

ANALYSIS OF GREEN BANKING, DIGITAL INNOVATION, AND CORPORATE SOCIAL RESPONSIBILITY TOWARDS SUSTAINABILITY PERFORMANCE OF SHARIA WITH CUSTOMER SATISFACTION AS A MEDIATION VARIABLE

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ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh Green Banking, Inovasi Digital, dan Tanggung Jawab Sosial Perusahaan (CSR) terhadap Kinerja Keberlanjutan perbankan syariah, dengan Kepuasan Nasabah sebagai variabel mediasi. Penelitian ini menggunakan pendekatan Systematic Literature Review (SLR) dengan menganalisis 29 studi relevan yang diterbitkan antara tahun 2020 dan 2025. Sumber data diperoleh dari jurnal internasional bereputasi yang terindeks dalam basis data akademik seperti Scopus dan Google Scholar. Hasil penelitian menunjukkan bahwa green banking, inovasi digital, dan CSR masing-masing memiliki pengaruh positif yang signifikan terhadap kinerja keberlanjutan bank syariah. Selain itu, ditemukan bahwa kepuasan nasabah memediasi hubungan antara ketiga variabel tersebut dengan kinerja keberlanjutan. Studi ini memberikan kontribusi strategis bagi pengembangan perbankan syariah yang berorientasi pada keberlanjutan, inovasi digital, dan tanggung jawab sosial.

Kata Kunci: Inovasi Digital, CSR, Kepuasan Pelanggan, Green Banking, Kinerja Keberlanjutan, Perbankan Syariah

ABSTRACT

This study aims to analyze the influence of Green Banking, Digital Innovation, and Corporate Social Responsibility (CSR) on the Sustainability Performance of Islamic banking, with Customer Satisfaction as a mediating variable. This research adopts a Systematic Literature Review (SLR) approach by analyzing 29 relevant studies published between 2020 and 2025. Data sources were obtained from reputable international journals indexed in academic databases such as Scopus and Google Scholar. The findings indicate that green banking, digital innovation, and CSR each have a significant positive effect on the sustainability performance of Islamic banks. Furthermore, customer satisfaction was found to mediate the relationship between these three variables and sustainability performance. This study contributes strategically to the development of Islamic banking oriented toward sustainability, digital innovation, and social responsibility.

Keywords: Digital Innovation, CSR, Customer Satisfaction, Green Banking, Sustainability Performance, Islamic Banking.

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PENDAHULUAN

1. Data, Facts, and Reality

The global financial system is facing multiple pressures: on the one hand, the increasingly alarming environmental crisis; on the other, the urgent need to promote inclusive and sustainable economic growth. ¹Warns that climate change could force more than 216 million people to migrate within their own countries by 2050, a figure that reflects the profound impact the ecological crisis is having on the global social and economic order. Amidst this situation, the banking sector especially Islamic banking is at a crucial crossroads.

In Indonesia, the Financial Services Authority (OJK) has issued a Sustainable Finance Roadmap (2021–2025) to encourage all financial institutions including Islamic banks to integrate Environmental, Social, and Governance (ESG) factors into their operations. Indonesia's largest Islamic bank, for example, has digitized nearly all of its services through digital applications to reduce its carbon footprint while channeling financing to environmentally friendly MSMEs and agribusinesses². Meanwhile, digital innovation (Digital Innovation) has fundamentally transformed the banking landscape. The use of digital financial technology in Islamic financial institutions can reduce customer transportation costs, shorten queue times, and expand service coverage without the constraints of space and time³. The World Bank Tracking SDG 7 report emphasizes that accelerating the adoption of digital technology in the financial sector is a key prerequisite for achieving global energy and sustainable development targets⁴.

On the other hand, Corporate Social Responsibility (CSR) in Islamic banking, which is based on the values of justice, transparency, and the welfare of the people, has great potential to be a driving force for sustainability. However, rapid commercial growth is often accompanied by so-called "social failure," namely the tendency of Islamic financial institutions to imitate the mechanisms of conventional banks that are solely profit-oriented, instead of optimizing the moral values that are the foundation of Islamic economics. In this context, the practice Green Banking present as a real solution that integrates environmental considerations into banking business processes.

On the other hand, Corporate Social Responsibility (CSR) in Islamic banking is not merely a marketing strategy, but rather a moral obligation rooted in the teachings of the Quran and Sunnah. Well-implemented CSR encompassing education, community

¹MayBank, "MayBank Sustainability Report 2021," 2021, <https://www.maybank.com/iwov-resources/documents/pdf/annual-report/2021/Maybank-Sustainability-Report-2021.pdf>.

²A Rehman et al., "Adoption of Green Banking Practices and Environmental Performance in Pakistan: A Demonstration of Structural Equation Modelling," *Environment, Development and Sustainability* 23, no. 9 (2021): 13200–220.

³M N Khatun, S Mitra, and M N I Sarker, "Mobile Banking during COVID-19 Pandemic in Bangladesh: A Novel Mechanism to Change and Accelerate People's Financial Access," *Green Finance* 3, no. 3 (2021): 253–67.

