

Driving Sustainable Business Performance: The Impact of Green Innovation on Food & Beverage SMEs in Bandar Lampung City

Hellen Cornellia Natalie^{1*}, Satria Bangsawan², Nurul Husna³
Management Department, University of Lampung

Corresponding Author: Hellen Cornellia Natalie hellencornellia123@gmail.com

ARTICLE INFO

Keywords: Green Innovation, Sustainable Business Performance, Innovation, MSMEs

Received : 23, March

Revised : 24, April

Accepted: 25, May

©2024 Natalie, Bangsawan, Husna:
This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

This research investigates how green innovation, including both product and process innovations, affects the sustainable performance of micro, small, and medium food and beverage enterprises (MSMEs) in Bandar Lampung City. Using quantitative methods and a sample of 100 MSMEs, the study finds that while there is a positive but insignificant relationship between green product innovation and sustainable business performance, there is a significant positive relationship between green process innovation and sustainable business performance. This suggests that MSMEs in the food and beverage sector are increasingly adopting environmentally friendly practices, such as waste management and energy conservation, leading to improved business sustainability. The study underscores the importance of integrating green innovation into business strategies to enhance performance and promote environmental responsibility.

INTRODUCTION

The economy stands as a crucial determinant of a nation's progress, with micro, small, and medium enterprises (MSMEs) playing a pivotal role in fostering economic growth and bolstering competitiveness. Particularly in Indonesia, MSMEs serve as linchpins in propelling the nation's economic development, effectively functioning as cornerstones for poverty alleviation and overall national advancement (Budi & Sudirman, 2021). Enhancing the living standards of citizens is inherently intertwined with the country's economic progression, a notion fundamental to understanding Indonesia's economic trajectory (Fiqri & Liantifa, 2023). MSMEs underscore their significance through their multifaceted contributions, as evidenced by their substantial presence across various economic sectors, their capacity for job creation, and their significant contributions to national income. Sustaining the growth and development of MSMEs remains imperative, aligning with Indonesia's ongoing economic expansion.

Even amidst economic downturns, MSMEs in Indonesia have displayed resilience, continuing operations with minimal negative repercussions (Iskandar & Febriyanto, 2019). Their resilience is crucial in bolstering national economic growth, with MSME entrepreneurship pivotal in curbing unemployment rates, fostering employment opportunities, mitigating poverty, and enhancing overall national prosperity (Suresmiathi & Ariani, 2013). As outlined in Article 33, Paragraph 4 of the Indonesian Constitution, MSMEs represent integral components of the national economy, holding significant potential for improving societal welfare and contributing to a self-reliant national economy.

Statistics from the Ministry of Cooperatives and SMEs highlight the substantial role of MSMEs in Indonesia's economy, with over 64.19 million MSMEs contributing significantly to the GDP and investment landscape (Septiany, 2023). Lampung Province, located at the southern tip of Sumatra Island, has witnessed notable strides in MSME development, with a marked increase in MSME numbers recorded annually. The city of Bandar Lampung, serving as the capital and administrative center of Lampung Province, has witnessed a parallel rise in MSME numbers, attributed to the pivotal role played by MSMEs in driving economic activity. However, the rapid pace of MSME growth has been accompanied by burgeoning environmental challenges, notably waste pollution stemming from business activities.

Despite the burgeoning MSME landscape, sustainable resource management and environmental pollution reduction have not advanced in tandem with economic growth (Wang & Song, 2014). The lack of environmental conservation awareness among the public has contributed to environmental degradation, exemplified by air pollution, water pollution, climate change, and global warming (Muangmee et al., 2021). Environmental degradation is exacerbated by companies overlooking environmental considerations in their production processes, leading to a host of environmental problems. This has prompted calls for sustainable development practices that balance current

economic needs with environmental preservation for future generations (Aboelmaged & Hashem, 2019).

