



Islamic Bank Business Model In Driving Asset Growth And Environmental Sustainability Mission: A Study Of Indonesian Sharia Banks

Ari Susanto¹, Tatik Mariyanti² dan Roikhan M. Azis³

Abstract

A company's business model not only drives asset growth but also promotes environmental and social sustainability. Sustainable finance reflects the integration of achieving economic goals while also addressing environmental and social goals. Asset growth must align with its environmental sustainability mission. Therefore, this study has two objectives: first, to analyze the business model of Bank Syariah Indonesia (BSI) in projecting asset growth; second, to analyze the role of Bank Syariah Indonesia (BSI) in its environmental sustainability mission. This study employed system dynamics methods. Data analysis utilized PowerSim version 10 academic software. The data used were time series data from BSI's annual financial reports for the 2022-2024 period. The research findings: The Business Model developed by BSI has been able to project positive and significant asset growth during the simulation period (2022-2032); second, the BSI Business Model promotes its environmental sustainability mission through corporate initiatives such as sustainable financing portfolio allocation and sustainable sukuk issuance, as well as environmentally friendly operations at BSI.

¹ Fakultas Ekonomi dan Bisnis, Universitas Trisakti Jakarta, Indonesia; email 221022102003@std.trisakti.ac.id atau ari01susanto@gmail.com

² Fakultas Ekonomi dan Bisnis, Universitas Trisakti Jakarta, Indonesia; email tatik.mariyanti@trisakti.ac.id

³ Fakultas Ekonomi dan Bisnis UIN Syarif Hidayatullah Jakarta, Indonesia roikhanmochamadaziz@gmail.com

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Introduction

The development of Islamic banking globally is showing increasingly positive trends. Islamic banks are not only growing in countries with Muslim majorities but are also expanding in Europe, America, and Asia (Ismail, 2023; Amiruddin et al., 2023). According to the Islamic Finance Development Report (2025), the volume of global Islamic financial assets has increased severalfold in the past decade. This growth is not limited to Muslim countries, but also in European and Asian markets.

Growth is the most important performance measure for evaluating companies. Financial markets and investors tend to reward fast-growing companies with stock prices, and growth is reflected in asset value. In the banking industry, total assets are used to measure bank growth compared to other growth measures (loans/revenue), as total assets reflect the scope of all bank growth (Suroso, 2018).

Financial institutions must also have a sustainable finance orientation, integrating sustainability into their financial strategies and practices. Sustainable finance considers financial returns (profit), social returns, and environmental outcomes simultaneously. Sustainable finance considers how finance (investments and loans) interacts with economic, social, and environmental issues (Schoenmaker, 2017). Islamic banks share principles with sustainable finance, addressing issues of financial stability and economic expansion, poverty reduction and wealth distribution, financial and social inclusion, and environmental protection. Muhammad (2022) stated that Islamic banks that encourage environmental stewardship align with Sharia principles, which place a high value on ethics. In Islam, environmental commitment is part of the effort to achieve one of the five Maqasid al-Shariah (obligatory purposes of Sharia), namely the preservation of life (Khan & Badjie, 2022).

Thus, the true essence of Islamic finance goes beyond mere Sharia compliance to embodying the broader objectives of Sharia (Maqasid al-Shariah), promoting social equality, economic inclusion, and environmental stewardship. This commitment positions Islamic finance as a tool for good, aligned with the values of justice, ethics, equality, and a dedication to improving the well-being of communities worldwide (Islamic Finance Development Report, 2024). According to World Bank analysis, Islamic finance is an effective mechanism for financial inclusion and poverty reduction (Toymuratovich, 2026).

Asset growth must align with the environmental sustainability mission. Therefore, this study aims, first, to analyze the business model reflected in Bank Syariah Indonesia's (BSI) operational system in projecting asset growth. Second, to analyze Bank Syariah Indonesia's (BSI) role in its environmental sustainability mission.