⁴World Bank, "Tracking SDG 7 – The Energy Progress Report 2022," 2022, <https://www.worldbank.org/en/topic/energy/publication/tracking-sdg-7-the-energy-progress-report-2022>.

empowerment, and environmental preservation has been shown to strengthen public trust and create emotional bonds between banks and their customers⁵. Furthermore, customer satisfaction (Customer Satisfaction) is a key variable determining the extent to which these practices lead to measurable sustainability performance. Satisfied customers tend to be more loyal, recommend services to others, and contribute to the long-term growth of Islamic banks.

2. Gap Research

Several gaps in the existing literature have been identified that motivate the present study. First, Rehman et al. found that the adoption of green banking practices had a positive impact on environmental performance in Pakistan, but did not explicitly measure its impact on sustainability performance, specifically in the context of Islamic banking, highlighting a significant gap concerning Islamic financial institutions⁶. Second, Khairunnessa et al. examined the development of green banking in Bangladesh and emphasized the importance of regulatory support, yet did not incorporate customer satisfaction as a mediating variable in the relationship between green banking and sustainable bank performance⁷. Third, studies focusing on digital innovation in banking, such as those by Aloini et al. and Berger et al., generally examine conventional banking contexts, leaving a considerable research gap regarding the influence of digital innovation on the sustainability of Islamic banking⁸. Finally, existing research on CSR in Islamic banking, including Gillan et al. (2021) and Alsayegh et al. (2020), tends to position CSR primarily as an independent variable affecting financial performance rather than sustainability performance mediated by customer satisfaction. This inconsistency in findings opens space for more comprehensive and integrative research that addresses these overlooked dimensions⁹.

3. Research Objectives

This research aims to achieve several interrelated objectives. First, it seeks to analyze the influence of Green Banking on the Sustainability Performance of Islamic banking, alongside examining the role of Digital Innovation and Corporate Social Responsibility (CSR) as contributing factors to sustainability outcomes within the same institutional context. Beyond these direct relationships, the study further investigates the role of Customer Satisfaction as a mediating variable in the

⁵ M F Alsayegh, R Abdul Rahman, and S Homayoun, "Corporate Economic, Environmental, and Social Sustainability Performance Transformation through ESG Disclosure," *Sustainability* 12, no. 9 (2020): 3910.

⁶ Rehman et al., "Adoption of Green Banking Practices and Environmental Performance in Pakistan: A Demonstration of Structural Equation Modelling." hlm. 13200-13220

⁷ F Khairunnessa, D A Vazquez-Brust, and N Yakovleva, "A Review of the Recent Developments of Green Banking in Bangladesh," *Sustainability* 13 (2021): 1904.

⁸ D Aloini, L Latronico, and L Pellegrini, "The Impact of Digital Technologies on Business Models: Insights from the Space Industry," *Measuring Business Excellence* 26, no. 1 (2022): 64–80; E S Berger et al., "Digital or Not – The Future of Entrepreneurship and Innovation," *Journal of Business Research* 125 (2021): 436–42.

⁹ S L Gillan, A Koch, and L T Starks, "Firms and Social Responsibility: A Review of ESG and CSR Research in Corporate Finance," *Journal of Corporate Finance* 66 (2021): 101889; Alsayegh, Abdul Rahman, and Homayoun, "Corporate Economic, Environmental, and Social Sustainability Performance Transformation through ESG Disclosure."

relationship between Green Banking, Digital Innovation, and CSR on Sustainability Performance, thereby providing a more nuanced understanding of the mechanisms through which these variables operate. Additionally, this research seeks to identify gaps in previous studies and offer.

HASIL DAN PEMBAHASAN

1. Green Banking on the Sustainability Performance of Sharia

Green banking refers to banking practices that actively integrate environmental considerations into business decision-making processes, including financing policies, office operations, and product development¹⁰ (Sharma & Choubey, 2022). In the context of Islamic banking, this concept has deep resonance because it aligns with Islamic principles. *maqashid sharia* which emphasizes environmental protection (*hifz al-bi'ah*) as one of the objectives of sharia.

Empirically, Rehman et al. demonstrated through structural equation modeling (SEM) that the adoption of green banking practices has a positive and significant impact on the environmental performance of financial institutions in Pakistan¹¹. This finding is supported by Khairunnessa et al., who documented the rapid development of green banking in Bangladesh, where banks implementing green financing policies were able to consistently improve their sustainability indicators¹².

In their study of Indian banking, Ajaz & Aijaz emphasized that bankers' positive perceptions of green banking practices are directly proportional to improved institutional sustainability performance¹³. Zheng et al. added that private commercial banks in Bangladesh actively implementing green finance schemes demonstrated superior sustainability performance compared to their competitors¹⁴. The MayBank Sustainability also revealed that commitment to green banking directly strengthens banks' positions in regional sustainability rankings¹⁵.