With consumers increasingly prioritizing environmental sustainability, there is a growing demand for eco-friendly products that reduce waste and pollution. This trend underscores the need for companies to incorporate environmental preservation into their innovation and production processes. However, some MSMEs in Bandar Lampung have been slow to adopt green innovation, with observations revealing practices such as inadequate waste separation and the use of harmful ingredients in the culinary sector. In the face of heightened competition, businesses are compelled to adapt and innovate to survive. Innovation serves as a key strategy for improving company performance, yet many businesses prioritize product innovation over environmental considerations (Iskandar & Febriyantoro, 2019). However, green innovation offers a viable solution to address both economic and environmental concerns. Green innovation, encompassing both product and process innovation, focuses on reducing pollution, energy consumption, and waste generation while promoting sustainable growth (Reuvers et al., 2015).

Green innovation efforts are categorized into green product innovation and green process innovation, with both aimed at mitigating negative environmental impact (Chen et al., 2006). Green product innovation involves creating products or services that minimize environmental harm, while green process innovation entails adopting environmentally friendly technologies and production methods. Despite its potential, green innovation adoption among MSMEs faces challenges such as limited resources and technical expertise. In conclusion, MSMEs play a pivotal role in Indonesia's economic landscape, yet their growth must be accompanied by sustainable practices to mitigate environmental degradation. Green innovation offers a pathway for MSMEs to balance economic growth with environmental preservation. This research aims to explore the impact of Green Product Innovation and Green Process Innovation on Sustainable Business Performance in MSMEs, offering valuable insights into enhancing business sustainability while contributing to the broader discourse on business innovation and sustainability.

LITERATURE REVIEW

Operational Management

According to Jay Heizer and Barry Render (2015), operational management is a theory that states a series of actions that form or create value in goods or services by transforming inputs into outputs. Furthermore, operational management involves activities conducted by companies using resources and proceeding to processing stages to produce finished goods or services, with a manager responsible for ensuring no issues hinder operational processes (Wang et al., 2018). Heizer & Render (2015) identified ten principles of operational management, including product and service design, quality management, process and capacity design, location selection, layout design, human resources and job design, supply chain management, inventory, scheduling, and maintenance. To control raw material costs, companies must

plan purchases and monitor raw material inventory since raw materials are crucial components of the production system. Therefore, industries must plan and control raw material storage effectively so that production processes can run smoothly to achieve optimal quantities and utilize the company's savings. If raw materials are sufficiently available, good leadership is needed to prevent wastage or overflow of raw materials and enhance production process efficiency.

Innovation

According to Fu et al. (2022), innovation is a crucial process involving the discovery of new ideas and their transformation into valuable products or services. It is essential for companies to innovate to maintain competitiveness and adapt to changes in the business environment. Innovation strategy helps companies prioritize improving products and processes to outperform competitors. There are two main models of innovation: the source-based model, focusing on developing new ideas, and the user-based stage model, considering the needs of end-users (Rantala & Ukko, 2018). Successful entrepreneurship involves thinking creatively and doing things differently. Innovation not only adds value to products and services but also improves efficiency and productivity in business operations. By anticipating trends and understanding customer needs, innovation helps businesses build stronger relationships with their customers (Putri et al., 2023). Trott (2005) identifies seven types of innovation that companies can pursue: product, process, organizational, management, production, marketing, and service innovation. Each type aims to enhance different aspects of the business to drive growth and success.

Green Innovation

Green innovation, also referred to as eco-innovation or green technology, pertains to the development of products or services aimed at achieving sustainable development objectives by contributing to energy conservation, pollution mitigation, and waste management (Chang, 2011). It encompasses a range of initiatives undertaken by individuals or entities to advance the creation and adoption of processes, products, methodologies, and managerial systems that mitigate adverse environmental impacts (Koirala, 2019). Green innovation not only mitigates environmental risks but also fosters societal benefits by reshaping social norms and cultural attitudes toward sustainability (Basana et al., 2022). It underscores the effective utilization of resources and reduces environmental footprints through suitable technologies, thus enhancing resource efficiency and minimizing environmental impacts (Reuvers, 2015). Green innovation can be classified into two primary categories: green product innovation and green process innovation (Chen et al., 2006). Green product innovation concentrates on developing or enhancing products and services to diminish environmental harm, whereas green process innovation involves devising novel production or delivery methods to curtail energy usage, pollution, and waste generation (Chen et al., 2006). These innovations aim to bolster environmental performance and economic competitiveness by

implementing eco-efficient measures to fulfill sustainability-related environmental requirements (Chen, 2008).

