THE SYSTEMATIC LITERATURE REVIEW OF THE IMPACT OF FINTECH IN ENCOURAGING GREEN INNOVATION IN MSMEs

[1]*Royanti Sinaga, [2]Fayeno Yunanda

[1,2] Department of Digital Business, Faculty of Economics and Business, University of Satya Terra Bhinneka - Indonesia

e-mail:
[1]*royantisinaga@satyaterrabhinneka.ac.id *(corresponding author)*
[2]fayenoyunanda@satyaterrabhinneka.ac.id

ABSTRACT

This study investigates the role of fintech in promoting green innovation among Small and Medium Enterprises (SMEs) worldwide. This paper analyses various research studies and highlights key aspects of fintech's contributing to sustainable business practices. Firstly, fintech supports access to finance through digital platforms and innovative financing models such as peer-to-peer lending (P2P), enabling SMEs to invest in environmentally friendly technologies. Secondly, green financing mechanisms such as crowdfunding and blockchain technology facilitate transparent and accountable investments in sustainable projects. Thirdly, fintech promotes the digitalization of business operation processes, increasing efficiency and reducing carbon footprints. Furthermore, fintech contributes to developing financial literacy, empowering SMEs to make better decisions about sustainable investments. The study also explores how fintech incentives, such as rewards for eco-friendly purchases, could drive consumer demand for sustainable products. To sum up, fintech plays a vital role in fostering green innovation among SMEs by providing better access to finance, promoting transparency, introducing eco-friendly technologies, and expanding market access.

Keywords: *Fintech; Green Innovation; MSMEs*

Received : 26-06-2024
Revised : 27-06-2025
Approved : 30-06-2025
Published : 03-07-2025

INTRODUCTION

Sustainable economic development has become a primary focus in the current global economy (Ali et al., 2021). The focus was not only to achieve high economic growth but to balance social aspects and environmental sustainability to alleviate poverty holistically (Harriam et al., 2023). As the country with the largest Gross Domestic Product (GDP) in Southeast Asia, Indonesia has a strategic role in realizing sustainable development (Mai, 2023). Micro, Small, and Medium Enterprises (MSMEs) are the backbone of the Indonesian economy. With several business actors reaching 99% of the total business units, MSMEs contribute significantly to job absorption and national economic growth. Although MSMEs contribute significantly to the economy and job absorption, this sector also contributes to environmental problems (Saputra & Darmawan, 2023).

The South Tangerang Environmental Agency mentioned that three businesses in the MSME sector contribute the most to pollution, namely shoe factories, tissue paper, and ceramics (Kompas, 2023). Referring to law Number 20 of 2008 about Micro, Small, and Medium Enterprises explains that the government encourages MSME actors to pay attention to environmental aspects. One way is by providing incentives to MSME actors who preserve the environment. This is also in line with Presidential Regulation Number 35 of 2018 about accelerating the development of Waste-to-Energy Power Plants (PLTSa), which is the government's focus on waste management. This was regulated in Law Number 23 of 2009, Environmental Protection and Management. It highlights that MSMEs are not required to prepare an AMDAL (Environmental Impact Analysis) and UKL/PKL (Environmental Management Effort and Monitoring) but are required to prepare a statement of commitment to waste management and environmental monitoring (SPPL).

These problems have motivated researchers to conduct research related to MSMEs that must pay attention to the environment, which can be implemented with a green economy. According to Rao et al., (2022), the presence of fintech can drive environmentally friendly innovations for MSMEs in terms of sustainable products and processes. Fintech offers great potential to increase transparency and accountability in financing green projects (Khan & Urooj, 2023). Fintech provides transparency and accountability through crowdfunding platforms (Santos et al., 2022).

