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Innovation as A Driver of SMEs Sustainability: A Systematic Review of the Literature

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Abstract
One interesting area of research is innovation for the sustainability of Small and Medium Enterprises (SMEs), which has increasingly attracted economists' attention in recent years. This paper is a literature review of several articles on the application of innovation to encourage SME sustainability. This paper aims to ensure that technological, process, and production innovation are integrated ways to drive SME sustainability and are most widely used in the literature, especially about SME sustainability. Based on a comprehensive review of innovation variables with systematic literature review methods, the search yielded 25 articles from journal publications indexed in ScienceDirect. The results concluded that product innovation could create significant added value and open up new market opportunities while marketing innovation and business models can increase customer reach and adaptability of SMEs to a dynamic business environment. Product innovation, marketing, and business models can be applied to encourage SMEs' sustainability to encourage SMEs' sustainability. Government policy support, access to financing, and strategic partnerships are critical factors for the success of this innovation initiative, which overall improves the competitiveness and viability of SMEs.

INTRODUCTION

Small and Medium Enterprises (SMEs) play a very significant role in the economies of many countries, including Indonesia (Kilay et al., 2022). SMEs provide jobs for millions of people and contribute significantly to Gross Domestic Product (GDP) and local economic development. This is supported by data from the Ministry of Cooperatives and Small and Medium Enterprises of the State of Indonesia, which explains that currently, there are 64.2 million SMEs that contribute to the Gross Domestic Product (GDP) of 61.07% or worth 8,573.89 trillion rupiahs. In addition, SMEs absorb 97% of the total workforce and can collect up to 60.4% of the total investment. However, SMEs face major challenges in achieving long-term sustainability, including access to technology, capital, and broader markets (Costa et al., 2023).

Innovation is crucial in ensuring the sustainability of Small and Medium Enterprises (SMEs) in today's changing and competitive era. Conceptually, innovation refers to introducing a new idea, process, or product that brings added value to the business. In the context of MSMEs, Innovationinnovation does not only refer to the creation of new products but also to the improvement of operational, marketing, and management processes that can generate the efficiency and differentiation needed to survive in a dynamic market (Ragazou et al., 2022; Vasi et al., 2024). Innovation for SME sustainability involves the introduction and application of new ideas, practices, and technologies that not only improve operational efficiency but also ensure that the business can survive in the long term in an environmentally and socially friendly

way. The concept of sustainability includes three main pillars: economic, environmental, and social (Bertolini et al., 2023). Therefore, sustainability-oriented innovation must pay attention to these aspects holistically.

In other words, Innovation innovation not only helps SMEs improve their operational efficiency and competitiveness but also allows them to adapt to market changes and the external environment. Innovation can be in the form of developing new products and services, improving business processes, or implementing more efficient and environmentally friendly technologies. This is supported by existing literature (Zheng et al., 2024; Maziliauske, 2024; Battistella et al., 2023; Jiang et al., 2023; Lin et al., 2023; Bhatti et al., 2023; Rumanti et al., 2023; Surya et al., 2021) showing that Innovationinnovation can help SMEs increase productivity, reduce costs, and expand their markets. However, most SMEs often face significant challenges in maintaining and improving performance in an increasingly complex and rapidly changing business environment. One of the key challenges SMEs face is their ability to adopt and implement Iinnovationas a strategy to strengthen the sustainability of their business. Although innovation is considered the key to improving the competitiveness and growth of SMEs, there is still a need to thoroughly understand how innovation affects SME sustainability from multiple perspectives.

Therefore, a systematic review of the literature on "Innovation as a Driver of SME Sustainability" becomes important to identify trends, findings, and knowledge gaps in the existing literature and provide better insight into the relationship between Innovation and SME sustainability. As such, this article aims to compile and analyze the findings of various studies conducted in this domain and highlight its important implications for practitioners, researchers, and policymakers in supporting the growth and sustainability of SMEs through Innovation.

LITERATURE REVIEW

One theory that supports the importance of innovation in the context of SMEs is the Theory of Resources and Capabilities (Resource-Based View, RBV) (Münter, 2024). This theory posits that an organization's unique resources and internal capabilities, such as employee expertise, technology, and brand reputation, can provide long-term competitive advantage. In this context, innovation is an important key to ensure that SMEs can continue to grow and adapt to changing market dynamics and global challenges such as climate change and economic crises. Therefore, SMEs can produce innovations sustainably and have more opportunities to survive and thrive in a dynamic market.