In the sharia dimension, Rahman & Rahman emphasized that green reporting (green reporting) is not merely a compliance tool, but rather a strategic instrument that strengthens the accountability and transparency of Islamic banks to all stakeholders. Thus, green banking in Islamic banking not only impacts environmental performance but also the social and governance aspects that are the pillars of Islamic banking. sustainability performance holistically¹⁶.

2. Digital Innovation on the Sustainability Performance of Sharia

¹⁰ M Sharma and A Choubey, "Green Banking Initiatives: A Qualitative Study on Indian Banking Sector," *Environment, Development and Sustainability* 24, no. 1 (2022): 293–319.

¹¹ Rehman et al., "Adoption of Green Banking Practices and Environmental Performance in Pakistan: A Demonstration of Structural Equation Modelling." hlm. 13200-13220

¹² Khairunnessa, Vazquez-Brust, and Yakovleva, "A Review of the Recent Developments of Green Banking in Bangladesh." hlm. 1904

¹³ Ajaz and Aijaz, "Green Banking Practices -A Review in Select Banks of India," *Turkish Online Journal of Qualitative Inquiry* 12, no. 10 (2021): 5137–45.

¹⁴ G.-W. Zheng et al., "Green Finance Development in Bangladesh: The Role of Private Commercial Banks (PCBs)," *Sustainability* 13 (2021): 795.

¹⁵ MayBank, "MayBank Sustainability Report 2021."

¹⁶ M M Rahman and M S Rahman, "Green Reporting as a Tool of Environmental Sustainability: Some Observations in the Context of Bangladesh," *International Journal of Management and Accounting* 2, no. 2 (2020): 31–37.

Digital innovation in banking refers to the application of cutting-edge technologies such as artificial intelligence, blockchain, big data analytics, and app-based services to create new value for customers and improve operational efficiency¹⁷. In Islamic banking, digital innovation plays a dual role: as an accelerator of financial inclusion and as an enabler of operational sustainability.

Berger et al. argue that digital transformation is essential for financial institutions seeking to survive and thrive in the post-pandemic era. They argue that digital innovation is not simply about process automation, but rather the creation of new business models that respond to changing consumer needs¹⁸. In the context of sustainability, Åström et al. demonstrate that artificial intelligence (AI)-based business models can create economic value while reducing environmental impact through improved resource efficiency¹⁹.

Bouncken et al. emphasized that digital knowledge-based innovation is the foundation of sustainable future business models. This finding is relevant for Islamic banking, which needs to continuously innovate while maintaining compliance with Sharia principles²⁰. Bunduchi et al. further identified that digital product innovation in entrepreneurial firms is strongly influenced by the leader's cognitive framework a relevant insight for Islamic bank management in fostering a culture of innovation²¹.

Khatun et al. specifically proved that mobile banking During the COVID-19 pandemic in Bangladesh, it has become a mechanism for transforming financial access tremendously, while simultaneously improving the sustainability performance of banks through expanding financial inclusion. For Indonesian Islamic banking, this digital transformation is a strategic instrument for expanding service reach to previously underserved segments (*unbanked*), thus contributing directly to the social dimension of sustainability performance²².

Ammirato et al.; Ardito & Capolupo added that process digitalization also enables banks to develop exploratory innovations that open up new market opportunities, a capability that is increasingly crucial amidst increasingly fierce competition in the global Islamic banking industry²³.

¹⁷ Aloini, Latronico, and Pellegrini, "The Impact of Digital Technologies on Business Models: Insights from the Space Industry." hlm. 64-80

¹⁸ Berger et al., "Digital or Not – The Future of Entrepreneurship and Innovation." *Journal of Business Research*, vol. 125, 2021, hlm. 436–442.

¹⁹ J Åström, W Reim, and V Parida, "Value Creation and Value Capture for AI Business Model Innovation: A Three-Phase Process Framework," *Review of Managerial Science* 16, no. 7 (2022): 2111–33.

²⁰ R B Bouncken, S Kraus, and N Roig-Tierno, "Knowledge- and Innovation-Based Business Models for Future Growth," *Review of Managerial Science* 15, no. 1 (2021): 1–14.

²¹ R Bunduchi et al., "Digital Product Innovation Approaches in Entrepreneurial Firms: The Role of Entrepreneurs' Cognitive Frames," *Technological Forecasting and Social Change* 175 (2021): 121343.

²² Khatun, Mitra, and Sarker, "Mobile Banking during COVID-19 Pandemic in Bangladesh: A Novel Mechanism to Change and Accelerate People's Financial Access." hlm. 253–267.

²³ S Ammirato et al., "Digitalizing the Systematic Literature Review Process: The MySLR Platform," *Knowledge Management Research & Practice*, 2022, 1–18; L Ardito and P Capolupo, "Exploratory Innovation in Family-Owned Firms: The Moderating Role of Digital Search," *IEEE Transactions on Engineering Management*, 2023, 1–11.