According to Frost, (2020) and Sanga & Aziakpono, (2023), FinTech is applied in three major areas of financial services: (i) payments clearing and settlement services; (ii) credit, deposits and capital raising services; and (iii) investment management services. Different drivers determine the proliferation and adoption of FinTech. Economic necessities and gaps in the provision of financial services and products drive the rise of FinTech in developing countries. However, despite the many potentials of fintech in supporting sustainability, the specific aspects of fintech's role in driving green innovation in MSMEs are still poorly understood (Bhat et al., 2024). Therefore, this research will delve deeper into two main things that are the main focus of this research 1) what are the aspects of financial innovation in promoting green innovation among SMEs? 2) what are the roles of financial innovation in promoting green innovation among SMEs?

The purpose of this study is to explore the role of financial technology (fintech) in driving green innovation among Micro, Small, and Medium Enterprises. This study aims to identify aspects of financial innovation that can promote green innovation in MSMEs, and analyze how this financial innovation plays a role in driving more environmentally friendly business practices. The contribution of this study is expected to provide a better understanding of the potential of fintech in supporting sustainability in the MSME sector, which has a significant role in the Indonesian economy, but also

contributes to environmental problems (Saputra & Darmawan, 2023). Thus, this research is expected to provide insight for policy makers, fintech industry players, and MSMEs themselves in utilizing fintech to achieve sustainable economic development (Ali et al., 2021) by balancing social aspects and environmental sustainability (Harriam et al., 2023). While fintech's potential to support sustainability is recognized, its specific role in driving green innovation in MSMEs remains poorly understood (Bhat et al., 2024). This research is expected to fill this gap and provide a real contribution to efforts to realize a green economy in Indonesia.

LITERATURE REVIEW

Previous research has shown that fintech has great potential to drive green innovation in the business world, especially for Micro, Small, and Medium Enterprises (MSMEs). Santos et al., (2022) stated that technological and organizational factors positively influence the adoption of fintech services by MSMEs. The main attractions are ease of use, usefulness, and effectiveness of fintech in performing business tasks. In addition, fintech can also reduce companies' environmental impact and internal costs.

The adoption of fintech in supporting the development of new sustainable products and services is a catalyst for green innovation in MSMEs (Khan & Urooj, 2023). By providing access to financing, increasing operational efficiency, and supporting the development of new sustainable products and services, FinTech can help MSMEs contribute to sustainable development (Li et al., 2023). The research of Santos et al., (2022) adds that fintech offers easy access to finance, primarily through P2P lending platforms. This allows MSMEs to obtain the capital to invest in environmentally friendly technologies.

Furthermore, Pizzi et al., (2020) further explain that the adoption of fintech can help MSMEs transition to more sustainable business systems in three main ways: natural capital preservation, minimization of waste in the production process, and reduction of negative externalities. This transition aligns with the circular economy concept of creating a sustainable ecosystem (Suparji, 2021). Nguyen et al. (2024) also emphasize the important role of digital technology in driving the transition to a circular economy.

Adopting fintech in SMEs can reduce the use of paper and physical documents, thus contributing to environmental conservation. As Santos et al., (2022) state, the digitalization of MSME operations can reduce paper usage and carbon emissions and support waste reduction efforts. Pizzi et al., (2020) add that adopting fintech in MSMEs could help them access more opportunities in financial services and information related to green innovations.

Kubi et al., (2024) also highlight the role of fintech in supporting sustainability projects and promoting more transparent sustainability reporting. For example, platforms such as crowdfunding and blockchain technology can increase transparency and accountability in MSME financial management. Green financing facilitated by fintech encourages MSMEs to allocate funds to sustainable projects. It increases transparency in disclosing sustainability-oriented business practices (Doghan & Chong, 2023).

Tian (2023) affirms that new technologies, including fintech, could motivate companies to adopt more environmentally friendly business practices in digitalising business management processes. With fintech, MSMEs can access more affordable financing to craft more environmentally friendly products and services (Kubi et al., 2024). The digitalization of operations facilitated by fintech also allows MSMEs to increase efficiency, reduce waste, and measure the environmental impact of business activities (Bhat et al., 2024). Through Internet of Things, big data, AI, blockchain, and machine

learning, MSMEs can map the impact of their business on the environment and measure the effects of environmental changes on their business (Khan & Urooj, 2023). Thus, fintech increases the efficiency and productivity of MSMEs, provides easier access to financing, and promotes adopting sustainable activities in running businesses (Tian, 2023).