Sustainable Business Performance

Sustainable business practices entail companies taking steps to promote environmental stewardship and community well-being (Almeida & Wasim, 2023). To achieve environmental and social sustainability, companies must integrate ethical practices to foster economic growth while minimizing harm to the environment (Mahmood & Bashir, 2020). Embracing sustainability can enhance a company's reputation among consumers (Afiyati et al., 2019), and business performance, driven by effective strategies, serves as a critical measure of success (Mahmood & Bashir, 2020; Jahanshahi et al., 2012). Sustainable business performance, or green business, aims to reduce negative environmental and social impacts, ensuring resource availability for future generations (Vivi, 2020). It involves conscientious environmental and social management strategies to achieve profitability (Haseeb et al., 2019). Sustainable businesses prioritize social issues, human resource management, and training (Bell & Stellingwerf, 2012), and sustainable performance encompasses environmental and economic aspects (Saudi et al., 2019). Environmental performance assesses a company's contribution to environmental preservation, while economic performance gauges financial success within the industry (Saudi et al., 2019).

METHODOLOGY

Types of research

This study adopts a quantitative research approach, which aligns with positivist philosophy and aims to examine specific populations or samples (Sugiyono, 2012). Quantitative research involves collecting numerical data using research instruments and analyzing it statistically to test predefined hypotheses (Sugiyono, 2012; Hermawan, 2019). Hermawan (2019) further characterizes quantitative research as an inductive, objective, and scientific method that yields numerical scores or evaluated statements for analysis through statistical techniques. The primary focus of this study is to investigate the relationship between variables, specifically assessing the impact of green innovation on sustainable business performance within the small and medium-sized enterprises (SMEs) operating in the food and beverage sector in Lampung Province.

Data collection technique

Two primary data sources are identified in research methodology: primary and secondary, as outlined by Sekaran (2007). Primary data originates directly from researchers, collected firsthand about the variables of interest, while secondary data is compiled from existing sources. As Hermawan (2019) explains, primary sources encompass publications where individuals conduct original research and publish their findings, directly communicating them to readers. For this study, primary data are gathered directly from respondents

through questionnaires, while secondary data are obtained through literature review.

In terms of measurement, the Likert scale is utilized to gauge respondents' responses and attitudes. According to Sugiyono (2013), the Likert scale is employed to measure opinions, attitudes, and perceptions toward social phenomena. In this study, the Likert scale serves to measure specific social phenomena, referred to as research variables. The Likert scale typically consists of five response options: Strongly Agree (score of 5), Agree (score of 4), Neutral or Undecided (score of 3), Disagree (score of 2), and Strongly Disagree (score of 1).

Researchers select data collection methods based on available resources, required accuracy levels, researcher capabilities, study duration, costs, and relevant resources (Sugiyono, 2013). In this study, the questionnaire method is employed to gather information for investigation. A questionnaire is a pre-designed set of written questions to be answered by respondents, which can be administered directly or distributed electronically (Hermawan, 2019). Here, a closed-ended questionnaire is used, where questions are predetermined, focusing on respondents' perceptions of green innovation and sustainable business performance.

Population, Sample, and Sampling Method

Understanding the population, sample, and sampling method is essential in research (Sugiyono, 2013). The population refers to the entire group under study, such as all food and beverage SMEs in Bandar Lampung City. From this large group, a sample is selected for study, and the Slovin formula is often used to determine the appropriate sample size (Sugiyono, 2013). For this study, 100 SMEs were chosen from a population of 790, employing purposive sampling (Hermawan, 2019). This method enables researchers to select samples based on specific criteria, including SME ownership, engagement in green practices within the food and beverage sector, and location within Bandar Lampung City.

Data analysis method

In research, data analysis is crucial for deriving actionable insights and making informed decisions (Sugiyono, 2018). This study will employ various analytical methods. Firstly, data validity will be assessed through techniques like product-moment correlation to ensure the accuracy of measurement instruments (Sugiyono, 2013). Similarly, reliability will be gauged using Cronbach's Alpha coefficient, aiming for a value exceeding 0.60 (Ghozali, 2016). Descriptive analysis will then be used to summarize collected data, followed by quantitative analysis using statistical methods to quantify numerical information and evaluate correlations between variables (Sugiyono, 2018). Multiple linear regression analysis will ascertain the relationship between independent variables (green product innovation and green process innovation) and the dependent variable (sustainable business performance), with coefficients indicating the impact of independent variable changes (Ghozali, 2016). Further analysis, including hypothesis testing via T-test, F-test, and

determination coefficient (R^2), will evaluate variable relationships and model fit (Ghozali, 2016).