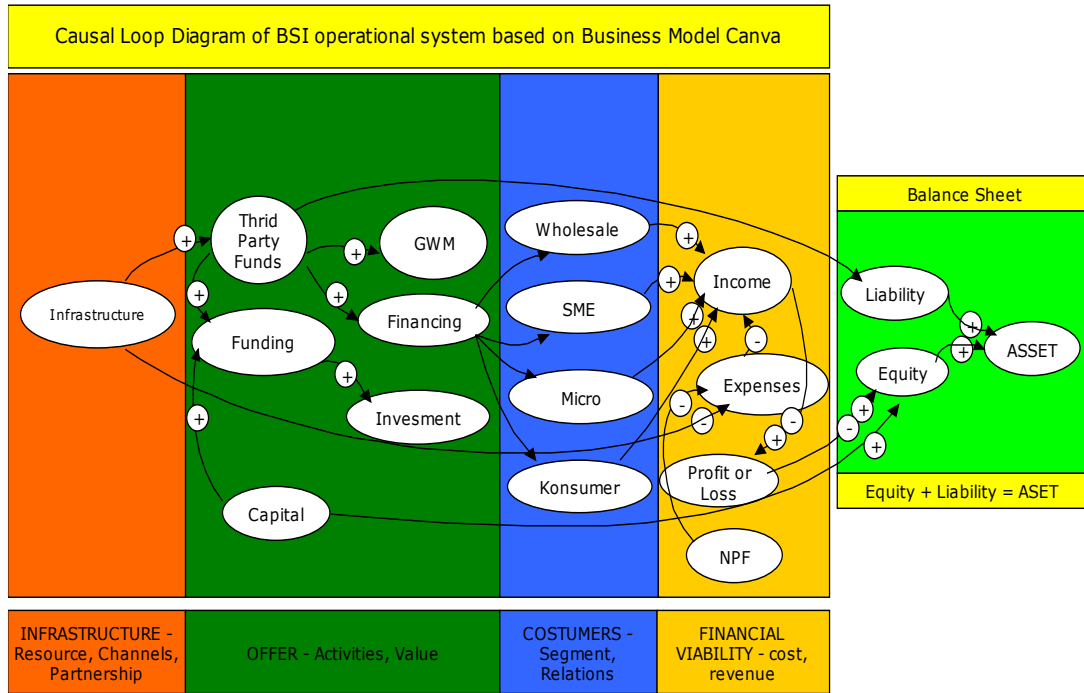
Methodology

This study uses the System Dynamics (SD) method to analyze asset growth projections. System Dynamics (SD) is a computer simulation methodology rooted in the theory of nonlinear dynamics and feedback control developed in mathematics, physics, and engineering (Franco, 2019). System dynamics modeling takes the form of simulations, namely models or replications that mimic the operation of real-world systems over time. The components used in system dynamics modeling are Causal Loop Diagrams (CLDs) and Stock and Flow Diagrams (SFDs). CLDs are visual maps for determining feedback and cause-and-effect relationships between interacting variables in a system. Meanwhile, SFDs are formulated as diagrams of the relationships between variables in stock (level) and flow (rate) (Hidayat et al., 2021; Zanker and Bureš 2022). The operational data used in this study uses time series data from Bank Syariah Indonesia (BSI) for the period 2022 to 2024. Time series data is identified according to variables including assets, savings, current accounts, deposits, financing, minimum reserve requirements, investments, customers, income, expenses, profit/loss, number of offices, ATMs, employees, and e-banking. There are two types of statistical tests that can be performed in System Dynamics as model validation tests: Absolute Means Error (AME) and Absolute Variation Error (AVE). A model can be declared valid if the AME value is below 10%.

Results

Banks collect and distribute funds. According to the Business Model Canvas (BMC), there are four main components to a business model: infrastructure, offerings, customers, and financial viability. These four components are interrelated. Strengthening infrastructure will affect offerings, which in turn will affect customers, which in turn will affect financial viability, and financial viability will ultimately affect infrastructure, and these relationships are interconnected. The BSI business model, modeled in System Dynamics, was built to analyze asset growth. The following illustrates a Causal Loop Diagram (CLD) based on the identification of the business model in Bank Syariah Indonesia's operational system.