In addition, the Innovation Diffusion Theory is also relevant in the context of SMEs, emphasizing the importance of adopting and disseminating Innovation Innovation among business actors (Namirembe et al., 2024). By implementing Innovationinnovation, SMEs can increase their competitiveness, improve operational efficiency, and create added customer value, contributing to their business's sustainability. However, such innovation must be supported by a conducive ecosystem, including supportive government policies, access to financing, and strategic partnerships with various stakeholders (Gonçalves et al., 2024). In addition, internal factors such as managerial ability, capacity to adapt, and innovation culture within the company also play a crucial role (Qian et al., 2023).

METHODS

The methodology used in this article is the Systematic Literature Review (SLR). The SLR process involves systematic steps to identify, evaluate, and synthesize research relevant to the chosen topic (Facchinetti et al., 2022). This method allows researchers to get a comprehensive picture of existing knowledge and identify gaps in the existing literature. This study examines previous research on innovation as a driver of sustainability for small and medium enterprises (SMEs). The selection of previous studies follows the criteria outlined in Table 1.

Table 1. Inclusion and Exclusion Criteria

No	Inclusion Criteria	Exclusion Criteria
1.	Focused innovation options for SMEs' sustainability	Did not focus on innovation options for SME sustainability
2.	Articles using the ScienceDirect online database	Articles that do not use the ScienceDirect online database
3.	Published in the last five years, from 2021 to 2024, to ensure its novelty and relevance	Was published before the specified period
4.	Articles had international accreditation and were written in English	Articles were not internationally accredited and not written in English
5.	Available in full-text format	Were not available in full text

Search using a variety of English keywords, especially (1) innovation, (2) SMEs, (3) small and medium enterprises, and (4) Sustainability. A total of 1,756 articles were obtained from search results. The selection of articles is based on consideration of the title, abstract, and full text, according to the criteria outlined in Table 1. Researchers use the EndNote X9 application to streamline the selection process, which facilitates a more structured approach to articles. Next, the necessary information is manually coded, extracted, and analyzed manually, with the data entered into a spreadsheet. In the end, 1.134 out of 1,756 articles sourced from the ScienceDirect database were excluded based on the criteria specified in Table 1. A comprehensive overview of the article selection process is depicted in the attached Figure 1. To visualize the literature, use the PRISMA method with inclusion and exclusion methods based on Figure 1.

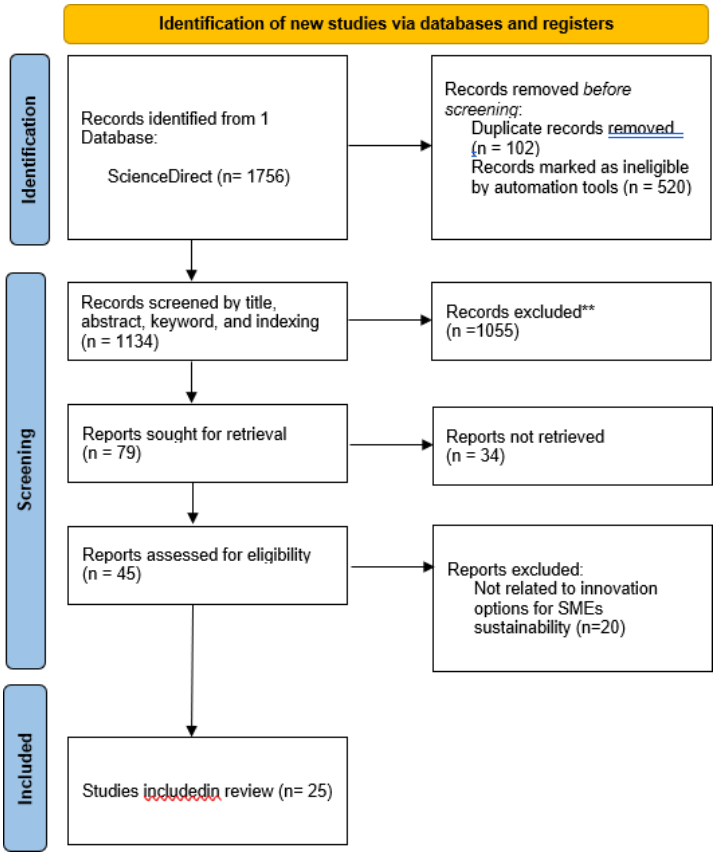

Figure 1. Article Selection Flow Diagram

Based on the selection process shown in Figure 1, a total of 25 articles were obtained for further analysis. Researchers apply thematic analysis techniques to examine and identify themes in the data. This analysis includes six stages, namely understanding the data, organizing data codes, exploring themes related to Innovationinnovation driving SME sustainability (in accordance with the focus of this research), reviewing the themes found, defining and labeling these themes, and producing research reports.