The Indonesian government has demonstrated a strong commitment to alleviating poverty by fostering the growth of MSMEs and improving the financial industry through fintech (Muhammad et al., 2025). According to Suparji (2021), various government initiatives provide facilities and incentives for MSMEs, including interest subsidies, credit restructuring, and investment financing. On the other hand, Ulah et al., (2023) highlighted the great potential of the green economy in Indonesia, especially in utilizing abundant natural resources to create jobs and sustainable economic growth. Fintech can support this by providing easier access for MSMEs to financing for environmentally friendly projects, such as developing renewable energy or organic agriculture. In addition, fintech can facilitate the digitalization of MSME operations, thus increasing efficiency and reducing environmental impact (Bayram et al., 2022).

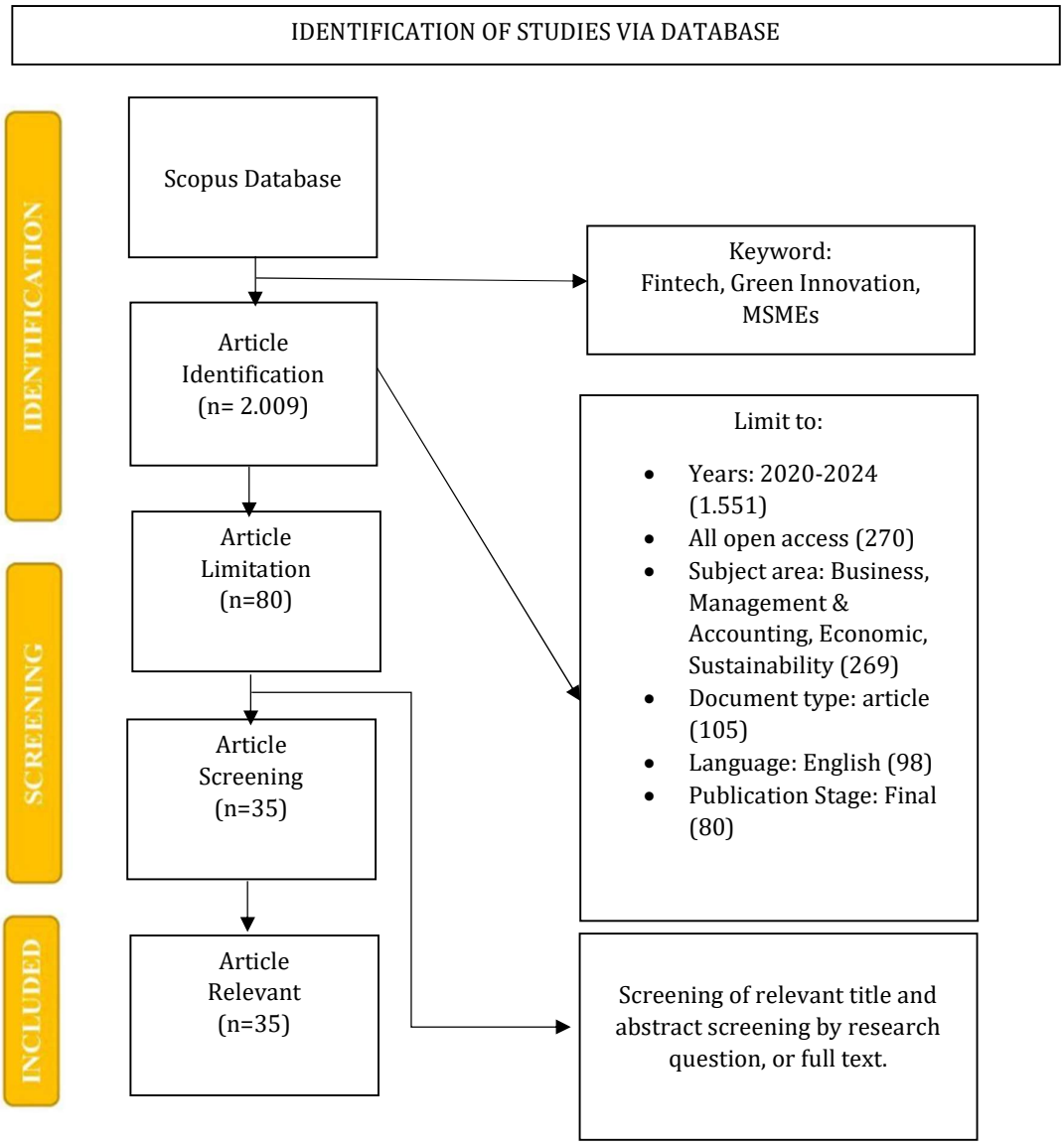
In addition to having enormous potential to drive innovation in MSMEs, fintech also has the potential for risks and challenges in its implementation. Zho & Chen, (2021) remind us that fintech innovation, although bringing efficiency, also presents risks such as cybersecurity, the digital divide, and complex regulations. Therefore, a balance between innovation and regulation is needed.

