input (total amount of expenses other than employee expenses)

VACA = Value added capital employed

CE = Invested Capital Employed (Total Equity)

VAHU = Value added human capital

HC = Human capital yang diinvestasikan (total beban karyawan)

STVA = Structural capital value added

SC = Structural capital yang diinvestasikan (VA-HC)

3.2.4. Investment Opportunity Set

According to Muslih & Aqmalia (2020), the concept of Investment Opportunity Set involves making decisions regarding various assets currently owned and potential future investment opportunities that have a positive net present value, ultimately affecting the company's overall value. The equation used to calculate IOS is:

$$CAPX = \frac{Capital\ Expenditure}{Net\ Value\ of\ Property\ Plant\ \&\ Equipment}$$

3.3. Analysis Method

Panel data regression analysis conducted in Eviews was the method utilized for data analysis. The data processing procedure carried out includes normality testing using Residual (Winarno, 2014). The upcoming assessment requires finding the optimal panel data regression model from the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The choice of the estimation model is determined through the Chow test, Hausman test, and Lagrange Multiplier (LM) test. Once a panel regression model has been chosen for examination, the operational equation used in this study is outlined as follows:

$$FP = \alpha + \beta_1 SF_{it} + \beta_2 KL_{it} + \beta_3 IOS + e$$

Information:

- FP = Financial Performance
- β_1 - β_3 = Regression coefficient of each variable
- SF = Sustainable Finance
- KL = Environmental Performance
- IOS = Investment Opportunity Set
- e = Error Term

In order to evaluate the effectiveness of the panel data regression model, it is important to examine the outcomes of the F-statistic test and R^2 analysis to assess the model's fit. Additionally, hypothesis testing is conducted using the t-statistic test, where a P-value < 0.05 indicates the significance of the test results (Hair et al., 2019).

4. Results and Discussion

4.1. Research Results

The data analysis results in the presentation of descriptive statistics in table 1 using the research variables for reference.

Table 1. Descriptive Statistics of Research Variables

Variabel	N	Min	Max	Mean	Std Deviation
Financial performance	147	-0.089	0.091	0.011	0.022
Sustainable finance	147	0.279	0.819	0.468	0.118
Intellectual Capital	147	-8.810	10.030	3.732	2.295
Investment opportunity set	147	-0.440	1.330	0.473	0.253

In table 1, it is known that the number of processed data is 147 observations, in addition, the lowest financial performance value is -0.089 times, while the highest financial performance value from the processed data is 0.091 times. If observed as a whole from 2018 to 2022, the average financial performance position of banking companies listed on the Indonesia Stock Exchange is 0.011 times with a standard deviation of 0.022 times. In line with the average financial performance value of the banking companies used as samples, it can be concluded that the financial performance of banking companies on the Indonesia Stock Exchange from 2018 to 2022 is relatively not too high. Other information obtained from descriptive statistics found that the lowest sustainable finance value from the processed data was 0.279 times, while the highest sustainable finance value from the processed data was 0.819 times. Calculated from 2018 to 2022, it was found that the average sustainable finance position held by banking companies on the Indonesia Stock Exchange was 0.468 times with a

data standard deviation of 0.118, so based on the statistical average obtained, the sustainable finance capabilities of banking companies on the Indonesia Stock Exchange from 2018 to 2022 can be seen as particularly strong.

4.2. Estimation Model Determination

In order to find the most suitable effect, it is essential to assess the prerequisites for panel regression analysis. These requirements can be outlined as follows:

4.2.1. Chow Test

Table 2. Chow Test Results

Effect Test	Statistic	d.f	Prob	Effect
Cross-section F	2.413238	(29,114)	0.0005	FEM

The findings from the examination suggest that the F value for the cross section yielded a statistical value of 2,413 and a probability value of 0.0005. With a probability value of $0.0005 < 0.05$, it can be inferred that utilizing the Fixed Effect Model (FEM) is superior to the Common Effect Model (CEM) based on the obtained results.

4.2.2. Hausman Test

Table 3. Hausman Test Results

Test Summary	Chi-Sq Statistic	d.f	Prob	Effect
Cross-section Random	1.450392	3	0.6938	REM

According to the findings from the Hausman test, the Chi-Square statistic is 1,450. The test was conducted with a significance level of 0.05, resulting in a probability value of 0.6938. With a probability value of $0.6938 > 0.05$, it can be inferred that the Random Effect Model (REM) is more suitable than the Common Effect Model (CEM).