Figure 1. BSI Causal Loop Diagram

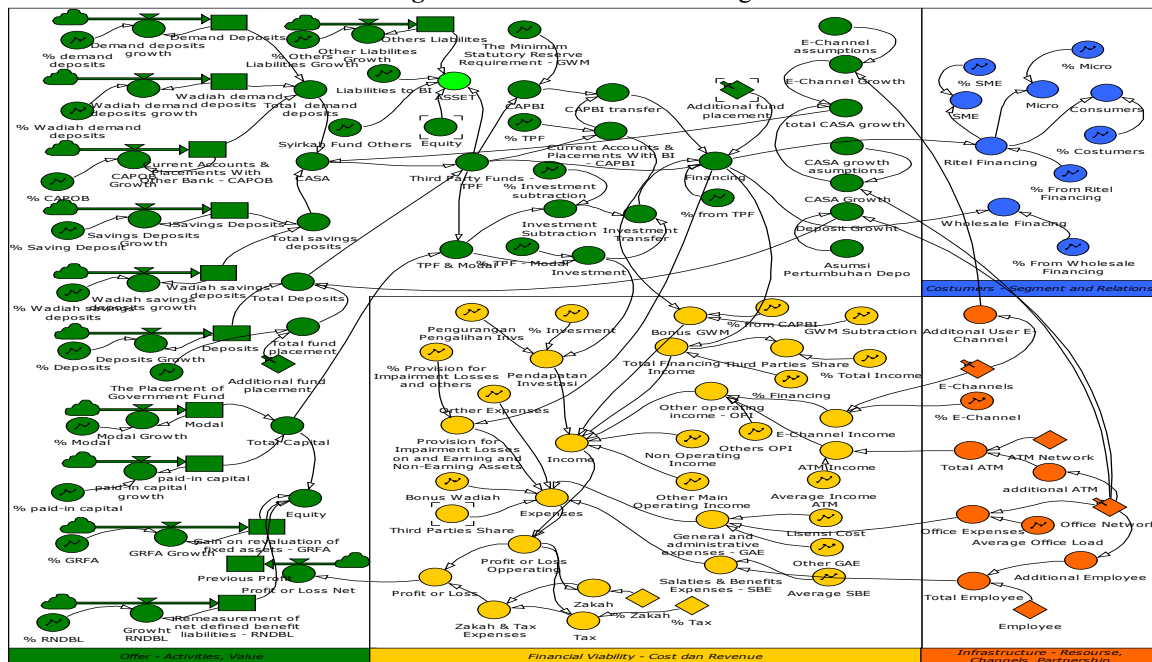


Source: Processed in Powersim Studio 10 Academic (Author, 2025)

Asset growth is influenced by a bank's operational activities. This is simply explained through the four parts of the Canva business model. (1) Infrastructure, which drives Bank Syariah Indonesia's business. This infrastructure includes offices and ATMs, employees, and e-channels (online). (2) Offering, which represents the reputation and core activities of the Islamic bank. This offering encompasses financial performance and fundraising. (3) Customer, or client, represents the bank's activities as a middleman, managing funds distributed to customers. Distribution activities are categorized into wholesale and retail customers, including small and medium enterprises; micro-enterprises; and consumer customers. (4) Financial viability, which represents the results of business activities, including revenue and operating expenses.

After the CLD, the next step is modeling using a Stock and Flow Diagram (SFD), a more detailed development of the Causal Loop Diagram (CLD), which shows how flow affects stock (accumulation) and creates feedback that drives system behavior.