3. Corporate Social Responsibility towards the Sustainability Performance of Sharia

Corporate Social Responsibility (CSR) in Islamic banking has a richer dimension than conventional CSR, as it is grounded in moral obligations derived from Islamic values. Alsayegh et al. demonstrated through ESG disclosure analysis that simultaneous disclosure of economic, environmental, and social performance can significantly transform a company's sustainability performance²⁴.

Gillan et al. in their comprehensive study of CSR and ESG in corporate finance asserted that CSR is no longer merely philanthropy, but rather an integral part of business strategy that determines a company's long-term value²⁵. Flammer specifically pointed out that the publication of green bonds by companies as a form of environmentally based CSR is positively correlated with increased stock performance and long-term environmental performance²⁶.

In the context of Islamic banking, Paltrinieri et al. found that the development of Islamic finance is positively correlated with banks' ESG scores across various countries. This indicates that Islamic banks that consistently implement CSR based on the maqasid sharia principles tend to have a stronger sustainability profile²⁷. Ledhem & Mekidiche, corroborate this finding by showing that the financial performance of Islamic banks, as measured by the CAMELS approach, is significantly influenced by how well the bank integrates social and environmental values into its operations²⁸.

Bae et al. provide interesting empirical evidence that CSR is a protective factor (resilience factor) for companies in times of crisis such as those experienced during the COVID-19 pandemic. Islamic banks with a strong CSR track record have proven more resilient in maintaining customer trust and business performance²⁹. Drempetic et al. added that company size moderates the relationship between CSR and sustainability scores, with larger Islamic banks having greater capacity to invest resources in impactful CSR programs³⁰.

4. Customer Satisfaction as a Mediating Variable

Customer satisfaction is the result of customers' cognitive and affective evaluations of their overall interaction experience with the bank, including product quality, service, and perceived value. Within Oliver's (1980) Expectation-Disconfirmation theory, satisfaction is formed when actual performance met or exceeded their initial expectations.

²⁴ Alsayegh, Abdul Rahman, and Hodayoun, "Corporate Economic, Environmental, and Social Sustainability Performance Transformation through ESG Disclosure." hlm. 3910.

²⁵ Gillan, Koch, and Starks, "Firms and Social Responsibility: A Review of ESG and CSR Research in Corporate Finance." hlm. 101889.

²⁶ C Flammer, "Corporate Green Bonds," *Journal of Financial Economics* 142, no. 2 (2021): 499–511.

²⁷ A Paltrinieri et al., "Islamic Finance Development and Banking ESG Scores: Evidence from a Cross-Country Analysis," *Research in International Business and Finance* 51 (2020): 101100.

²⁸ M A Ledhem and M Mekidiche, "Economic Growth and Financial Performance of Islamic Banks: A CAMELS Approach," *Islamic Economic Studies* 28, no. 1 (2020): 47–62.

²⁹ K H Bae et al., "Does CSR Matter in Times of Crisis? Evidence from the COVID-19 Pandemic," *Journal of Corporate Finance* 67 (2021): 101876.

³⁰ S Drempetic, C Klein, and B Zwergel, "The Influence of Firm Size on ESG Score: Corporate Sustainability Ratings under Review," *Journal of Business Ethics* 167, no. 2 (2020): 333–60.

In relation to green banking, customers who recognize and appreciate a bank's sustainability practices tend to experience higher levels of satisfaction because the bank is perceived as contributing to the social and environmental values they care about. Bangladesh Bank, emphasizes in its regulations that transparent and consistent environmentally-based services have been shown to directly increase customer trust and satisfaction³¹.

Amir investigated Bangladeshi bankers' perceptions of green banking and found that customers who understood the benefits of green banking demonstrated higher levels of satisfaction and loyalty³². Meanwhile, Sharma & Choubey, in their qualitative study of the Indian banking sector, confirmed that well-communicated green banking initiatives significantly increased customer satisfaction, which in turn boosted banks' sustainability performance³³.

Within the digital innovation dimension, customer satisfaction serves as a bridge between technology adoption and sustainability performance. Customers satisfied with digital services will use them more frequently, reduce visits to physical offices, and indirectly contribute to reducing the bank's operational carbon footprint. Majeed & Zainab, in a comparison of the performance of Islamic versus conventional banks in Pakistan, found that customer satisfaction mediated the impact of service innovation on banks' financial and non-financial performance, including the sustainability dimension³⁴.

RESEARCH METHODOLOGY

This study employed a Systematic Literature Review (SLR) approach with strict protocols to ensure the authenticity and validity of the data. This method was used to identify, evaluate, and synthesize previous research findings relevant to the research topic, namely the influence of Green Banking, Digital Innovation, and Corporate Social Responsibility on the Sustainability Performance of Islamic Banking, with Customer Satisfaction as a mediating variable. The literature search strategy focused on the Google Scholar academic database using a combination of keywords. "Green Banking" AND "Sustainability Performance" AND "Sharia", as well as other relevant combination variations.

1. Initial Identification

The initial search process yielded approximately 312 related documents from various academic database sources covering the topics of green banking, digital innovation, CSR, customer satisfaction, and sustainability performance in the context of Islamic banking and Islamic finance.