Thus, fintech has a strategic role in supporting Indonesia's green economy and the growth of MSMEs. At least three main points of fintech's role as a green innovation for MSMEs. Firstly, fintech can accelerate MSMEs' access to the financing needed to invest in green technologies and sustainable business practices. Secondly, fintech can drive the digitalization of MSME operations, thus increasing efficiency and reducing waste. Thirdly, fintech can facilitate the development of new environmentally friendly products and services, such as carbon-based trading platforms or markets for sustainable products.

METHOD

Research method can be defined as a work procedure in the research process, both in finding data and revealing existing phenomena (Zulkarnaen et al., 2020). This research uses Systematic Literature Review (SLR), bibliometric analysis helps to analyze the many types of statistics related to research publications and their citation analysis, while SLR attempts to provide an in-depth investigation of the chosen research area and answer some specific research questions (Agrawal et al., 2023), with a focus on the variable Fintech driving Green Innovation in SMEs. This method analyses the aspects and roles of the fintech variable in driving green innovation in SMEs in various countries. This study uses a Systematic Literature Review based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Parums, 2021), as depicted in Figure 1, which explains the data search flow and the compilation of research results.

Figure 1.
Flowchart Identification of Studies Via Database



The Systematic Literature Review (SLR) was conducted for this research using articles collected from the Scopus database. We searched for articles using the keywords 'Fintech', 'Green Innovation', and 'SMEs' published between 2020 and 2025. The reason researchers use it starts in 2020 is to ensure that your literature review includes the most relevant, recent research or findings and to understand the "state-of-the-art". We focused on open-access business, management, sustainability, and finance articles. After applying these filters, we found 80 relevant articles. These articles were then downloaded from various databases like Scopus, Science Direct, etc. Finally, we checked the ranking of the journals where these articles were published using the Scimago Journal & Country Rank. A screening process was performed on the 80 selected articles to identify research aligned with the research questions. This screening was based on the relevance of the

titles and abstracts to the specific aspects and roles of fintech in driving SMEs. Subsequently, a more in-depth screening process was carried out by reading and understanding each article to obtain relevant findings. Articles deemed irrelevant were eliminated. As a result, this research ultimately yielded 28 articles that were aligned with the research questions.