RESULT AND DISCUSSION

This study includes 25 articles for further analysis based on the results of the selection process. There are 25 articles discussing Innovation Innovation to help SME sustainability. A summary of the findings of the article's analysis on innovation innovation to help SME sustainability is outlined in Table 2.

Table 2. Innovation drives SME sustainability

Author	Result	Source
(Hidayat-ur-Rehman & Alsolamy, 2023, p. 5)	Fintech adoption, sustainability practices, competitiveness, and transformational leadership have an important role in improving the sustainable performance of SMEs.	Journal of Open Innovation: Technology, Market, and Complexity
(Kononova et al., 2024, p. 356)	Social innovation innovation is one of the important aspects of the transformation of corporate sustainability.	Procedia CIRP
(Peretz-Andersson et al., 2024, p. 2)	The application of AI drives enterprise productivity and performance and shapes core business models and processes that enhance competitiveness.	International Journal of Information Management
(Gallina et al., 2024, p. 4)	Innovation for the sustainability of SMEs by emphasizing the importance of dual transition, namely digital transition and green transition	Procedia Computer Science
(Chatterjee et al., 2022, p.6)	the importance of adaptation and technological innovation in supporting the sustainability of SME operations in the midst of the challenges faced.	Technological Forecasting & Social Change
(Haruna et al., 2024, p. 194)	Islamic finance has a positive impact on the innovation capacity of SMEs in Cameroon by increasing innovation in processes, products, and marketing, especially in technological innovation.	Borsa Istanbul Review journal
(Avelar et al., 2024, p. 8)	Product innovation, process innovation, marketing innovation, technological innovation, and business model innovation can strengthen the position of SMEs in facing sustainability challenges, increasing competitiveness, and making a positive contribution to the environment and surrounding communities.	Journal of Business Research
(Artin, 2022, p. 10)	By innovating processes for SME sustainability, especially through training, networking, and collaboration	Current Research in Environmental Sustainability Journal
(Hasan & Rahman, 2023, p. 12)	The importance of eco-innovation, which includes technological capabilities, environmental regulations, green products, competitive pressures, and energy prices as key drivers of SME sustainability	Heliyon
(Hasan & Rahman, 2023, p. 3766)	Digitalization has a significant impact on innovation management practices in SMEs in Poland.	Procedia Computer Science

(Ozturk et al., 2024, p. 2)	Innovation for the sustainability of SMEs (Small and Medium Enterprises) in the context of digitalization and the development of SMEs in China.	Heliyon
(Perramon et al., 2024, p. 5)	innovation for SMEs' sustainability through circular economy adoption	Journal of Cleaner Production
(Zhang, 2022, p. 4)	For SME sustainability, innovations that can be considered are product innovation, quality innovation, and organizational innovation.	Journal of Innovation and Knowledge
(Salvador et al., 2023, p. 14)	Investment in technology and innovation helps improve the sustainability performance of SMEs.	Journal of Cleaner Production
(Nugraha et al., 2022, p. 13)	Fintech innovation can be a solution to increase financial inclusion and support the sustainability of SMEs in Indonesia.	Journal of Open Innovation: Technology, Market, and Complexity
(Achmad et al., 2023, p. 6)	Ecological Innovationinnovation helps SMEs sustain	Journal of Open Innovation: Technology, Market, and Complexity
(Sohns et al., 2023 p.8)	Green BPM is an innovation that integrates sustainability into SME business processes.	Journal of Cleaner Production
(Jing et al., 2023, p. 10)	Achieve SME sustainability by innovating technology, such as developing ambidextrous digital capabilities and innovating their business models to achieve high transformation performance	Heliyon
(Chatzistamoulou, 2023, p. 10)	digital Innovationinnovation in supporting the transition to SME sustainability and highlighting the importance of public procurement as an external factor that can facilitate funding and adoption of sustainable strategies.	Ecological Economics
(Menne et al., 2022, p. 10)	The importance of utilizing sharia-based fintech in improving the financial performance and sustainability of SMEs.	Journal of Open Innovation: Technology, Market, and Complexity
(Rauch & Brown, 2020, p. 2)	The importance of developing innovative and efficient design solutions by leveraging emerging technologies to achieve long-term sustainability in manufacturing processes.	Procedia CIRP
(Saeedikiya et al., 2024, p. 12)	Technological innovation, by carrying out digital transformation effectively, overcoming limited resources, and developing in a dynamic environment, achieves sustainability.	Journal of Cleaner Production Journal
(Radicic & Petković, 2023, p. 13)	Innovation for SMEs' sustainability can be achieved through the implementation of digitalization and the right innovation strategy	Technological Forecasting & Social Change
(Rodríguez-Rebés et al., 2024, p. 4)	Eco-innovation can be key to boosting economic growth and sustainability among SMEs	Research in International Business and Finance
(Henriquez-Calvo & Diaz-Martinez, 2023, p. 5)	Innovation in operational processes is key to improving the efficiency and sustainability of SMEs	Procedia Computer Science