Figure 2. BSI Stock & Flow Diagram



Source: Processed in Powersim Studio 10 Academic (Author, 2025)

The Stock & Flow Diagram simulates the operational system of Bank Syariah Indonesia. In theory, assets are the sum of liabilities and equity. Assets at Bank Syariah Indonesia are influenced by deposits consisting of savings

and current accounts, both of which are known as Current Account Savings Accounts (CASA); they are also influenced by time deposits, as well as other savings instruments such as sukuk. Deposits are part of the bank's liabilities. Furthermore, assets are influenced by capital and profits, both of which are part of equity. Deposits, also known as Third Party Funds, are then channeled into financing and investment, and the Minimum Reserve Requirement (Giro Wajib Minimum). Meanwhile, profits are obtained from revenue minus company expenses. The results of the distribution of Third Party Funds (DPK) through financing channels earn returns from buying and selling and profit sharing, while placements in BI earn bonuses and investments earn income from investment profit sharing rates. Bank revenues are also obtained from other businesses such as internet banking revenue, financing administration income, ATM transactions, rahn income, financing administration, insurance commission income, payment service income, and so on. This accumulated income is reduced by operating expenses, including salaries and allowances; General and administrative expenses, and so on. Profit becomes part of equity, belonging to the company.

The Stock & Flow Diagram (SFD) above illustrates a circular causal relationship that leads to assets. Assets are formed from capital flows to build infrastructure, then collected as a step to accumulate Third Party Funds (TPF), and then distributed to financing and investment instruments, partially fulfilling GWM obligations. From this distribution, revenue is generated, from revenue minus operating expenses, resulting in profit.

The simulation model created must have validity. Validation is a measure of confidence that the SFD model represents real-world behavior. Validation is performed through a set of statistical tests to verify its validity. In System Dynamics, statistical tests for model suitability measure and observe deviations between simulation results and actual data. This model uses statistical tests for the deviation of simulated variation values from actual values, namely the Absolute Variance Error (AVE), and statistical tests for the deviation between simulated and actual average values, namely the Absolute Means Error (AME). The results of these statistical tests can be seen in the following table.

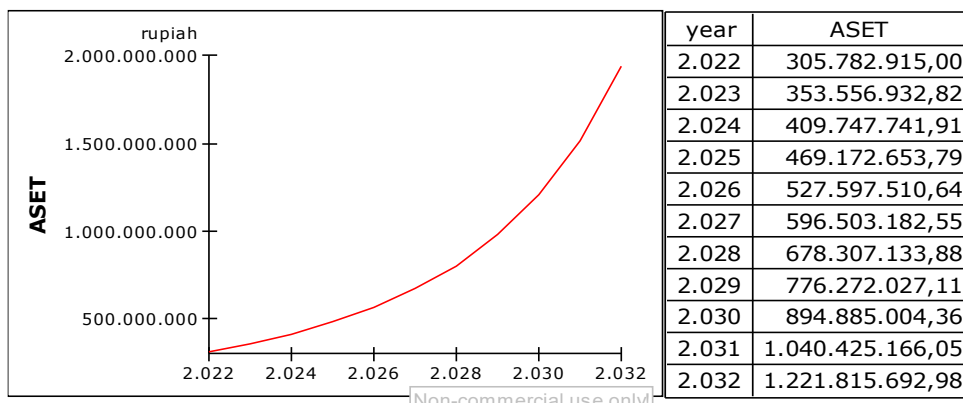
Table 1. AME & AVE Assets (in millions/rupiah)

Tahun	Real Data	Simulasition Data
	(a)	(b)
2022	305.727.438	305727438
2023	353.624.124	353556932
2024	408.613.432	409747741
Means	355988331,3	356344037
AME	0,100	
Variance	1,76705E+15	1,80725E+15
AVE	2,275	

Source: Processed in Excel (Author, 2025)

The AME validation test showed a value of 0.099%, and the AVE validation test showed a value of 2.275%. Both AME and AVE tests showed values below 10%, indicating that the model was acceptable. The statistical test results on the System Dynamics model met the model validity criteria required in the System Dynamics approach. Simulation in System Dynamics is the process of running a model based on stocks, flows, and feedback relationships to observe how a system behaves. Through simulation, researchers or decision-makers can safely experiment with the model system without having to try it directly in the real world, thereby understanding the short-term and long-term impacts of a decision on the overall system performance. The operational system model of Bank Syariah Indonesia (BSI) through the Stock & Flow Diagram is a realistic reflection of the original model. The following are the simulation results for the desired output, namely Assets.