RESEARCH RESULT

Description of MSME Characteristics

Based on the data received, the characteristics of the micro, small, and medium enterprises (UMKM) in this study can be outlined. In Table 4.4, out of 100 UMKM respondents, 93% were engaged in the food sector, while only 7% were in the beverage sector, indicating a dominance of UMKM selling food products. This dominance is attributed to the prevalent use of plastic cups in beverage packaging among UMKM, deemed spill-proof and durable. Moving to Table 4.5, the majority of UMKM surveyed (75%) were less than 5 years old, indicating a focus on environmental issues to gain a competitive edge in existing market segments. Additionally, Table 4.6 reveals that UMKM with fewer than 5 employees dominated (84%), often comprising family members or close relatives due to a lack of professional staff. Lastly, Table 4.7 highlights that UMKM with an annual turnover of less than 50 million IDR dominated (68%), attributed to cost-saving measures from the implementation of green innovation, which can reduce production expenses.

Multiple Linear Regression Test Results

Table 1. Multiple Linear Regression Test Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.373	1.469		5.018	0.000
	Green Product Innovation (X_1)	0.094	0.106	0.090	0.889	0.367
	Green Process Innovation (X_2)	0.317	0.103	0.313	3.091	0.003

The regression analysis equation obtained from Table below reveals valuable insights. With a constant value of 7.373, indicating the purchasing decision when independent variables have no influence, and regression coefficients of 0.094 for green product innovation and 0.317 for green process innovation, several conclusions emerge. Firstly, the constant value of 7.373 signifies the baseline purchasing decision. Secondly, a 100% increase in green product innovation corresponds to a 9.4% improvement in sustainable business performance, while a similar increase in green process innovation leads to a 31.7% enhancement, assuming other variables remain constant. This underscores the substantial impact of both green product and process innovations on sustainable business performance.

Partial Significance Test (T Test)

Table 2. Partial Significance Test (T Test)

No.	Hypothesis	T Value	T Table	conclusion
1.	Green Product Innovation has a significant positive effect on Sustainable Business Performance (H0)	0.889	1.66071	Not Supported
2.	Green Process Innovation has a significant positive effect on Sustainable Business Performance (H1)	3.091	1.66071	Supported

In the T-test analysis, the objective is to determine if each independent variable exerts a partial or individual impact on the dependent variable. The comparison involves assessing whether the calculated T-value surpasses the critical T-value from the T-table. Additionally, the significance level, set at 10% or 0.1 in this study, is compared with the obtained significance value. If the significance value falls below 0.1, the null hypothesis is accepted, and vice versa. The determination of the T-table values relies on the formula used in the study. From the findings presented in Table below, it is evident that green product innovation (X1) does not significantly influence Sustainable Business Performance (Y), as the T-value (0.889) is lower than the T-table (1.66071). Hence, hypothesis H01 is accepted, and H11 is rejected. Conversely, the results from Table 4.14 indicate that green process innovation (X2) has a significant positive impact on Sustainable Business Performance (Y), given that the T-value (3.091) exceeds the T-table (1.66071). Thus, hypothesis H02 is rejected, and H12 is accepted.

Simultaneous Test Results (F Test)

The F-test evaluates whether the independent variables collectively exhibit correlation with the dependent variable. It compares the calculated F-value with the critical F-value from the F-table, considering the confidence level and degrees of freedom. Alternatively, significance can determine if the independent variables influence the dependent variable. In this study, the F-test yielded a significance value of 0.001, indicating a significant influence of the independent variables. With the calculated F-value surpassing the critical F-value, the null hypothesis is rejected, and the alternative hypothesis is accepted. Thus, green product innovation and green process innovation collectively impact the sustainable business performance of food and beverage SMEs in Bandar Lampung City.