4.2.3. Langrange Multiplier Test (LM-test)

Table 4. Lagrange Multiplier Test Results

Null (no rand. effect)	Cross Section One Side	Period One-Sided	Both
Breusch-Pagan	10.68867 (0.0011)	0.497219 (0.4807)	11.18589 (0.0008)

The LM test results were obtained with the assistance of the Breusch-Pagan test, showing that the one-sided cross-section value has a probability of 0.0011, in addition to the one-side period test, a probability value of 0.4807 was obtained and the probability value of both reached 0.0008. Each probability value produced in the Breusch-Pagan test stage is below 0.05, so it is concluded that the best effect that will be used as an analysis tool in this study is the Random Effect Model (REM).

4.3. Model Fit Testing

4.3.1. R-Square

Table 5. Results of Determination Coefficient Analysis

Model	R-square	Adjusted R-square
1	0.194	0.178

After analyzing the data, the adjusted R² value was found to be 0.178. The results indicate that sustainable finance, intellectual capital, and investment opportunity set (IOS) can account for 17.80% of the variations in financial performance of banking firms. The 82.20% of the changes were caused by variables that were not accounted for in the study's model.

4.3.2. F-statistic Testing

Table 6. F-Statistic Result Testing

Model	Prob	Alpha	Result
F-statistic	0.000	0.05	Significant

Based on the outcomes of the F-statistic test, a probability value of 0.000 was achieved. The data processing procedures were executed with an error margin of 0.05. The findings indicated a P value less than 0.05, leading to the conclusion that sustainable finance, intellectual capital, and investment opportunity set (IOS) are the accurate factors influencing alterations in financial performance within the banking firms featured on the Indonesia Stock Exchange between 2018 and 2022.

4.4. Hypothesis Testing

Table 7. T-statistic Test Results

Variable	Coefficient	Prob.	Results
Sustainable finance	0.015	0.374	Not Significant
Intellectual Capital	0.007	0.000	Significant
Investment opportunity set	0.013	0.023	Significant

According to the t-statistic test, it was discovered that the sustainable finance variable has a regression coefficient of 0.015, with statistically significant results supported by a probability value of 0.374. Data processing was done with a 0.05 error rate. The results indicate a P value > 0.05. Hence, it can be concluded that the long-term effectiveness of banking companies on the Indonesia Stock Exchange has little influence on their financial performance.

The t-test showed a positive regression coefficient of 0.007 for intellectual capital, supported by a probability value of 0.000. Data was processed with a 0.05 error rate, revealing a significant P value of <0.05. The implication is that intellectual assets significantly contribute to the financial success of banking companies listed on the Indonesia Stock Exchange.

Moreover, the t-statistic test results for the investment opportunity set (IOS) variable showed a regression coefficient value of 0.013, further supported by a probability value of 0.023. The data was analyzed with an error rate of 0.05, and the findings showed a P value of

<0.05 . Thus, it can be concluded that the range of investment opportunities available positively impacts the financial success of banking companies on the Indonesia Stock Exchange.

4.5. Discussion

4.5.1. The Influence of Sustainable Finance on Financial Performance in Banking Companies on the Indonesia Stock Exchange

According to the findings of the initial hypothesis test, it was determined that the sustainable performance of banking companies listed on the Indonesia Stock Exchange did not influence their financial performance. Based on the results of the test hypothesis, it suggests that banking institutions with more sustainable finance are likely to experience smaller fluctuations in financial performance. The outcomes do not align with the suggested hypothesis, consequently resulting in the dismissal of the original hypothesis. The results from the initial hypothesis testing phase suggest that financial performance changes are impacted not just by sustainable finance, but also by various factors like leverage position, liquidity, and external variables like inflation and exchange rate fluctuations. The results obtained at the first hypothesis testing stage are supported by research by Aharon & Yagil (2019) which found that sustainable finance has little to no effect on financial performance. Additionally, the identical findings were achieved by Zheng et al., (2011) the existence of external factors encouraging an increase in sustainable finance no longer affects the financial performance of banking companies in the Chinese capital market. The findings obtained at the first hypothesis testing stage do not support the results of the research by Rahi et al., (2022) and Al Amosh et al., (2023), the relationship between sustainable finance, as measured by overall ESG performance, and financial performance, as measured by ROIC, ROE, and EPS values, is negative. However, sustainable finance from the governance dimension (G) has a positive impact on the ROA value which is a proxy for finance performance. According to Pham et al. (2021), sustainable practices proxied by DJSI (Dow Jones Sustainability Index), GC (Global Compact), GRI (Global Reporting Initiative), CSRD (Corporate Social Responsibility Disclosure), RANK (Corporate Social Responsibility Ranking), RATE (Sustainable Growth Rate) and Assets have a significant effect on financial performance proxied by Tobin's Q, earning Yield, ROA, ROE and return on capital.