Graph 1. Asset Simulation Results (in millions/rupiah)



Source: Powersim Studio 10 Academic (Author, 2025)

Graph 1 shows that Bank Syariah Indonesia's (BSI) asset projections experienced positive and significant growth during the 2022-2032 simulation period. Asset development shows a consistent growth trend and experiences increasingly significant increases from year to year. In 2025, asset growth is seen increasingly exponentially in the chart, where the asset value is projected to reach IDR 469.17 trillion. Assets continue to experience growth reaching an asset value of IDR 527.60 in 2026, IDR 596.50 trillion in 2027, IDR 678.30 trillion in 2028, IDR 776.27 trillion in 2029, IDR 894.89 trillion in 2030. The sharp upward trend continues into the new decade, with asset values soaring to exceed the 1,000 trillion mark, with projected assets reaching IDR 1,040.45 trillion in 2031, and IDR 1,221.82 trillion in 2032.

Discussion

Bank Syariah Indonesia (BSI) is projected to experience positive and significant growth during the 2022–2032 simulation period. This finding is generally consistent with previous research, indicating that BSI demonstrates potential asset growth. Kornitasari et al. (2022) conducted a simulation and projected BSI's asset growth to reach IDR 295–327 trillion in 2023. In fact, BSI's real asset growth in 2023 was even higher, reaching IDR 353 trillion. Meanwhile, Iswanto et al. (2022) revealed that BSI, after the merger, was able to overcome losses from operational activities, had increasingly healthy financial performance, and had the potential to increase market share and expand its business scale. This finding is related to investor and customer confidence. As noted by Suroso (2018), investors tend to reward companies with rapid growth in stock prices, and this growth is reflected in asset value. Optimism regarding BSI's asset growth is also reflected in Susanti's (2021) research, which assesses that the BSI merger offers the potential for asset growth, expanded market penetration, and increased financing cost efficiency. Maulida et al. (2022) found earnings, as measured by Return on Assets (ROA) and Return on Equity (ROE). A study by Hanifah and Suseno (2022) found that Bank Syariah Indonesia's financial performance was generally efficient. Anjarani and Usman (2022) assessed BSI's performance as good compared to before the merger. Mohammad and Agilga (2022) considered BSI's presence an appropriate move because it benefits the growth of the sharia economic sector in Indonesia and enhances national and global competitiveness. Wardana and Nurita (2022) found that BSI's profitability ratio has improved.

Hamadou & Abbes (2025) Sustainable assets, such as green bonds and renewable energy indices. Clean energy stocks and green bonds offer more effective hedges than non-sustainable energy assets. Hamadou & Abbas operationalizes sustainable finance through sustainable assets. Green bond instruments are a strategy for realizing sustainable finance.

The application of sustainable finance principles within the Indonesian financial system is based on Law Number 32 of 2009 concerning Environmental Protection and Management, which aims to develop and implement environmental economic instruments. One of its objectives is to reduce social disparities, mitigate and prevent environmental damage, preserve biodiversity, and encourage efficient use of energy and natural resources. In the financial sector, the Financial Services Authority of the Republic of Indonesia, through OJK Regulation No. 51/POJK.03/2017, emphasizes that the financial services sector must create sustainable economic growth by aligning economic, social, and environmental interests. Thus, Indonesia's environmental sustainability mission has received legal support.