Discussion

The results of this systematic literature review show that innovation plays a significant role as a driver of the sustainability of small and medium enterprises (SMEs). In this review, 25 relevant studies were identified and analyzed, covering various aspects of Innovationinnovation, including product, process, and technology innovation. Overall, studies show that technological innovation is a key factor in ensuring the sustainability of SMEs. This is supported by research (Hidayat-ur-Rehman & Alsolamy, 2023; Gallina et al., 2024; Haruna et al., 2024; Ozturk et al., 2024; Salvador et al., 2023; Nugraha et al., 2022; Jing et al., 2023; Chatzistamoulou, 2023; Menne et al., 2022), who points out that technological innovations that are a focus for SME sustainability include various applications of advanced technologies that help small and medium-sized businesses operate more efficiently, are responsive to markets, and are environmentally friendly.

Technology Innovation

One of the key areas of technological innovation is digitalization and financial technology (fintech), which play a crucial role in supporting the sustainability of SMEs by changing the way they operate, interact with customers, and manage finances. In accordance with research (Hidayat-ur-Rehman & Alsolamy, 2023; Haruna et al., 2024) states digitalization allows SMEs to utilize e-commerce platforms, expand market reach globally, and increase the accessibility of their products and services to a wider range of consumers. Digital management systems help SMEs automate business processes, improve operational efficiency, and reduce costs. Digital financial literacy can be interpreted as an individual's knowledge and understanding regarding financial products and services using digital technology (Lutfillah, et al., 2024).

In addition, based on research (Gallina et al., 2024; Hasan & Rahman, 2023), innovations in environmentally friendly technologies are also important, including clean production processes that use environmentally friendly raw materials and produce minimal waste, as well as efficient waste management technologies. Adopting green and sustainable technologies, such as renewable energy and eco-friendly production practices, not only reduces environmental impact but also improves reputation and competitiveness in the market. By focusing on environmentally friendly and efficient technologies, SMEs not only increase efficiency and reduce operational costs but also meet the demands of consumers who are increasingly concerned about sustainability issues, contribute to sustainable development goals, enhance their reputation, and open up new market opportunities.

In line with research (Rodríguez-Rebés et al., 2024; Perramon et al., 2024; Sohns et al., 2023) shows that the adoption of circular principles increases organizational resilience to internal and external challenges, which in turn facilitates transformational change in business. In addition, the study illustrates that the transition to CE not only has a positive impact on environmental sustainability but also extends its influence to the field of strategic and organizational management. In addition, eco-innovation has been proven to improve environmental and social performance. The study (Hasan & Rahman, 2023) provides implications for business managers and policymakers to encourage eco-innovation as a tool to achieve sustainability in manufacturing SMEs.

In addition to fintech and eco-innovation, the Internet of Things (IoT) enables remote monitoring and control of operations, as well as process automation that increases productivity and reduces labor costs (Chatterjee et al., 2022). The Internet of Things (IoT) is a revolutionary technology that connects various physical devices through the Internet, allowing them to communicate with each other and exchange data. With IoT, monitoring and controlling operations can be done remotely, which means that systems and devices can be monitored in real time and organized without the need for in-person interaction. This is particularly beneficial in a wide range of industries, from manufacturing to agriculture, as it allows for more efficient management and responsiveness to changing conditions. In addition, process automation through IoT helps increase productivity by speeding up and simplifying routine tasks that previously required human intervention.

For example, in the industrial sector, machines equipped with IoT sensors can detect breakdowns or maintenance needs automatically and report this information to a central system, which can then take necessary action without delay. All this not only improves operational efficiency but also significantly reduces labor costs, as many tasks that previously required manual labor can now be performed automatically by IoT systems. The result is cost savings, improved quality, and faster response times to operational needs and issues.

Process Innovation

In addition to Innovationinnovation in technology, process innovation was also found to have a significant impact on the sustainability of SMEs (Avelar et al., 2024; Peretz-Andersson et al., 2024; Henriquez-Calvo & Diaz-Martinez, 2023; Artin, 2022). Process innovation enables SMEs to identify and eliminate bottlenecks or inefficiencies in their workflows. Better processes also result in more quality and consistent products or services, which not only increases customer satisfaction but also reduces the associated costs of product returns and repairs. Process innovation makes SMEs more flexible and responsive to changing market demands. In addition, higher efficiency tends to be more environmentally friendly, reducing carbon footprint and other environmental impacts, which can improve the company's image in the eyes of consumers who care about environmental issues.