Coefficient of Determination Test (R²)

Table 3. Coefficient of Determination Test (R²) result

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.354	0.126	0.108	1.69248

The coefficient of determination, R-squared (R²), indicates the collective influence of independent variables (X) on the dependent variable (Y). In this study, the R² value obtained from the test is 0.126, suggesting that Sustainable Business Performance in food and beverage SMEs in Bandar Lampung City is influenced by green product innovation and green process innovation by 12.6%. The remaining 87.4% is influenced by other variables not examined in this research.

DISCUSSION

The Influence of Green Product Innovation on Sustainable Business Performance in Food and Beverage MSMEs in Bandar Lampung City

The research findings suggest that the influence of Green Product Innovation on Sustainable Business Performance within the food and beverage SMEs sector in Bandar Lampung City is not statistically significant. The outcomes of the T-test analysis indicate that the computed T-value for the independent variable Green Product Innovation (X1) stands at 0.889, falling below the critical T-value of 1.66071. This implies a lack of substantial impact of Green Product Innovation on Sustainable Business Performance, leading to the rejection of the alternative hypothesis (H1). The study attributes this finding to a prevailing lack of awareness and commitment among SMEs toward environmental sustainability, as evidenced by the continued utilization of non-recyclable and environmentally detrimental products. Moreover, the study underscores the limited consumer consciousness regarding environmental concerns, thereby posing challenges for SMEs in garnering significant market acceptance for eco-friendly products. To mitigate these challenges, stakeholders within SMEs can engage in consumer education initiatives emphasizing the importance of recyclable products and explore the development of environmentally sound alternatives such as packaging materials crafted from fiber or aluminum, as elucidated in prior scholarly investigations (Budi & Sundiman, 2021; Fitriani, 2015).

The Influence of Green Process Innovation on Sustainable Business Performance in Food and Beverage MSMEs in Bandar Lampung City

The study's findings underscore the significant and positive impact of Green Process Innovation on Sustainable Business Performance within the food and beverage SMEs sector in Bandar Lampung City. The T-test analysis reveals that the computed T-value for the independent variable Green Process Innovation (X2) stands at 3.091, exceeding the critical T-value of 1.66071. This indicates a noteworthy positive effect of Green Process Innovation on

Sustainable Business Performance, thereby affirming the alternative hypothesis (H2). Moreover, the adoption of environmentally friendly innovation processes is observed to bolster SMEs' social responsibility and financial viability while concurrently managing risk levels. The study notes a discernible trend among food and beverage SMEs in Bandar Lampung towards embracing eco-friendly innovation processes, such as efficient waste management and conservation of energy and water resources. Through such initiatives, SMEs stand to curtail expenses, alleviate environmental impact, and foster sustainable business practices for the future.

Multiple factors contribute to the favorable influence of green process innovation, including heightened productivity due to enhanced operational efficiency, reduced energy expenditure, and waste minimization, thereby positively shaping SMEs' sustainable performance. Furthermore, green process innovation can confer competitive advantages by bolstering SMEs' brand reputation, attracting environmentally conscious clientele, and opening up new avenues for business growth in markets increasingly prioritizing sustainability concerns. Nonetheless, there exists potential for refining business processes, particularly in enhancing waste recycling initiatives and emissions reduction strategies. For example, SMEs could explore recycling organic food waste like vegetable scraps, fruit peels, eggshells, and coffee grounds into compost, alongside repurposing unsuitable produce as animal feed. These research insights resonate with prior studies by Hojnik & Ruzzier (2016) and Lee & Min (2015), which similarly underscore the significant positive impact of green process innovation on sustainable business performance.

The Simultaneous Influence of Green Product Innovation and Green Process Innovation on Sustainable Business Performance in Food and Beverage MSMEs in Bandar Lampung City

Green Product Innovation involves the development of products or services designed to minimize or eliminate negative environmental impacts, while Green Process Innovation focuses on adopting environmentally friendly technologies to streamline production processes and reduce environmental harm. The simultaneous test outcomes reveal that both Green Product Innovation (X1) and Green Process Innovation (X2) collectively impact Sustainable Business Performance (Y), as evidenced by a significance value of 0.001, which is less than 0.1. This signifies a positive and substantial correlation between the variables, leading to the acceptance of hypothesis H3. This conclusion is consistent with Mariyamah & Handayani's (2019) study, which highlights the simultaneous influence of green product and process innovations on sustainable performance. Furthermore, it finds support in Christian & Alhazami's (2023) research, which similarly underscores the significant contributions of both Green Product Innovation and Green Process Innovation to sustainable business performance.