4.5.2. The Influence of Intellectual Capital on Financial Performance in Banking Companies on the Indonesia Stock Exchange

The results of the second hypothesis test indicated that intellectual capital plays a crucial role in determining the financial performance of banking companies that are publicly traded on the Indonesia Stock Exchange. The findings indicate that an increased level of intellectual capital among a company's assets can result in better financial results for banking entities trading on the Indonesia Stock Exchange. The results are in accordance with the original hypothesis, resulting in the validation of the second hypothesis. The results suggest that a company's performance improves when it is backed by human resources possessing substantial intellectual capital. Through high intellectual capital, a company will have quality resources to drive progress and development in the future. Through possessing a wealth of intellect, a company can establish strong connections with various parties, leading to increased cooperation and relationships. This, in turn, can create avenues for enhancing the financial performance of banking institutions in the long run. The results obtained at the second hypothesis testing stage are supported by research by Yuliana & Utami (2022) and Antonius & Ida (2023), that there is a positive and significant influence of intellectual capital on

financial performance. Intellectual capital is able to create advantages by utilizing company resources, managing and developing intellectual capital effectively and efficiently, this can improve long-term performance. According to Ousama et al., (2019), intellectual capital (IC) has an effect on the financial performance of Islamic banks. These findings indicate that stronger intellectual capital will encourage increased financial performance owned by a company, especially in banking companies.

4.5.3. The Effect of Investment Opportunity Set (IOS) on Financial Performance in Banking Companies on the Indonesia Stock Exchange

Based on the findings of the third hypothesis test, it was determined that the range of investment options offered to banking companies listed on the Indonesia Stock Exchange positively impacts their financial performance. The findings indicate that with more investment options available, the financial standing of banks trading on the Indonesia Stock Exchange is expected to see growth between 2018 and 2022. The data analysis supports the third hypothesis, leading to its acceptance. The results obtained indicate that when many investors invest, the turnover of third-party capital will enter the company's cash, and increase the company's cash and working capital strength. When this is realized, when the funds are utilized in the form of financing activities and these actions are carried out appropriately and accurately, this will improve the financial performance of banking companies as seen from the increasing position of return on assets owned by banking companies. The findings from the third stage of hypothesis testing align with previous studies conducted by Mustikarini et al., (2022), and research by Young & Nuringsih (2023) which found that the range of investment opportunities available can have a beneficial impact on a company's financial results. Furthermore, consistent research results were also stated by Jannah & Diantimala (2018); Pratama et al., (2022) stated that the company's financial performance will likely improve with the opening of various investment opportunities. This is because an increase in IOS indicates a larger inflow of funds from external sources. Proper utilization of these funds can lead to a boost in the company's financial performance.

5. Conclusion

The upcoming implementation of sustainable finance by the company will not affect their financial performance, particularly for banking firms that are publicly traded on the Indonesia Stock Exchange. However, if the company remains committed to enhancing environmental performance and management capabilities to stimulate Investment Opportunity Set (IOS), it will lead to improved financial performance for banking companies listed on the Indonesia Stock Exchange. In this research, the measurement of sustainable finance was measured using the 2016 GRI standard where the total disclosure used was 136 disclosures, but the results obtained were not in line with the proposed hypothesis, so it is recommended for further researchers to use other disclosure standards such as using ESG disclosures which are more suitable for banking companies in Indonesia. This recommendation is crucial for enhancing the accuracy of the research findings. The analysis revealed a relatively low R² value, suggesting that there are additional variables beyond the model that impact financial performance in banking companies, including the Capital Adequacy Ratio and Non-Performing Loan (NPL). Therefore, it is important for researchers in the future to choose one of these variables, so that when this suggestion is carried out, the quality of the research results obtained will be even better.