RESULTS AND DISCUSSION

Based on the research questions, the findings of this study are presented in two tables: Table 1, the aspects of Fintech in driving Green Innovation among SMEs

Table 1
Aspects of Fintech in Encouraging Green Innovation in MSMEs

No	Aspect	Sources
1	Green financing	Tian, H., Siddik, A. B., Raja, T. P., & Rahman, M. N. (2023)
2	Green crowdfunding platforms	Santos, D. M., Oliveira, M. A., & Moreira, A. P. (2022)
3.	Peer-to-peer (P2P) lending	Santos, D. M., Oliveira, M. A., & Moreira, A. P. (2022)
4	FinTech incentives	Allahham, M., Sharabati, A. A., Almazaydeh, L., Shalatony, Q. M., Frangieh, R. H., & Al-Anati, G. M. (2023)
5	Access to Finance	Doghan, M. A., & Chong, K. W. (2023) dan Qin, L., Aziz, G., Hussan, M. W., Qadeer, A., & Sarwar, S.(2024), Abbasi, K., Alam, A., Brohi, N., Brohi, I., & Nasim, S. (2021).
6	Financial Literacy	Bayram, O., Talay, I., & Feridun, M. (2022) Guo, J., Jia, F., Yan, F., & Chen, L. (2024)
7	BaaS services	Bayram, O., Talay, I., & Feridun, M. (2022)
8	Digital Payment Platforms & Blockchain Technology	Khan, I. H., & Urooj, S. F. (2023)
9	Flutterwave (Digital Payment Infrastructure)	Pizzi, S., Corbo, L., & Caputo, A. (2020)
10	Digital Transport	Suparji. (2021)
11	Green Finance Initiative	Addy, W. A., Ofodile, O. C., Adeoye, O. B., Oyewole, A. T., Okoye, C. C., Odeyemi, O., & Ololade, Y. J. (2024)

And Table 2, the roles of Fintech in driving Green Innovation among SMEs.

Table 2
Role of Fintech in Encouraging Green Innovation in MSMEs

No	Roles	Sources
1	Environmentally Friendly Investment	Tian, H., Siddik, A. B., Raja, T. P., & Rahman, M. N. (2023)
2	Ecological Footprint.	Santos, D. M., Oliveira, M. A., & Moreira, A. P. (2022)
3	Internal Cost Reduction	Santos, D. M., Oliveira, M. A., & Moreira, A. P. (2022)
4	Will positively influence participants' green consumer behavior	Allahham, M., Sharabati, A. A., Almazaydeh, L., Shalatony, Q. M., Frangieh, R. H., & Al-Anati, G. M. (2023)
5	Green Investment	Doghan, M. A., & Chong, K. W. (2023)
6	Contributed to Sustainable Development Goal "Responsible Consumption and Production"	Bayram, O., Talay, I., & Feridun, M. (2022)
7	increase traceability of such activities for environmental impact assessment	Bayram, O., Talay, I., & Feridun, M. (2022)
8	Sustainable payment options, reducing paper waste and carbon emissions	Khan, I. H., & Urooj, S. F. (2023)
9	Sustainable enterprises	Pizzi, S., Corbo, L., & Caputo, A. (2020)
10	Fintech in driving innovation in environmentally sustainable products and processes	Rao, S., Pan, Y., He, J., & Shangguan, X. (2022)
11	Fintech also has the capacity to accelerate green innovation by increasing spending on Research and Development (R&D)	Shao, L., & Chen, J. (2023)
12	Fintech has a positive influence in facilitating green investment, highlighting its role in channeling funds towards environmentally friendly projects and sustainable development	Zheng, G.-W., Siddik, A. B., Masukujjaman, M., & Fatema, N. (2021)
13	Fintech, which is based on digitalization, can effectively evaluate and identify green innovation projects as well as accelerate the allocation of funds from financial institutions and overcome existing discrepancies.	Li, B., Du, J., Yao, T., & Wang, Q. (2023)

What are the aspects of financial innovation that promote green innovation among SMEs?