CONCLUSIONS AND RECOMMENDATIONS

The study, "Impact of Green Innovation on Sustainable Business Performance in SMEs in Bandar Lampung City," analyzed a sample of 100

respondents and drew several conclusions. Firstly, it found that Green Product Innovation did not significantly affect Sustainable Business Performance, suggesting a need for alternative materials in packaging to enhance sustainability in the food and beverage SME sector. Secondly, Green Process Innovation showed a notable positive impact on Sustainable Business Performance, indicating the importance of environmentally friendly process innovations such as water and energy conservation. Overall, simultaneous testing revealed that both Green Product and Green Process Innovations significantly predict Sustainable Business Performance. Recommendations include further embracing green product innovations, educating consumers on recyclable products, and prioritizing environmentally friendly process innovations like waste reduction and resource conservation.

ADVANCED RESEARCH

Future researchers are encouraged to explore additional independent variables beyond green product and process innovations to uncover further factors affecting sustainable business performance.

ACKNOWLEDGMENT

We would like to thank all the parties involved.

REFERENCES

- Aboelmaged, M., & Hashem, G. (2019). Absorptive capacity and green innovation adoption in SMEs: The mediating effects of sustainable organisational capabilities. *Journal of Cleaner Production*, 220, 853-863
- Afiyati, A., Murni, S., & Hariadi, P. (2019). Keunggulan Bersaing sebagai Variabel Mediasi pada Pengaruh Strategi Diferensiasi dan Orientasi Pasar terhadap Kinerja Bisnis UMKM di Kabupaten Purbalingga. *Jurnal Ekonomi, Bisnis, Dan Akuntansi*, 21(3).
- Almeida, F., & Wasim, J. (2023). Eco-innovation and Sustainable Business Performance: Perspectives of SMEs in Portugal and the UK. *Society and Business Review*.
- Basana, S. R. (2022.). The impact of supply chain practice on green hotel performance through internal, upstream, and downstream integration. *Uncertain Supply Chain Management*.
- Bell, J., & Stellingwerf, J. (2012). Sustainable entrepreneurship: The motivations and challenges of sustainable entrepreneurs in the renewable energy industry.
- Budi, & Didi Sundiman. (2021). Pengaruh Inovasi Hijau Terhadap Kinerja Berkelanjutan: Peran Moderasi Dari Kepedulian Lingkungan Manajerial (Studi Pada UMKM di Batam).

- Chang, C.-H. (2011). The influence of corporate environmental ethics on competitive advantage: The mediation role of green innovation. *Journal of Business Ethics*, 104, 361–370.
- Chen, Y.-S., Lai, S.-B., & Wen, C.-T. (2006). The influence of green innovation performance on corporate advantage in Taiwan. *Journal of Business Ethics*, 67, 331–339.
- Fitriani, L. K. (2015). Analisis *Green Innovation* Dampaknya Terhadap Keunggulan Bersaing Produk dan Kinerja Pemasaran (Studi Empirik Pada UMKM Batik Ciwaringin Kabupaten Cirebon). *Journal of Management and Business Review*, 12(2).
- Fu, Y., Li, Q., & Chang, Y. (2022). Operating Mechanism of University Innovation and Entrepreneurship Education and Its Contribution to Regional Economy. *International Journal of Emerging Technologies in Learning*, 17(14).
- Ghozali, I., & Latan, H. (2016). Partial least squares konsep, teknik dan aplikasi menggunakan program smartpls 3.0 untuk penelitian empiris. *Semarang: Badan Penerbit UNDIP*.
- Haseeb, M., Hussain, H. I., Kot, S., Androniceanu, A., & Jermstittiparsert, K. (2019). Role of social and technological challenges in achieving a sustainable competitive advantage and sustainable business performance. *Sustainability*, 11(14), 3811.
- Hermawan, I. (2019). Metodologi penelitian pendidikan (kualitatif, kuantitatif dan mixed method). *Hidayatul Quran*.
- Hojnik, J., & Ruzzier, M. (2016). The Driving Forces of Process Eco-Innovation and Its Impact on Performance: Insights From Slovenia. *Journal of Cleaner Production*, 133, 812-825.
- Iskandar, A., & Febriyantoro, T. (2019). Peran Kinerja Inovasi Hijau Dalam Menghubungkan Permintaan Pasar, Dan Kinerja Bisnis (Studi Pada Umkm Di Kota Batam). 7(2), 182–191.
- Jahanshahi, A. A., Rezaei, M., Nawaser, K., Ranjbar, V., & Pitamber, B. K. (2012). Analyzing the effects of electronic commerce on organizational performance: Evidence from small and medium enterprises. *African Journal of Business Management*, 6(15), 6486–6496.
- Khan, S. J., Dhir, A., Parida, V., & Papa, A. (2021). Past, present, and future of green product innovation. *Business Strategy and the Environment*, 30(8), 4081–4106.
- Koirala, S. (2019). *SMEs: Key drivers of green and inclusive growth*.