2. Year Filtering

³¹Bangladesh Bank, "Sustainable Finance Department Circular," 2020, <https://www.bb.org.bd/mediaroom/circulars/gbcrd/dec312020sfd05.pdf>.

³²M Amir, "Banker Attitudes and Perception towards Green Banking: A Study of Select Banks on Conventional Banks in Bangladesh," 2021.

³³ Sharma and Choubey, "Green Banking Initiatives: A Qualitative Study on Indian Banking Sector." , hlm. 293–319.

³⁴M T Majeed and A Zainab, "A Comparative Analysis of Financial Performance of Islamic Banks Vis-à-Vis Conventional Banks: Evidence from Pakistan," *ISRA International Journal of Islamic Finance* 13, no. 3 (2021): 331–46.

A year filter was applied to limit publications to the period 2020 to 2025 to ensure data accuracy and relevance of findings to current Islamic banking conditions. After filtering, the number of articles was reduced to 148 that met the publication year criteria.

3. Inclusion Criteria

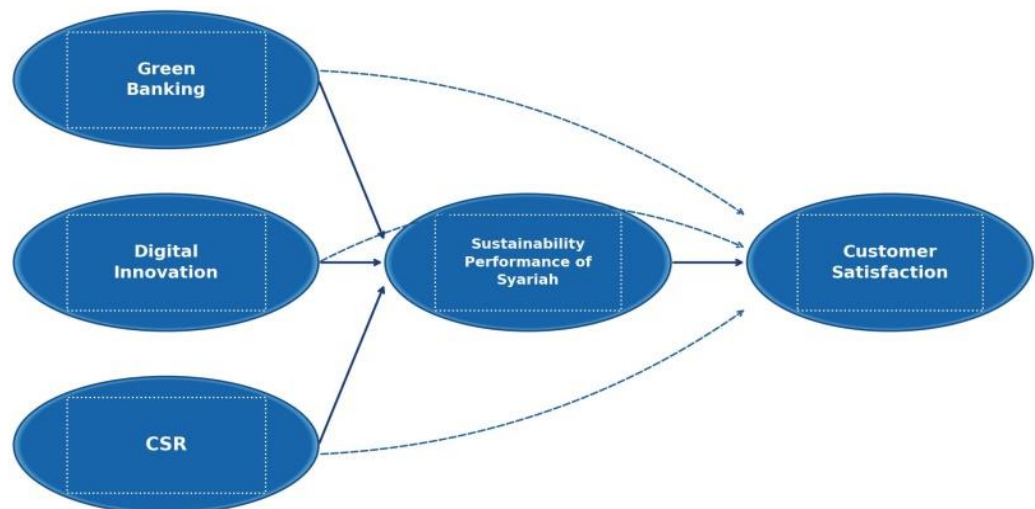
Articles included in this review must meet the following criteria: (a) published in an international English-language journal; (b) be peer-reviewed; (c) empirically test at least two of the main research variables (green banking, digital innovation, CSR, customer satisfaction, sustainability performance); and (d) be relevant to the context of Islamic banking or Islamic finance. Articles that lack full text access, are irrelevant to the topic, or are duplicates were excluded from the analysis.

4. Data Extraction

A total of 29 final articles were selected for further analysis based on their highest relevance to the relationship between green practices, digital innovation, social responsibility, customer satisfaction, and the sustainability performance of Islamic banking. The extraction process involved grouping findings based on research variables, comparing results across studies, and identifying consistent and controversial patterns of relationships.

DISCUSSION

Based on an analysis of 29 international journals, there are several significant common threads regarding how green banking practices, digital innovation, social responsibility, and customer satisfaction together shape the sustainability performance of Islamic banking.



1. The Influence of Green Banking on the Sustainability Performance of Sharia

Findings from 29 analyzed journals consistently show that green banking has a positive and significant impact on the sustainability performance of Islamic banking. This influence operates through two main channels: a direct channel through reducing the environmental impact of bank operations, and an indirect channel through building reputation and stakeholder trust.

From a direct perspective, Rehman et al. demonstrated that banks adopting green banking practices such as financing renewable energy projects, paperless office operations, and responsible waste management showed significant reductions in their operational carbon footprints³⁵. Zheng et al. corroborated these findings by showing that commercial banks in Bangladesh active in green finance consistently had better environmental performance indicators³⁶.

From an indirect perspective, Khairunnessa et al. found that transparently communicated green banking practices build positive perceptions among customers and investors, ultimately strengthening the bank's long-term competitive position³⁷. The MayBank Sustainability Report revealed that a commitment to green banking consistently boosts the bank's sustainability ranking, which translates into easier access to capital and strategic business partners³⁸.

Specifically, in the context of Islamic banking, the influence of green banking on sustainability performance is increasingly strong due to its alignment with core Islamic values. Sharma & Choubey emphasized that green banking initiatives in financial institutions based on religious values tend to receive stronger customer support because they are perceived not simply as a business strategy but as a manifestation of moral responsibility³⁹. Ajaz & Aijaz added that bankers' positive attitudes toward green banking practices are a prerequisite for successful implementation, and this is highly dependent on an organizational culture that integrates sustainability values⁴⁰.