How does Bank Syariah Indonesia (BSI) realize its commitment to promoting environmental sustainability? BSI strengthens its environmentally sound financing and portfolio management policies through seven Environmentally Sound Business Activities (KUBL), namely: first, Management of Biological Natural Resources and Sustainable Land Use; second, Products that Can Reduce Resource Use and Produce Less Pollution; third, renewable energy; fourth, Business Activities and/or Other Activities that are Environmentally Sound; fifth, Environmentally Sound Buildings that Meet National, Regional, or International Standards or Certification; sixth, Sustainable Water and Wastewater Management; seventh, Environmentally Friendly Transportation. As a form of risk mitigation and asset quality protection, BSI has added environmental aspects to the Industry Acceptance Criteria (IAC) Technical Operational Instructions (PTO). In addition, the Environmentally Friendly Transportation sector and Management of Biological Natural Resources and Sustainable Land Use have been designated as new industry classes in the Portfolio Guideline Standard Business Procedures (SPB) (BSI Annual Report, 2025).

In carrying out its sustainability commitments, BSI implements an integrated approach through a strategy that positions sustainability as part of long-term business development. This strategy is designed to ensure that the Company's business activities not only create economic value but also make a positive contribution to society and the environment. BSI's social and environmental responsibility implementation framework is structured around three main sustainability pillars that serve as the foundation for the development of the Company's programs and initiatives: banking initiatives, operational initiatives, and social contribution initiatives. The first initiative, BSI's commitment to sustainable financing, reached Rp73.92 trillion, consisting of Rp15.66 trillion in green financing, Rp58.26 trillion in social financing, and Rp396 billion in electric vehicle financing. This was supported by the issuance of Rp5 trillion in Sustainable Sukuk (Islamic Bonds). The second initiative, within BSI's operations, includes the launch of the green building BSI Landmark Aceh and BSI Tower, the installation of solar panels, recycling machines, electric charging stations, and the operation of 144 electric vehicles. This initiative, along with the launch of digital carbon tracking for Scope 1 and Scope 2 emissions, BSI has also enhanced data privacy, cybersecurity compliance, and gender inclusivity, with 41% of its employees being female. Third, social

contribution initiatives. Beyond Banking, in collaboration with BSI Maslahat, disbursed IDR 400 billion (BSI Annual Report, 2025).

BSI's green financing portfolio composition demonstrates significant contributions across various environmental segments. As of December 2025, the Company's green financing portfolio was dominated by eco-efficient products at 41.15%, followed by sustainable natural resource management and land use at 36.90%, environmentally friendly business and related activities at 10.14%, environmentally friendly transportation at 6.05%, renewable energy at 4.54%, sustainable buildings at 0.65%, and sustainable water and wastewater management at 0.58%. This composition reflects BSI's commitment to strengthening its environmental and social impact through the development of a diversified sustainable financing portfolio (BSI Annual Report, 2025).

The implementation of ESG principles in BSI's operations has been effective and robust. ESG implementation provides an opportunity for banks to strengthen their reputation, impact bank performance, create a positive corporate image, attract customers, investors, and potential business partners, strengthen business relationships, and increase customer loyalty (Ainin, et al., (2024). ESG and Sharia Compliance at BSI have a trend of increasing disclosure from year to year (Chazanah, 2022).

BSI's asset growth can be seen from its business model. Asset growth is supported by the company's ability to increase its offerings, including increased growth in savings, current accounts, and time deposits. Offer growth will drive financing and investment growth. Offer growth will drive customer growth, including increased customer base in the wholesale and retail segments. Customer growth will drive financial viability, resulting in revenue and profit growth. Financial viability growth will then encourage the company to strengthen its infrastructure, including growth in ATMs, offices, employees, and e-digital banking integration. Simultaneously, infrastructure growth will drive fundraising.

BSI's developed business model demonstrates sound financial performance, as evidenced by asset growth projection simulations. BSI's assets are projected to grow during the simulation period (2022-2032). BSI's business model is integrated with its environmental sustainability mission. The company's various strategic initiatives demonstrate its commitment to its environmental sustainability mission. BSI has allocated sustainable financing and issued sustainable sukuk. The successful integration of financial institutions, such as banking, with sustainability (Environmental, Social, and Governance/ESG) in Indonesia is reinforced by regulations through Law Number 32 of 2009 and OJK Regulation No. 51/POJK.03/2017. The business model developed by BSI has driven asset growth while simultaneously promoting environmental sustainability, not only that but also social and governance.