Based on research (Peretz-Andersson et al., 2024) which examines Innovationinnovation for SMEs sustainability, especially through the application of AI that drives company productivity and performance and forms business models and core processes that increase competitiveness. The application of process innovation using artificial intelligence (AI) to SMEs can bring significant benefits that support sustainability and operational efficiency. For example, AI can be used to automate various routine and repetitive tasks, such as inventory management, quality monitoring, and demand prediction. With machine learning algorithms, AI systems can analyze historical data to predict market demand trends, enabling SMEs to adjust production and manage stock more effectively, reducing waste and shortages of goods.

In addition, AI can improve operational efficiency through workflow optimization and production scheduling, ensuring that resources are used optimally. In terms of quality monitoring, AI technology can detect product defects faster and more accurately than manual inspections, thereby improving the consistency and quality of the final product. AI can also be used in predictive maintenance, where sensors connected to production machines collect real-time data to analyze machine conditions and predict potential breakdowns before they occur, reducing production downtime and sudden repair costs. Thus, the integration of AI in SME business processes not only increases efficiency and reduces costs but also enables companies to be more responsive and adaptive to market changes, supporting sustainability and long-term growth.

The article (Henriquez-Calvo & Diaz-Martinez, 2023) states that process innovation in the context of SMEs in Colombia can help encourage SME sustainability. This innovation process includes the implementation of innovative actions to improve the operational conditions of business processes with the aim of achieving efficiency, sustainability, and increased profit margins. Some of the aspects of innovation that are researched in this article include the development of innovative ideas, the application of production methods that increase added value, the utilization of technology to improve business processes, the creation of new business solutions, and the implementation of more efficient practices. By implementing Innovationinnovation in operational processes, SMEs are expected to remain competitive, sustainable, and able to allocate and use resources appropriately to overcome competition in the market.

Product Innovation

Product innovation is one of the key factors that can encourage the sustainability of Small and Medium Enterprises (SMEs). Research (Avelar et al., 2024 and Zhang, 2022) explained that through product innovation, SMEs can develop new goods or services or improve existing ones to meet the needs of an ever-evolving market. This innovation process not only aims to improve product quality but also to create added value that can provide a competitive advantage in the market. One of the ways product innovation drives SME sustainability is by attracting new customers and retaining existing ones. When SMEs introduce innovative products, such as new features or better designs, it can attract the attention of consumers looking for better solutions for their needs.

For example, SMEs engaged in food and beverages can create new flavor variants or healthier products, such as organic or gluten-free foods. This innovation can attract new market segments that were previously uninterested in standard products while increasing the loyalty of existing customers by offering a more diverse selection.

In addition, product innovation can help SMEs diversify their product portfolio, thereby reducing business risk. By having a variety of products that meet various consumer needs, SMEs are not too dependent on just one type of product. For example, an SME that produces clothing may develop a new product line, such as accessories or sportswear. This diversification helps secure income from multiple sources, which is important for long-term sustainability, especially in uncertain economic situations. Product innovation also allows SMEs to adopt new technologies that can improve production efficiency and product quality. For example, the use of environmentally friendly technology in the production process not only helps reduce operational costs but also attracts consumers who are increasingly concerned about environmental issues (Hasan & Rahman, 2023). Thus, SMEs can create better products at lower costs, increase profit margins, and make a positive contribution to environmental sustainability. Technologies such as 3D printing, automation, and artificial intelligence (AI) can be used to increase production speed and precision, thereby reducing waste and improving product consistency (Peretz-Andersson et al., 2024).

Further, product innovation can help SMEs adapt to changing market trends and maintain relevance in the eyes of consumers. In this digital age, consumer needs and preferences are changing rapidly. SMEs that are able to identify and respond quickly to these trends will have a significant competitive advantage. For example, with the increasing demand for digital products and internet-based solutions, SMEs developing mobile applications or online platforms for their products and services can reach a wider audience and provide a better customer experience (Gallina et al., 2024). The product innovation process also involves continuous feedback from customers. By listening and understanding the needs and problems faced by customers, SMEs can constantly improve their products and ensure that they always meet or exceed consumer expectations. This not only helps in retaining customers but also improves the brand image and reputation of the business.

Overall, product innovation is a key driver of SME sustainability. By developing better, more efficient, and more responsive products to market needs, SMEs can increase competitiveness, secure sustainable incomes, and contribute to environmental sustainability. Product innovation not only enables SMEs to remain relevant in a dynamic market but also to grow and thrive in the long run.