However, the effectiveness of green banking in boosting sustainability performance does not occur automatically. Rahman & Rahman caution that without a transparent and standardized green reporting system, green banking claims risk becoming false greenwashing which can actually damage reputation and reduce

³⁵ Rehman et al., "Adoption of Green Banking Practices and Environmental Performance in Pakistan: A Demonstration of Structural Equation Modelling." h. 13200–13220.

³⁶ Zheng et al., "Green Finance Development in Bangladesh: The Role of Private Commercial Banks (PCBs)." h.. 795

³⁷ Khairunnessa, Vazquez-Brust, and Yakovleva, "A Review of the Recent Developments of Green Banking in Bangladesh." hlm. 1904

³⁸ MayBank, "MayBank Sustainability Report 2021."

³⁹ Sharma and Choubey, "Green Banking Initiatives: A Qualitative Study on Indian Banking Sector." hlm. 293–319.

⁴⁰ Ajaz and Aijaz, "Green Banking Practices -A Review in Select Banks of India." hlm. 5137–5145.

long-term sustainability performance. Therefore, implementation integrity and disclosure quality are crucial moderating variables⁴¹.

2. The Influence of Digital Innovation on the Sustainability Performance of Sharia

Digital innovation has proven to be a key driver of sustainability performance in Islamic banking in the contemporary era. A strong consensus emerged from the 29 articles analyzed that digital transformation not only improves operational efficiency but also unlocks dimensions of sustainability previously difficult to achieve through conventional business models.

Aloini et al., in their study of the space industry, demonstrated how digital technology fundamentally transformed business models, a lesson highly relevant to the Islamic banking sector, which is also experiencing similar disruption⁴². Bouncken et al., emphasized that business models based on digital knowledge innovation are key to sustainable growth because they are capable of creating continuous added value (continuous value creation) for customers and other stakeholders⁴³.

In the environmental dimension, Khatun et al. empirically demonstrated that mobile banking services reduce customers' need for physical travel to bank branches, which in aggregate contributes to significant carbon emission reductions⁴⁴. This aligns with the findings of World Bank Tracking SDG 7, which emphasizes that digitalization of financial services is one of the most efficient pathways to achieving SDG targets related to clean energy and sustainable development⁴⁵.

In the social dimension, digital innovation expands the reach of Islamic banking services to previously underserved segments. Åström et al., demonstrate that AI-based value creation and capture models open up opportunities to serve customers in remote areas without expensive physical infrastructure⁴⁶. Bahl et al., add that in the context of transitional economies, well-managed digital innovation can balance growth and social inclusiveness two key dimensions of sustainability performance⁴⁷.

Ammirato et al. identified that digitizing internal bank processes, including literature review and data-driven decision-making, significantly improves banks' innovation capacity and adaptability to changes in the regulatory and market

⁴¹ Rahman and Rahman, "Green Reporting as a Tool of Environmental Sustainability: Some Observations in the Context of Bangladesh." hlm. 31–37.

⁴² Aloini, Latronico, and Pellegrini, "The Impact of Digital Technologies on Business Models: Insights from the Space Industry." hlm. 64–80.

⁴³ Bouncken, Kraus, and Roig-Tierno, "Knowledge- and Innovation-Based Business Models for Future Growth." hlm. 1–14.

⁴⁴ Khatun, Mitra, and Sarker, "Mobile Banking during COVID-19 Pandemic in Bangladesh: A Novel Mechanism to Change and Accelerate People's Financial Access." hlm. 253–267.

⁴⁵ Bank, "Tracking SDG 7 – The Energy Progress Report 2022."

⁴⁶ Åström, Reim, and Parida, "Value Creation and Value Capture for AI Business Model Innovation: A Three-Phase Process Framework." hlm. 2111–2133

⁴⁷ M Bahl, S Lahiri, and D Mukherjee, "Managing Internationalization and Innovation Tradeoffs in Entrepreneurial Firms: Evidence from Transition Economies," *Journal of World Business* 56, no. 1 (2021): 101150. hlm. 101150.

environment. For Islamic banking, this adaptability is crucial given the ever-evolving dynamics of Islamic regulations across jurisdictions⁴⁸.

3. The Influence of Corporate Social Responsibility on the Sustainability Performance of Sharia

CSR in Islamic banking holds a unique and fundamental position: it is not merely a reputational tool, but a concrete expression of the institution's commitment to the maqasid sharia. An analysis of 29 journals found that authentic and consistent CSR implementation has a strong positive impact on the sustainability performance of Islamic banking.

Alsayegh et al. found in their longitudinal study that comprehensive ESG disclosure covering economic, environmental, and social dimensions significantly transforms a company's sustainability profile. This finding has direct implications for Islamic banking: the more holistic and transparent the CSR implementation, the stronger its contribution to measurable sustainability performance⁴⁹.