This research question explores the various aspects of fintech in driving green innovation among SMEs from multiple countries, as summarized in Table 1. Several key findings can be highlighted. Firstly, fintech platforms, including P2P lending, enhance access to capital for SMEs, enabling them to invest in environmentally friendly technologies (Santos et al., 2022; Huang, 2022; Zhou & Chen, 2021; Khan & Urooj, 2023). Secondly, the availability of sustainable financing mechanisms like green financing plays a pivotal role (Tian et al., 2023). Green financing, a business strategy aligned with green economic activities, is instrumental in mitigating environmental issues and promoting sustainability reporting (Kubi et al., 2024). Moreover, crowdfunding platforms (Santos et al., 2022), blockchain technology, and Flutterwave (Pizzi et al., 2020) enhance transparency and accountability in green financing. These aspects facilitate SMEs' access to green funding, which is essential for implementing innovative eco-friendly technologies. The proliferation of such platforms offers SMEs more affordable and timely funding options compared to traditional financial institutions, enabling greater efficiency and productivity in the face of limited interactions (Suparji, 2021). Thirdly, digitalizing operations enhances efficiency in the financial industry, reducing paper usage and carbon emissions, thus

contributing to waste reduction (Lee et al., 2021; Zhou & Chen, 2021). Finally, fintech promotes financial literacy (Guo et al., 2024; Bayram et al., 2022).

What are the roles of financial innovation in promoting green innovation among SMEs?

This research question delves into the roles of fintech in promoting green innovation among SMEs, as summarized in Table 2. The findings reveal several key roles. Firstly, fintech is crucial in advancing green finance by leveraging data-driven solutions to foster positive environmental outcomes (Addy et al., 2024). This also improves green financial literacy and awareness among SME actors, aligning with findings by Zheng et al. (2021), who highlight fintech's positive influence in facilitating green investments. Secondly, fintech incentives, such as rewards for purchasing green products, encourage support for sustainability-focused SMEs (Allahham et al., 2023). Rao et al. (2022) corroborate this, emphasizing fintech's role in driving product and process innovations that are environmentally sustainable. Thirdly, fintech enhances access to finance through advanced financial technologies, improving the financial sector's efficiency and sustainability and promoting green finance (Doghan & Chong, 2023). Fourthly, fintech accelerates green innovation by increasing research and development expenditures (Shao & Chen, 2023; Abbasi et al., 2021). Moreover, fintech's digital foundation enables efficient evaluation and identification of green innovation projects, expediting fund allocation from financial institutions and addressing existing mismatches (Li et al., 2023). Finally, fintech contributes to the Sustainable Development Goal of "Responsible Consumption and Production" (Bayram et al., 2022).

To sum up, fintech possesses the capacity to significantly accelerate the adoption of green innovations within the SME sector. By applying innovations such as financial technology, we can integrate sustainability firm principles into SME business models for environmental preservation and unlock new market opportunities, fostering a positive economic growth cycle and supporting sustainability practices

CONCLUSION AND SUGGESTION

This study highlights diverse aspects of fintech and its significant role in promoting green innovation within the SME sector. Key findings show that fintech significantly improves access to capital, facilitates the emergence of innovative green financing mechanisms, and empowers SMEs with the knowledge and tools necessary to encourage environmentally harmless practices in business. By leveraging data-driven insights, fintech platforms can optimize resource allocation, minimize environmental impact, and unlock new opportunities to sell products in market demands for sustainable growth.

Finally, these findings are important in drawing attention to SME actors and related stakeholders to highlight how a symbiotic relationship between economic activities and environmental stewardship was built, paving for more sustainable and equitable portions for both business and the planet. However, further research is imperative to fully comprehend the long-term implications of fintech-driven green innovation, including its potential to address challenges such as digital divides, cybersecurity threats, and the equitable distribution of benefits across all stakeholders.

REFERENCES

Abbasi, K., Alam, A., Brohi, N., Brohi, I., & Nasim, S. (2021). P2P lending Fintechs and SMEs' access to finance. *Economics Letters, 204*(2021), 1–3.