CONCLUSION

The results of this literature review highlight the importance of innovation in various aspects to support the sustainability of SMEs. The adoption of new technologies, especially those focused on environmental sustainability, is becoming a key factor in improving the image and reputation of SMEs. Environmentally friendly production practices and the use of renewable energy not only reduce negative impacts on the environment but also attract market segments that are increasingly concerned with sustainability issues. This, in turn, strengthens the competitive position of SMEs and opens up new market opportunities. In addition, product innovation involves product development and improvement, giving SMEs a competitive advantage by offering greater added value to customers. Innovative products can meet the needs of a growing market, helping SMEs maintain market share and increase profitability. Furthermore, process innovation, such as the implementation of more efficient and sustainable production methods, also helps SMEs reduce operational costs and increase efficiency. The use of digital technology in supply chain management and business operations enables SMEs to operate faster and be responsive to market changes, which is critical in a dynamic business environment.

Innovations in marketing strategies are also important, as the use of social media and digital marketing tools plays an important role in increasing visibility and interaction with customers. This strategy allows SMEs to reach a wider audience at a lower cost compared to traditional marketing methods. Better interaction with customers also helps SMEs understand market needs and preferences, which is important for the development

of relevant and timely products and services. Overall, the results and discussion of this literature review underscore that innovation is a key driver of SME sustainability. By integrating Innovationinnovation in products, processes, technologies, and marketing strategies, SMEs can improve operational efficiency, reduce costs, increase competitiveness, and ensure long-term sustainability. These findings suggest that policies and support that encourage Innovation in SMEs are critical to supporting the growth and sustainability of the sector.

REFERENCES

Achmad, G. N., Yudaruddin, R., Nugroho, B. A., Fitrian, Z., Suharsono, S., Adi, A. S., Hafsari, P., & Fitriansyah, F. (2023). Government support, eco-regulation and eco-innovation adoption in SMEs: The mediating role of eco-environmental. *Journal of Open Innovation: Technology, Market, and Complexity*, *9*(4), 100158. https://doi.org/10.1016/j.joitmc.2023.100158

Artin, P. (2022). Critical sustainability factors of regional SMEs; A case study of regional Australia. *Current Research in Environmental Sustainability*, *4*(December 2021), 100138. https://doi.org/10.1016/j.crsust.2022.100138

Avelar, S., Borges-Tiago, T., Almeida, A., & Tiago, F. (2024). Confluence of sustainable entrepreneurship, innovation innovation, and digitalization in SMEs. *Journal of Business Research*, *170*(October 2023). https://doi.org/10.1016/j.jbusres.2023.114346

Battistella, C., Ferraro, G., & Pessot, E. (2023). Technology transfer services impact the open innovation capabilities of SMEs. *Technological Forecasting and Social Change*, *196*(November 2022), 122875. https://doi.org/10.1016/j.techfore.2023.122875

Bertolini, M., Leali, F., Mezzogori, D., & Renzi, C. (2023). A Keyword, Taxonomy and Cartographic Research Review of Sustainability Concepts for Production Scheduling in Manufacturing Systems. *Sustainability (Switzerland)*, *15*(8). https://doi.org/10.3390/su15086884

Bhatti, S. H., Rashid, M., Arslan, A., Tarba, S., & Liu, Y. (2023). Servitized SMEs' performance and the influences of sustainable procurement, packaging, and distribution: The mediating role of eco-innovation. *Technovation*, *127*(December 2022), 102831. https://doi.org/10.1016/j.technovation.2023.102831

Chatterjee, S., Chaudhuri, R., Shah, M., & Maheshwari, P. (2022). Big data-driven innovation for sustaining SME supply chain operation in post COVID-19 scenario: The moderating role of SME technology leadership. *Computers and Industrial Engineering*, *168*(March), 108058. https://doi.org/10.1016/j.cie.2022.108058

Chatzistamoulou, N. (2023). Is digital transformation the Deus ex Machina toward the sustainability transition of European SMEs? *Ecological Economics*, *206*(August 2022), 107739. https://doi.org/10.1016/j.ecolecon.2023.107739

Costa, A., Crupi, A., De Marco, C. E., & Di Minin, A. (2023). SMEs and open Innovationinnovation: Challenges and costs of engagement. *Technological Forecasting and Social Change*, *194*(June), 122731. https://doi.org/10.1016/j.techfore.2023.122731

Facchinetti, T., Benetti, G., Giuffrida, D., & Nocera, A. (2022). SLR-kit: A semi-supervised machine learning framework for systematic literature reviews. *Knowledge-Based Systems*, *251*, 109266. https://doi.org/10.1016/j.knosys.2022.109266

Gallina, V., Steinwender, A., Zudor, E., Preuveneers, D., & Schlund, S. (2024). Business model development concept for SMEs in the era of twin transition. *Procedia Computer Science*, *232*(2023), 523–532. https://doi.org/10.1016/j.procs.2024.01.052