Bae et al. provide compelling evidence from the crisis context: during the COVID-19 pandemic, banks with strong CSR track records demonstrated significantly greater resilience in maintaining customer trust and business performance. In Islamic banking, this resilience is further strengthened by the religious-based trust that already exists between the bank and its customers⁵⁰.

Flammer, shows that issuing green bonds an environmentally-based CSR instrument not only improves environmental performance but also has a positive impact on long-term financial performance. For Islamic banks, this instrument can be implemented in the form of green sukuk which simultaneously meets sharia requirements and sustainability targets⁵¹.

Paltrinieri et al. and Drempetic et al. jointly revealed that ESG scores of Islamic banks in various countries are influenced by the level of Islamic financial development in those countries and the scale of the bank's organization. These findings imply that a conducive ecosystem including supportive regulations, a mature market, and adequate organizational capacity is a prerequisite for Islamic banking CSR to achieve optimal sustainability impact⁵².

4. The Role of Customer Satisfaction as a Mediating Variable

One of the most consistent findings from the analysis of 29 journals is that customer satisfaction serves as a strong mediator between green banking practices,

⁴⁸ Ammirato et al., "Digitalizing the Systematic Literature Review Process: The MySLR Platform." *Knowledge Management Research & Practice*, 2022, hlm. 1–18.

⁴⁹ Alsayegh, Abdul Rahman, and Homayoun, "Corporate Economic, Environmental, and Social Sustainability Performance Transformation through ESG Disclosure." hlm. 3910

⁵⁰ Bae et al., "Does CSR Matter in Times of Crisis? Evidence from the COVID-19 Pandemic." *Journal of Corporate Finance*, vol. 67, 2021, hlm. 101876.

⁵¹ Flammer, "Corporate Green Bonds."

⁵² Paltrinieri et al., "Islamic Finance Development and Banking ESG Scores: Evidence from a Cross-Country Analysis"; Drempetic, Klein, and Zwergel, "The Influence of Firm Size on ESG Score: Corporate Sustainability Ratings under Review."

digital innovation, and CSR and the sustainability performance of Islamic banking. Without customer satisfaction, even the best practices will not produce optimal sustainability impacts.

In relation to green banking, Amir found that customers who are aware of and understand the bank's commitment to the environment show higher levels of satisfaction, which then drives loyalty and repeat purchasing behavior⁵³. Sharma & Choubey reinforce this finding by showing that effective communication about green banking initiatives significantly increases customer satisfaction, especially among the younger generation who have higher environmental concerns⁵⁴.

In the digital innovation dimension, customer satisfaction acts as a converter, transforming positive digital experiences into measurable sustainability performance. Khatun et al. showed that customers satisfied with mobile banking services not only increase the frequency of their digital transactions but also promote the service to their families and communities, thereby expanding the social impact of Islamic banks⁵⁵.

In relation to CSR, Majeed & Zainab in a comprehensive comparison between Islamic and conventional banks in Pakistan found that customer satisfaction significantly mediates the relationship between CSR programs and bank sustainability performance. Customers who experience tangible benefits from CSR programs both personal and communal tend to provide stronger support to the bank, including in the form of a willingness to pay premiums (willingness to pay premium) for sustainable products and services⁵⁶.

Tarique et al., in their study of Islamic bank performance measurement based on the maqasid model, emphasized that customer satisfaction is not only a performance indicator but also a normative objective inherent in the Islamic banking system⁵⁷. Therefore, positioning customer satisfaction as a mediator between sustainability practices and overall Islamic bank performance is not only theoretically sound but also aligned with the fundamental philosophy of Islamic banking.

5. Green Banking, Digital Innovation, and Corporate Social Responsibility on the Sustainability Performance of Sharia with Customer Satisfaction as a Mediating Variable

⁵³ Amir, "Banker Attitudes and Perception towards Green Banking: A Study of Select Banks on Conventional Banks in Bangladesh."

⁵⁴ Sharma and Choubey, "Green Banking Initiatives: A Qualitative Study on Indian Banking Sector." hlm. 293–319.

⁵⁵ Khatun, Mitra, and Sarker, "Mobile Banking during COVID-19 Pandemic in Bangladesh: A Novel Mechanism to Change and Accelerate People's Financial Access." hlm. 253–267.

⁵⁶ Majeed and Zainab, "A Comparative Analysis of Financial Performance of Islamic Banks Vis-à-Vis Conventional Banks: Evidence from Pakistan." *ISRA International Journal of Islamic Finance*, vol. 13, no. 3, 2021, hlm. 331–346.

⁵⁷ K M Tarique, R Islam, and M O Mohammed, "Measuring Islamic Bank Performance Using Maqasid-Based Model," *International Journal of Islamic and Middle Eastern Finance and Management*, 2020.

Integratively, the three independent variables in this study green banking, digital innovation, and CSR work synergistically and complement each other in shaping the sustainability performance of Islamic banking, with customer satisfaction as a crucial mediating bridge.