Conclusion

The business model developed by BSI has been able to project positive and significant asset growth during the simulation period (2022-2032). BSI's business model is committed to promoting environmental sustainability through corporate initiatives. The first initiative is a sustainable financing portfolio and the issuance of Sustainable Sukuk. The second initiative is BSI's environmentally friendly operations. BSI requires environmental aspects in its Operational Technical Instructions (PTO) and Industry Acceptance Criteria (IAC).

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References

1. Aini, Bunga Quratul., Marliyah., & Anggraini, Tuti. (2024). Analysis of Environmental, Social and Governance (ESG) Principles in BSI Stabat Operations Kh Zainul Arifin. *Jurnal Ilmiah Ekonomi Islam*, 10(02). DOI: <https://doi.org/10.29040/jiei.v10i2.13309>
2. Amiruddin., Muslihati., Estyanti, Chintya & Mu'min, Ali. (2023). Concept of Islamic Banking in the World of Economy and Business. *LAA MAISYIR*, Volume 10, Nomor 2, Desember 2023: 145-154. DOI: <https://doi.org/10.24252/lamaisyir.v10i2.42279>
3. Anjarani, Rizki., dan Usman (2022). Analysis of the Health of Indonesian Sharia Banks: Comparison Before and After the Merger. *JMDB: Jurnal Manajemen dan Dinamika Bisnis*, Vol 1., No 2. DOI:10.47353/ecbis.v1i6.97
4. BSI/Bank Syariah Indonesia. (2025). Annual Report: Leading a New Era of Gold Banking. Access: https://ir.bankbsi.co.id/annual_reports.html
5. Chazanah, Indah Nur. (2022). Analisis Indeks Pengungkapan ESG (environmental, Social and Governance dan Kepatuhan Syariah: Studi Komparasi pada Bank Syariah Indonesia (BSI) Dan Bank Islam Malaysia Berhad (BIMB) Tahun 2019-2021. Universitas Pendidikan Indonesia: Thesis.
6. Hamadou, Fatma Ben., dan Abbes, Mouna Boujelbène. (2025). Sustainable vs. Non-Sustainable Assets: A Deep Learning-Based Dynamic Portfolio Allocation Strategy. *Journal of Risk and Financial Management*. Volume 18, Issue 10. DOI: <https://doi.org/10.3390/jrfm18100563>
7. Hanifah, Nadiatul & Suseno, Deyk Aji. (2022). Analysis Efficiency of BUMN Syariah Bank After the Merger. *JEJAK: Journal of Economics and Policy*, Vol 15., No. 2. DOI: <https://doi.org/10.15294/JEJAK.V15I2.38786>