Gonçalves, L., Faccin, K., Garay, J., Zarpelon, F., & Balestrin, A. (2024). The development of Innovation innovation and entrepreneurial ecosystems in cities: An institutional work approach. *Cities*, *146*, 104747. https://doi.org/10.1016/j.cities.2023.104747

Haruna, A., Oumbé, H. T., Kountchou, A. M., & Pilag Kakeu, C. B. (2024). Can Islamic finance enhance the innovation capacity of Cameroonian SMEs? Empirical evidence based on a multivariate probit approach. *Borsa Istanbul Review*, *24*(1), 187–200. https://doi.org/10.1016/j.bir.2023.11.006

Hasan, M. J., & Rahman, M. S. (2023). Determinants of eco-innovation initiatives toward sustainability in manufacturing SMEs: Evidence from Bangladesh. *Heliyon*, *9*(7), e18102. https://doi.org/10.1016/j.heliyon.2023.e18102

Henriquez-Calvo, L., & Diaz-Martinez, K. (2023). The Importance of Strategic Thinking and Innovation for the Growth of SMEs: Case of the Colombian SMEs. *Procedia Computer Science*, *224*, 495–501. https://doi.org/10.1016/j.procs.2023.09.071

Hidayat-ur-Rehman, I., & Alsolamy, M. (2023). A SEM-ANN analysis to examine sustainable performance in SMEs: The moderating role of transformational leadership. *Journal of Open Innovation: Technology, Market, and Complexity*, *9*(4), 100166. https://doi.org/10.1016/j.joitmc.2023.100166

Jiang, H., Yang, J., & Gai, J. (2023). How digital platform capability affects the innovation performance of SMEs—Evidence from China. *Technology in Society*, *72*(May 2022), 102187. https://doi.org/10.1016/j.techsoc.2022.102187

Jing, H., Zhang, Y., & Ma, J. (2023). Influence of digital ambidextrous capabilities on SMEs' transformation performance: The mediating effect of business model innovation. *Heliyon*, *9*(11), e21020. https://doi.org/10.1016/j.heliyon.2023.e21020

Kilay, A. L., Simamora, B. H., & Putra, D. P. (2022). The Influence of E-Payment and E-Commerce Services on Supply Chain Performance: Implications of Open Innovation and Solutions for the Digitalization of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, *8*(3), 119. https://doi.org/10.3390/joitmc8030119

Kononova, N., Juraschek, M., Kohlgrüber, M., & Herrmann, C. (2024). Advanced Sustainability Action Plan: Supporting manufacturing SMEs on a sustainability pathway. *Procedia CIRP*, *122*, 354–359. https://doi.org/10.1016/j.procir.2024.01.052

Lin, M. S., Sharma, A., Pan, B., & Quadri-Felitti, D. (2023). Information asymmetry in the innovation adoption decision of tourism and hospitality SMEs in emerging markets: A mixed-method analysis. *Tourism Management*, *99*, 104793. https://doi.org/10.1016/j.tourman.2023.104793

Lutfillah, N. Q., Hapsari, A. P., & Candrawati, T. (2024). Determinants of Students' Decisions to Use Paylater Digital Financial Products. *BASKARA : Journal of Business and Entrepreneurship*, *7*(1), 42–54. https://doi.org/10.54268/baskara.v7i1.23263

Maziliauske, E. (2024). Innovation for sustainability through co-creation by small and medium-sized tourism enterprises (SMEs): Socio-cultural sustainability benefits to rural destinations. *Tourism Management Perspectives*, *50*(January 2023), 101201. https://doi.org/10.1016/j.tmp.2023.101201

Menne, F., Surya, B., Yusuf, M., Suriani, S., Ruslan, M., & Iskandar, I. (2022). Optimizing the Financial Performance of SMEs Based on Sharia Economy: Perspective of Economic Business Sustainability and Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *8*(1), 18. https://doi.org/10.3390/joitmc8010018

Münter, M. T. (2024). Resource-Based View. In *Reference Module in Social Sciences*. Elsevier. https://doi.org/10.1016/B978-0-443-13701-3.00203-6

Namirembe, G., Mukwaya, P. I., Mugagga, F., & Kisira, Y. (2024). Insights into home biogas technology adoption dynamics through the lens of the diffusion of innovation theory in Uganda. *Energy for Sustainable Development*, *80*, 101425. https://doi.org/10.1016/j.esd.2024.101425

Nugraha, D. P., Setiawan, B., Nathan, R. J., & Fekete-Farkas, M. (2022). Fintech Adoption Drivers for Innovation for SMEs in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, *8*(4), 208. https://doi.org/10.3390/joitmc8040208