Addy, W. A., Ofodile, O. C., Adeoye, O. B., Oyewole, A. T., Okoye, C. C., Odeyemi, O., & Ololade, Y. J. (2024). Data-Driven Sustainability: How Fintech Innovations Are Supporting Green Finance. *Engineering Science & Technology Journal*, 760 - 773.

Agrawal, R., Surendra Yadav, V., Majumdar, A., Kumar, A., Luthra, S., Arturo GarzaReyes, J., 2023. Opportunities for disruptive digital technologies to ensure circularity in supply Chain: A critical review of drivers, barriers and challenges. Comput. Ind. Eng. 178, 109140.

Ali, E. B., Anufriev, V. P., & Amfo, B. (2021). Green economy implementation in Ghana as a road map for a sustainable development drive: A review. *Scientific African*, *12*, e00756. https://doi.org/10.1016/j.sciaf.2021.e00756.

Allahham, M., Sharabati, A. A., Almazaydeh, L., Shalatony, Q. M., Frangieh, R. H., & Al-Anati, G. M. (2023). The impact of fintech-based eco-friendly incentives in improving sustainable environmental performance: A mediating-moderating model. *International Journal of Data and Network Science*, 415-430.

Bayram, O., Talay, I., & Feridun, M. (2022). Can Fintech Promote Sustainable Finance? Policy Lessons from the Case of Turkey. *Sustainability*, 1-25.

Bhat, M.A., Khan, S.T., Alkhwaldi, A.F. and Abdulmuhsin, A.A. (2024), "Investigating the critical drivers of Fintech adoption to promote business sustainability of SMEs", *Global Knowledge, Memory and Communication*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/GKMC-02-2024-0096.

Doghan, M. A., & Chong, K. W. (2023). Fintech Adoption and Environmental Sustainability: Mediating Role of Green Finance, Investment and Innovation. *International Journal of Operations and Quantitative Management*, 296-315.

Frost, J. (2020). *The economic forces driving fintech adoption across countries* (No. 838,. Bank for International Settlements.

Guo, J., Jia, F., Yan, F., & Chen, L. (2024). International Journal Of Logistics: Research And Applications. *E-commerce supply chain finance for SMEs: the role of green innovation, 27, 9*, 1596-1615.

Hariram, N. P., Mekha, K. B., Suganthan, V., & Sudhakar, K. (2023). Sustainalism: An Integrated Socio-Economic-Environmental Model to Address Sustainable Development and Sustainability. *Sustainability (Switzerland)*, *15*(13). https://doi.org/10.3390/su151310682.

Huang, S. (2022). Does FinTech improve the investment efficiency of enterprises? Evidence from China's small and medium-sized enterprises. Economic Analysis and Policy, 74, 571–586.

Mai, T. N. (2023). Renewable Energy, GDP (Gross Domestic Product), FDI (Foreign Direct Investment) and CO2 Emissions in Southeast Asia Countries. *International Journal of Energy Economics and Policy*, *13*(2), 284–289. https://doi.org/10.32479/ijeep.14022.

Muhammad, H., Fitriani, L., Chalong, T., & Prattana, S. (2025). Government Support, Business Environment, and Entrepreneurial Intent: A Cross-National Study of MSMEs in Indonesia and Thailand.

Nguyen, M. H & Pham, A. N & Nguyen, V. L & Nguyen, M. T, 2024. "Impact of green innovation on environmental performance and financial performance," Environment, Development and Sustainability: A Multidisciplinary Approach to the Theory and Practice of Sustainable Development, Spinger, 26(7), 17083-17104

Khan, I. H., & Urooj, S. F. (2023). The Nexus of Green Fintech and Corporate Financial Performance: A Catalyst for Sustainable Corporate Growth and Financial Success. *Journal of Business and Management Research, 2*(2), 1-3.

Kubi, E. A., Koranteng, F. O., Dura, C. C., Mihail, A. A., Drig, I., & Preda, A. (2024). Green financing and sustainability reporting among SMEs: The role of pro-environmental behavior and digitization. *Journal of Cleaner Production*, 1-11.