8. Hidayat, Taufik; Masyita, Dian; Nidar, Sulaeman Rahman; Febrian, Erie & Ahmad, Fauzan. (2021). The Effect of COVID-19 on Credit and Capital Risk of State-Owned Bank in Indonesia: A System dynamics Model. *WSEAS transactions on Business and Economics*, Volume 18. DOI: <https://doi.org/10.37394/23207.2021.18.106>
9. ICD/ Islamic Cooperation for the Development & LSEG/ London Stock Exchange Group. (2025). *Islamic Finance Development Report: 50 Years of Exponential Growth*. Access: https://www.lseg.com/content/dam/data-analytics/en_us/documents/reports/lseg-islamic-finance-development-indicator-2025.pdf
10. Ismail, Faizah. (2023). *Islamic Finance in the Financial Markets of Europe, Asia and America*. New York: Routledge.
11. Iswanto, Bambang., Awaliyah, Siti., Komariah, Kokom., & Anwar, Idhafiyah. (2022). Financial performance of bank Syariah Indonesia (BSI) Before and After Merger. *Muqtasid: Journal of Islamic Economics and Banking*, Vol 13., No 2. DOI: <https://doi.org/10.18326/muqtasid.v13i2.178-193>
12. Khan, Tariqullah & Badjie, Fatou. (2022). Islamic Blended Finance for Circular Economy impactful SMEs to Achieve SDGs. *The Singapore Economic Review (SER)*, World Scientific Publishing Co. Pte. Ltd., vol. 67(01). DOI: https://doi.org/10.1142/9789819813735_0018
13. Kornitasari, Yenny., Safitri, Ide Wahyu., Wanakusuma, Ilham., & Safitri, Dita Indah. (2022). Forecasting the Growth of Indonesian Islamic Banks Post-Merger Policy. *JEIE: Jurnal Ilmiah Ekonomi Islam*, Vol. 8., No. 2. DOI: <https://doi.org/10.29040/jiei.v8i2.5321>
14. Maulida, Nabila Adenina Zidni., al- Anshor, Dien Silmi., & Budiwati, Anisah. (2022) An Analysis of the Soundness of Sharia State-Owned Enterprises (SOE) Bank Before Merger to Bsi by using the Rgec Method. *The 3rd International Conference on Advance & Scientific Innovation (ICASI)*. DOI: <https://doi.org/10.18502/kss.v7i10.11368>
15. Mohammad, Sultan Antus Nasruddin., & Agilga, Olla Triana. (2022). Analysis of Sharia Bank Mergers in Indonesia (BSI) using the Maslahah Murlah Approach. *Tasyri' Journal of Islamic Law*, Vol. 1., No. 2. DOI: <https://doi.org/10.53038/tsyr.v1i2.38>
16. Peraturan Otoritas Jasa Keuangan Republik Indonesia No. 51/ POJK.03/2017 on the Implementation of Sustainable Finance for Financial Services Institutions, Issuers, and Public Companies. Access: <https://ojk.go.id/id/kanal/perbankan/regulasi/peraturan-ojk/Pages/POJK-Penerapan-Kuangan-Berkelanjutan-bagi-Lembaga-Jasa-Kuangan,-Emiten,-dan-Perusahaan-Publik.aspx>
17. Sarosa, Samiaji (2021). *Qualitative Research Data Analysis*. PT Kanisius: Yogyakarta.
18. Schoenmaker, D. (2017). *From risk to opportunity: A framework for sustainable finance*. Erasmus University: Rotterdam School of Management. Access: https://repub.eur.nl/pub/101671/Book_From_Risk_to_Opportunity_2017.pdf
19. Susanti, Eka Setiana. (2021). Opportunities and Challenges of Islamic Bank Mergers in Indonesia During a Pandemic. *JIEI: Jurnal Ilmiah Ekonomi Islam*, Vol. 7., No. 3. DOI: <https://doi.org/10.29040/jiei.v7i3.3612>
20. Toymuratovich, Azimov Obidjon. (2026). *World Islamic Bank Market*. *Academia Open*, Vol.11., No.1. DOI: <https://doi.org/10.21070/acopen.11.2026.13945>
21. Undang-Undang Nomor 32 Tahun 2009 on Environmental Protection and Management. Access <https://peraturan.bpk.go.id/details/38771/uu-no-32-tahun-2009>
22. Wardana, Linda Kusumastuti dan Nurita, Choni Dwi. (2022). Comparative Analysis of PT. Bank Syariah Indonesia's Financial Performance Before and After the Merger. *JATI: Jurnal Akuntansi Terapan Indonesia*, Vol. 1, No. 1. DOI: <https://doi.org/10.18326/muqtasid.v13i2.178-193>
23. Zanker, Marek and Bureš, Vladimír. (2022). Knowledge Management as a Domain, System dynamics as a Methodology. *Systematic Review*. DOI: <https://doi.org/10.3390/systems10030082>