6. References

- Aharon, D. Y., & Yagil, Y. (2019). The impact of financial leverage on shareholders' systematic risk. *Sustainability (Switzerland)*, 11(23), 175–188. <https://doi.org/10.3390/su11236548>
- Al Amosh, H., Khatib, S. F. A., & Ananzeh, H. (2023). Environmental, social and governance impact on financial performance: evidence from the Levant countries. *Corporate Governance: The International Journal of Business in Society*, 23(3), 493–513. <https://doi.org/10.1108/CG-03-2022-0105>
- Antonius, F., & Ida, I. (2023). Pengaruh Environmental , Social , Governance (ESG) Dan Intellectual Capital Terhadap Kinerja Perusahaan. *Jurnal Ekobis : Ekonomi Bisnis & Manajemen*, 13(2), 126–138. <https://doi.org/http://orcid.org/0000-0001-5694-0745>
- Bacha, S., & Ajina, A. (2019). CSR performance and annual report readability: evidence from France. *Corporate Governance (Bingley)*, 20(2), 201–215. <https://doi.org/10.1108/CG-02-2019-0060>
- Bakti, I. T., & Nengzih, N. (2023). The Effect of Financial Performance, Company Characteristics and Corporate Governance on the Quality of Sustainability Report Disclosure (In Manufacturing Companies Listed on the Indonesia Stock Exchange 2017-2020). *Saudi Journal of Economics and Finance*, 7(1), 9–21. <https://doi.org/10.36348/sjef.2023.v07i01.002>
- Brigham, E. F., & Houston, J. F. (2017). *Fundamentals of Financial Management* (10 Edition). Ptentice-Hall. <https://doi.org/10.1017/CBO9781107415324.004>
- Citra, K., Faisal, Y., Wibisono, C., & Sari, E. G. (2021). The Effect of Capital Adequacy, Liquidity and Firm Size on Earnings Management with Corporate Governance as Moderating Variables in Conventional Banking Listed on IDX 2015 – 2019. *CASHFLOW: Current Advanced Research on Sharia Finance and Economic Worldwide*, 1(1), 33–49. <https://doi.org/https://doi.org/10.55047/cashflow.v1i1.20>
- Dinaroe, D., Mulya, I., & Mutia, E. (2019). Islamicity Financial Performance Index Perbankan Syariah Di Indonesia. *JURNAL PERSPEKTIF EKONOMI DARUSSALAM*, 5(1), 99–112. <https://doi.org/10.24815/jped.v5i1.14217>
- Fatimah, S. S., & Setiany, E. (2023). The Effect of Good Corporate Governance and Intellectual Capital Mechanism On Financial Performance with Profit Management as A Mediation Variable. *Journal of Economics, Finance and Accounting Studies*, 5(2), 25–39. <https://doi.org/10.32996/jefas.2023.5.2.3>
- Febrina, R., & Setiany, E. (2021). The Effect of Board Gender Diversity and Company Characteristics on Sustainability Report Disclosure (Empirical Study of Companies Listed on the Indonesia Stock Exchange 2016-2018). *International Journal of Management Studies and Social Science Research*, 3(4), 315–328.
- Hair, Black, W. C., Babin, B. J., Anderson, R. E., Black, W. C., & Anderson, R. E. (2019). *Multivariate Data Analysis*. <https://doi.org/10.1002/9781119409137.ch4>
- Jannah, R., & Diantimala, Y. (2018). Faktor-Faktor yang Mempengaruhi Perusahaan Melakukan Revaluasi Aset Tetap Sesuai dengan PSAK 16 (2015) Di Indoneisa. *Jurnal Ilmiah Mahasiswa Ekonomi Akuntansi (JIMEKA)*, 3(3), 515–526.
- Jensen, M. C., & Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Cost and Ownership Structure. *Journal of Financial Economics*, 3(4), 305–360.
- Meiriza, N., Lukviarman, N., & Setiany, E. (2022). Determinant of Intellectual Capital Disclosure in Indonesian Listed Companies. *Jurnal Akuntansi Dan Bisnis*, 22(2), 257–268. <https://doi.org/10.20961/jab.v22i2.852>
- Muslih, M., & Aqmalia, W. R. (2020). Kinerja Keuangan: Intellectual Capital Performance dan Investment Opportunity Set. *Jurnal Ilmiah Akuntansi*, 5(1), 61. <https://doi.org/10.23887/jia.v5i1.24293>