Green banking builds the environmental and social legitimacy of Islamic banks, creating a strong foundation of trust among increasingly environmentally conscious customers⁵⁸. Digital innovation accelerates the reach and efficiency of services, opening access to a wider customer segment while reducing the operational carbon footprint⁵⁹. Meanwhile, CSR strengthens the emotional and moral connection between banks and the communities they serve, building a foundation of loyalty that goes beyond mere transactional considerations⁶⁰.

Customer satisfaction acts as a catalyst that transforms these three practices into concrete and measurable sustainability performance. Satisfied customers are a strategic asset that enables Islamic banks to continue investing in sustainable practices without sacrificing profitability⁶¹. Furthermore, in the context of Islamic banking, customer satisfaction based on trust and religious values creates a virtuous cycle where sustainability drives satisfaction, satisfaction drives loyalty, and loyalty drives growth which in turn enables further investment in sustainability.

Ibrahim & Ismail, emphasized that appropriate regulations and strong institutional parameters are crucial enablers for the efficiency of Islamic banks, directly supporting their capacity to implement comprehensive sustainability strategies⁶². This implies that the success of the green banking digital innovation CSR customer satisfaction sustainability performance integration model is highly dependent on a conducive regulatory ecosystem, including the OJK's policies through the 2021–2025 Sustainable Finance Roadmap.

CONCLUSION

Based on the results of a systematic literature review of 29 international journals regarding the influence of Green Banking, Digital Innovation, and Corporate Social Responsibility on the Sustainability Performance of Islamic banking with

⁵⁸ Rehman et al., "Adoption of Green Banking Practices and Environmental Performance in Pakistan: A Demonstration of Structural Equation Modelling"; Khairunnessa, Vazquez-Brust, and Yakovleva, "A Review of the Recent Developments of Green Banking in Bangladesh." hlm. 13200–13220.

⁵⁹ Khatun, Mitra, and Sarker, "Mobile Banking during COVID-19 Pandemic in Bangladesh: A Novel Mechanism to Change and Accelerate People's Financial Access"; Aloini, Latronico, and Pellegrini, "The Impact of Digital Technologies on Business Models: Insights from the Space Industry."

⁶⁰ Alsayegh, Abdul Rahman, and Homayoun, "Corporate Economic, Environmental, and Social Sustainability Performance Transformation through ESG Disclosure"; Bae et al., "Does CSR Matter in Times of Crisis? Evidence from the COVID-19 Pandemic."

⁶¹ Majeed and Zainab, "A Comparative Analysis of Financial Performance of Islamic Banks Vis-à-Vis Conventional Banks: Evidence from Pakistan." hlm. 331–346.

⁶² W H W Ibrahim and A G Ismail, "Do Regulation, Maqasid Shariah, and Institutional Parameters Improve Islamic Bank Efficiency?," *Journal of Islamic Monetary Economics and Finance* 6, no. 1 (2020): 135–62.

Customer Satisfaction as a mediating variable, it can be concluded that, Green banking has a positive and significant impact on the sustainability performance of Islamic banking. The implementation of green banking practices including green financing, paperless operations, and environmental management consistently improves the sustainability performance of Islamic banks, both by reducing direct environmental impacts and by strengthening reputation and stakeholder trust. Digital innovation has a positive and significant impact on the sustainability performance of Islamic banking. Digital transformation expands Islamic banks' social reach, improves operational efficiency, contributes to a reduced environmental footprint, and creates new, sustainable business models. Corporate Social Responsibility has a positive and significant impact on the sustainability performance of Islamic banking. Authentic CSR implementation aligned with the values of Maqasid Sharia builds institutional resilience and strengthens Islamic banks' long term competitive position. Customer satisfaction has been shown to significantly mediate the relationship between green banking, digital innovation, and CSR with Islamic banking sustainability performance. Customer satisfaction is a transmission mechanism that transforms sustainability practices into measurable and sustainable performance. Overall, these four variables work synergistically in a mutually supportive ecosystem, forming a comprehensive and holistic model of Islamic banking sustainability.

Suggestions

Islamic bank management is advised to integrate the three pillars green banking, digital innovation, and CSR into a cohesive sustainability strategy. Implementation should not be partial or merely to comply with regulations; it must become an integral part of the organization's DNA. Regular customer satisfaction measurements are necessary to ensure that sustainability practices are truly perceived by customers and lead to measurable performance improvements.

The Financial Services Authority (OJK) and Bank Indonesia are advised to strengthen the regulatory framework that encourages the integration of ESG and digital innovation in Islamic banking. Harmonized sustainability reporting standards, fiscal incentives for green financing, and a Sandox regulatory framework for Islamic digital innovation would be instrumental in creating a conducive ecosystem for the growth of sustainable Islamic banking in Indonesia.

Future research is recommended to conduct direct empirical testing using quantitative or mixed methods using primary data from Islamic bank customers in various countries. Additional variables such as customer religiosity, Islamic financial literacy, and regulatory pressure can be considered as moderating variables that enrich the research model. Furthermore, longitudinal analysis is needed to understand the dynamics of the relationships between variables over the long term.

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