Lee, C. C., Li, X., Yu, C. H., & Zhao, J. (2021). Does fintech innovation improve bank efficiency? Evidence from China's banking industry. International Review of Economics and Finance, 74, 468–483.

Li, H., Lu, Z., & Yin, Q. (2023). The Development of Fintech and SME Innovation: Empirical Evidence from China. *Sustainability*, 1-14.

Li, B., Du, J., Yao, T., & Wang, Q. (2023). FinTech and corporate green innovation: An external attention perspective. Finance Research Letters, 58, 104661.

Parums, D. V. (2021). Review articles, systematic reviews, meta-analysis, and the updated preferred reporting items for systematic reviews and meta-analyses (PRISMA) 2020 guidelines. *Medical science monitor: international medical journal of experimental and clinical research*, *27*, e934475-1.

Pizzi, S., Corbo, L., & Caputo, A. (2020). Fintech and SMEs sustainable business models: reflections and considerations for a circular economy. *Journal of Cleaner Production*, 1-30.

Qin, L., Aziz, G., Hussan, M. W., Qadeer, A., & Sarwar, S.(2024). Empirical evidence of fintech and green environment: Using the green finance as a mediating variable. International Review of Economics & Finance, 89, 33-49.

Rao, S., Pan, Y., He, J., & Shangguan, X. (2022). Digital finance and corporate green innovation: quantity or quality? Environmental Science and Pollution Research, 29(37), 56772-56791.

Sanga, B., & Aziakpono, M. (2023). FinTech and SMEs financing: A systematic literature review and bibliometric analysis. *Digital Business*, 1-12.

Santos, D. M., Oliveira, M. A., & Moreira, A. P. (2022). Fintech Services and the Drivers of Their Implementation in Small and Medium Enterprises. *MDPI*, 1-25.

Saputra, R. M., & Darmawan, H. (2023). Effects of Urbanization and the Growth of Micro, Small, and Medium Enterprises (Msmes) As Supports for the Economy of Indonesia in an Urban Context. *Journal of Social Political Sciences*, *4*(2), 201–214.

Shao, L., & Chen, J. (2023). Digital finance and regional green innovation: the perspective of environmental regulation. Environmental Scienceand Pollution Research, 30(36), 85592-85610.

Suparji. (2021). Investment climate for MSMEs towards a green economy. *International Journal Of Research In Business And Social Science* , 153-158.

Tian, H., Siddik, A. B., Raja, T. P., & Rahman, M. N. (2023). Does fintech innovation and green transformational leadership improve green innovation and corporate environmental performance? A hybrid SEM–ANN approach. *Journal of Innovation & Knowledge*, 1-14.

Ullah, R., Ahmad, H., Rehman, F.U. and Fawad, A. (2023), "Green innovation and Sustainable Development Goals in SMEs: the moderating role of government incentives", Journal of Economic and Administrative Sciences, Vol. 39 No. 4, pp. 830-846.

Wang, C., Wang, L., Zhao, S., Yang, C., & Albitar, K. (2023). The impact of Fintech on corporate carbon emissions: Towards green and sustainable development. *Business Strategy and the Environment*, 5776-5796.

Zheng, G.-W., Siddik, A. B., Masukujjaman, M., & Fatema, N. (2021). Factors affecting the sustainability performance of financial institutions in Bangladesh: the role of green finance. Sustainability, 13(18), 10165.

Zhou, X., & Chen, S. (2021). FinTech innovation regulation based on reputation theory with the participation of new media. Pacific-Basin Finance Journal, 67, 101565.

Zulkarnaen, W., Fitriani,I., & Yuningsih,N. (2020). Development of Supply Chain Management in the Management of Election Logistics Distribution that is More Appropriate in Type, Quantity and Timely Based on Human Resources Competency Development at KPU West Java. MEA Scientific Journal (Management, Economics, & Accounting), 4(2), 222-243.