- Mustikarini, C. N., Melinda, T., Theresia, M., & Octavia, A. (2022). The Influence Of Empowering Leadership On Psychological Well-Being And Job Engagement Mediated By Psychological Capital In Family Business Successors: Case Study At Family Business Community Eighth Batch Of Ciputra University. *Journal of Positive School Psychology*, 2022(9), 2864–2877.
- Nugraha, D. P., Setiawan, B., Nathan, R. J., & Fekete-Farkas, M. (2022). Fintech Adoption Drivers for Innovation for SMEs in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(4), 208. <https://doi.org/10.3390/joitmc8040208>
- Nurul Aida, R., & Rahmawati, E. (2015). Pengaruh Modal Intelektual dan Pengungkapannya Terhadap Nilai Perusahaan: Efek Intervening Kinerja Perusahaan. *Jurnal Akuntansi Dan Investasi*, 16(2), 96–109. <https://doi.org/10.18196/jai.2015.0035.96-109>
- Ousama, A. A., Hammami, H., & Abdulkarim, M. (2019). The association between intellectual capital and financial performance in the Islamic banking industry. *International Journal of Islamic and Middle Eastern Finance and Management*, 13(1), 75–93. <https://doi.org/10.1108/IMEFM-05-2016-0073>
- P Carolina, N. P. A., Yuliastuti, I. A. N., & Merawati, L. K. (2022). Pengaruh Investment Opportunity Set (IOS), Likuiditas, Leverage, Ukuran Perusahaan dan Intangible Asset Terhadap Kinerja Perusahaan. *Jurnal Kharisma*, 4(3), 236–245.
- Pham, D. C., Do, T. N. A., Doan, T. N., Nguyen, T. X. H., & Pham, T. K. Y. (2021). The impact of sustainability practices on financial performance: empirical evidence from Sweden. *Cogent Business & Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1912526>
- Pratama, Y., Eka Saputra, S., Mulia Pratama, I., & Rahmad, I. (2022). Determinan Faktor yang Mempengaruhi Financial Distress Perusahaan Manufaktur Sub Sektor Barang Dan Konsumsi. *Jurnal Ekobistek*, 11, 143–149. <https://doi.org/10.35134/ekobistek.v11i2.343>
- Rahi, A. F., Akter, R., & Johansson, J. (2022). Do sustainability practices influence financial performance? Evidence from the Nordic financial industry. *Accounting Research Journal*, 35(2), 292–314. <https://doi.org/10.1108/ARJ-12-2020-0373>
- Sartono, A. (2010). Manajemen Keuangan teori dan Aplikasi edisi 4. *Yogyakarta: Bpfe*.
- Setiany, E., Syamsudin, S., Sundawini, A., & Putra, Y. M. (2020). Ownership Structure and Firm Value : The Mediating Effect of Intellectual Capital. *International Journal of Innovation, Creativity and Change*, 13(10), 1697–1711.
- Shome, S., Hassan, M. K., Verma, S., & Ranjan, T. (2023). Impact investment for sustainable development : A bibliometric analysis. *International Review of Economics and Finance*, 84(September 2022), 770–800. <https://doi.org/10.1016/j.iref.2022.12.001>
- Wenni Anggita, Ari Agung Nugroho, & Suhaidar. (2022). Carbon Emission Disclosure And Green Accounting Practices On The Firm Value. *Jurnal Akuntansi*, 26(3), 464–481. <https://doi.org/10.24912/ja.v26i3.1052>
- Winarno, W. W. (2014). *Analisis Ekonometrika dan Statistika dengan Menggunakan Eviews* (Cetakan 5). UPP STIM YKPN.
- Young, J. C., & Nuringsih, R. K. (2023). Pengujian Pengaruh Investment Opportunity terhadap Economic Value Added, Return on Assets dan Return on Equity dalam Penilaian Kinerja Keuangan Perusahaan. *Jurnal Manajerial Dan Kewirausahaan*, 5(4), 997–1007. <https://doi.org/10.24912/jmk.v5i4.26969>
- Yuliana, N., & Utami, W. (2022). The Effect of Sustainability Disclosure, Corporate Governance Mechanism and Intellectual Capital on Financial Performance. *Accounting Research Journal of Sutaatmadja*, 06(01), 41–52. <https://doi.org/https://doi.org/10.35310/accruals.v6i01.929>
- Zheng, S., Xu, P., & Wang, Z. (2011). Factors affecting Chinese enterprises' hedging decision making. *China Agricultural Economic Review*, 3(4), 476–488. <https://doi.org/10.1108/17561371111192338>