Ozturk, I., Alqassimi, O., & Ullah, S. (2024). Digitalization and SMEs development in the context of sustainable development: A China perspective. *Heliyon*, *10*(6), e27936. https://doi.org/10.1016/j.heliyon.2024.e27936

Peretz-Andersson, E., Tabares, S., Mikalef, P., & Parida, V. (2024). Artificial intelligence implementation in manufacturing SMEs: A resource orchestration approach. *International Journal of Information Management*, *77*(April), 102781. https://doi.org/10.1016/j.ijinfomgt.2024.102781

Perramon, J., Bagur-Femenías, L., Alonso-Almeida, M. del M., & Llach, J. (2024). Does the transition to a

circular economy contribute to business resilience and transformation? Evidence from SMEs. *Journal of Cleaner Production*, *453*(April), 142279. https://doi.org/10.1016/j.jclepro.2024.142279

Qian, K., Liang, X., & Liu, X. (2023). Managerial ability, managerial risk-taking, and innovation performance. *Finance Research Letters*, *57*, 104193. https://doi.org/10.1016/j.frl.2023.104193

Radicic, D., & Petković, S. (2023). Impact of digitalization on technological innovations in small and medium-sized enterprises (SMEs). *Technological Forecasting and Social Change*, *191*(December 2022). https://doi.org/10.1016/j.techfore.2023.122474

Ragazou, K., Passas, I., Garefalakis, A., & Dimou, I. (2022). Investigating the Research Trends on Strategic Ambidexterity, Agility, and Open Innovation in SMEs: Perceptions from Bibliometric Analysis. *Journal of Open Innovation: Technology, Market, and Complexity*, *8*(3), 118. https://doi.org/10.3390/joitmc8030118

Rauch, E., & Brown, C. A. (2020). Teaching Axiomatic Design for a Long-Term Sustainable Introduction of Industry 4.0 in SMEs. *Procedia CIRP*, *96*(March), 169–174. https://doi.org/10.1016/j.procir.2021.01.155

Rodríguez-Rebés, L., Ibar-Alonso, R., Gómez, L. M. R., & Navío-Marco, J. (2024). The use and drivers of organizational eco-innovation in European SMEs. *Research in International Business and Finance*, *70*(July 2022). https://doi.org/10.1016/j.ribaf.2024.102297

Rumanti, A. A., Rizana, A. F., & Achmad, F. (2023). Exploring the role of organizational creativity and open innovation in enhancing SMEs' performance. *Journal of Open Innovation: Technology, Market, and Complexity*, *9*(2), 100045. https://doi.org/10.1016/j.joitmc.2023.100045

Saeedikiya, M., Salunke, S., & Kowalkiewicz, M. (2024). Toward a dynamic capability perspective of digital transformation in SMEs: A study of the mobility sector. *Journal of Cleaner Production*, *439*(September 2023), 140718. https://doi.org/10.1016/j.jclepro.2024.140718

Salvador, R., Søberg, P. V., Jørgensen, M. S., Schmidt-Kallesøe, L. L., & Larsen, S. B. (2023). Explaining sustainability performance and maturity in SMEs – Learnings from a 100-participant sustainability innovation project. *Journal of Cleaner Production*, *419*(July). https://doi.org/10.1016/j.jclepro.2023.138248

Sohns, T. M., Aysolmaz, B., Figge, L., & Joshi, A. (2023). Green business process management for business sustainability: A case study of manufacturing small and medium-sized enterprises (SMEs) from Germany. *Journal of Cleaner Production*, *401*(March), 136667. https://doi.org/10.1016/j.jclepro.2023.136667

Surya, B., Menne, F., Sabhan, H., Suriani, S., Abubakar, H., & Idris, M. (2021). Economic Growth, Increasing Productivity of SMEs, and Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(1), 20. https://doi.org/10.3390/joitmc7010020

Vasi, M., Sansone, G., & English, V. (2024). Exogenous crises and SMEs resilience: The Dynamic Open Innovation Funnel. *Technovation*, *129*, 102886. https://doi.org/10.1016/j.technovation.2023.102886

Zhang, H. (2022). Does combining different types of innovation always improve SME performance? An analysis of innovation complementarity. *Journal of Innovation and Knowledge*, *7*(3), 100192. https://doi.org/10.1016/j.jik.2022.100192

Zheng, L. J., Zhang, J. Z., Yee Sum Lee, L., Jasimuddin, S. M., & Mustafa Kamal, M. (2024). Digital technology integration in business model innovation for carbon neutrality: An evolutionary process model for SMEs. *Journal of Environmental Management*, *359*, 120978. https://doi.org/10.1016/j.jenvman.2024.120978