- Lee, K. H., & Min, B. (2015). Green R&D For Eco-Innovation and its Impact on Carbon Emissions and Firm Performance. *Journal of Cleaner Production*, 108, 534-542.
- Liantifa, M., & Fiqri. (2020). Karakteristik Wirausaha, Modal Usaha dan Strategi Pemasaran Terhadap Perkembangan UMKM. *Jurnal Cahaya Mandalika*.
- Mahmood, A., & Bashir, J. (2020). How does corporate social responsibility transform brand reputation into brand equity? Economic and noneconomic perspectives of CSR. *International Journal of Engineering Business Management*, 12, 1847979020927547.
- Mariyamah., & Handayani, S. (2019). Pengaruh *Green Innovation* Terhadap *Economic Performance* dengan *Environmental Management Accounting* Sebagai Variabel Moderasi. *Jurnal Akuntansi dan Auditing*, 16, 105-123.
- Muangmee, C., Dacko Pikiewicz, Z., Meekaewkunchorn, N., Kassakorn, N., % Khalid, B. (2021). Green entrepreneurial orientation and green innovation in small and medium-sized enterprises (SMEs). *Social Sciences*, 10(4), 136.
- Putri, L. T., Diantara, L., Hendrizal, H., Kamal, M., Ali, A., & Qadar, A. (2023). Pelatihan Peningkatan Pengetahuan Tentang Pentingnya Inovasi dan Networking Dalam Menjalankan Usaha Bagi UMKM Wanita Di Bangkinang Kota Kabupaten Kampar. *Diklat Review: Jurnal Manajemen Pendidikan Dan Pelatihan*, 7(2), 238-243.
- Rantala, T., & Ukko, J. (2018). Performance measurement in university-industry innovation networks: implementation practices and challenges of industrial organisations. *Journal of Education and Work*, 31(3), 247-261.
- Reuvers, F., Löwik, S. J. A., & De Visser, M. (2015). *5 th IBA Bachelor Thesis Conference*.
- Saudi, M. H. M., Sinaga, O., & Zainudin, Z. (2019). The effect of green innovation in influencing sustainable performance: Moderating role of managerial environmental concern. *International Journal of Supply Chain Management*, 8(1), 303-310.
- Septiany, F. (2023). Realisasi Kebijakan Pemerintah Pada Perkembangan Umkm Indonesia Pasca Pandemi. *Synergy: Jurnal Ilmiah Multidisiplin*, 1(01), 36-45.
- Sugiyono, D. (2013). *Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R&D*.
- Suresmiathi, A. A. A., & Ariani, D. (2013). Pengaruh Kualitas Tenaga Kerja, Bantuan Modal Usaha dan Teknologi terhadap Produktivitas Kerja

Usaha Mikro Kecil dan Menengah di Jimabaran. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 2(2), 44432.

Trott, P. (2005). *Innovation Management and New Product Development Sixth Edition*.

Vivi, I. H. (2020). Pengaruh inovasi lingkungan dan inovasi layanan pada kinerja bisnis yang berkelanjutan (Studi pada perusahaan teknologi di Batam). *Development of Research Management: Jurnal Manajemen*, 15(1), 82–103.

Wang, S.-H., & Song, M.-L. (2014). Review of hidden carbon emissions, trade, and labor income share in China, 2001–2011. *Energy Policy*, 74, 395–405.