PROCEEDING ICESS 2024
UIN SUSKA RIAU
E-ISSN : 3032 - 517X
Volume 2, Year 2024
"Navigating The Future Challenges in Literacy: Islamic Economics, Business, and Public Policy Perspectives"

The Role of Eco-Intellectual Capital and Eco-Dynamic Capability on MSMEs' Sustainability Performance

Nurul Badriyah[1*], Kamaliah[2], Aunurrafiq[3]

[1,2,3] Department of Accounting and Business, Universitas Riau, Pekanbaru, Indonesia

ARTICLE INFO

Article history:
Received Oct 08, 2024
Revised Oct 18, 2024
Accepted Oct 18, 2024
Available online Dec 07, 2024

Keywords:
Eco-Intellectual Capital,
Eco-Dynamic Capability,
Sustainability Performance

ABSTRACT

MSMEs play a significant role in the Indonesian economy, contributing 60.5% to GDP and accounting for 97% of total national employment. Given their crucial role, sustainability of MSMEs is an essential thing. This study examined the effect of eco-intellectual capital on the sustainability performance of Micro, Small and Medium Enterprises (MSMEs) and determine the moderating role of eco-dynamic capability on eco-intellectual capital and MSMEs' sustainability performance. The study sample consisted of 149 MSMEs in Bangko District, Rokan Hilir Regency, Riau Province. This study use quantitative method which employs a questionnaire-based data collection method, with questionnaires distributed directly to respondents. The study uses simple linear regression and moderated regression to analyse data. The results showed that eco-intellectual capital significantly influences MSMEs' sustainability performance and eco-dynamic capability moderate the influence of eco-intellectual capital on MSMEs' sustainability performance. These findings have implication for owner of MSMEs that MSMEs should know how to use their eco-intellectual capital well and should have eco-dynamic capability to enhancing MSMEs sustainability performance.

*Corresponding author.
E-mail: nurul.badriyah@lecturer.unri.ac.id (First Author)

INTRODUCTION

The contribution of micro, small, and medium enterprises (MSMEs) to employment, growth, and sustainable development is widely recognized worldwide. MSMEs are at the heart of economic and social empowerment for its citizens, as governments cannot simply create jobs for everyone, while MSMEs are one of the solutions for people, especially the younger generation, to become entrepreneurs, develop new technologies, and develop substitute products to replace imported goods. MSMEs drive economic development by reducing poverty, creating jobs, increasing self-sufficiency, boosting industrial production and exports, and significantly contributing to GDP growth (Teka, 2022).

In Indonesia, MSMEs are significant contributors to the Indonesian economy (Anantadjaya et al., 2023). Based on data from the Indonesian Chamber of Commerce and Industry, the contribution of MSMEs to GDP reaches 60.5%, or around IDR 8,573 trillion annually, and employment is 97% of the total national employment, or around 116 million people (Indonesia, 2022). Most governments in various countries, including Indonesia, have seen an increased awareness and recognition of the role and contribution of MSMEs to this economy (Teka, 2022). Therefore, the sustainability of MSMEs is an essential thing to consider in order to make the MSME sector an engine of economic growth and reduce the problem of unemployment.

In Rokan Hilir Regency, the potential of MSMEs is quite significant, especially in Bangko District; this is indicated by the large number of MSMEs, namely 14,297. With this number, MSMEs are the most critical pillar in economic growth in Rokan Hilir Regency (Dahmudi, 2022). Thus, the sustainability of MSMEs in Rokan Hilir Regency is essential. However, to maintain sustainability, MSME actors face various challenges and problems, including licensing issues, product marketing, high business competition, a lack of human resources, and environmental issues related to natural disasters (Afrizal, 2022; Redaksi, 2023a, 2023b; Rohil, 2023). Regarding natural disasters, floods are frequent in several locations in the capital city of Bagansiapiapi (Redaksi, 2023a). Therefore, in their business activities, MSMEs should pay attention to how to increase profitability and protect and maintain the natural environment so that disasters such as flooding do not occur again.

Sustainability is about protecting the environment and ensuring the well-being of humans and the economic climate (Astuty et al., 2024). A sustainable company generates profits for its shareholders while protecting the environment and improving the lives of those around or interacting with the company. Sustainability thus emphasizes combining stakeholder needs and profitability with environmental protection (Teka, 2022). Business sustainability in MSMEs can be measured by the success of business actors in innovating, managing employees and consumers, and returning to the capital used from the beginning (Kusuma et al., 2022). In addition to paying attention to the return on capital

used or profits, sustainability can also be achieved by paying attention to and maintaining the surrounding environmental conditions (Gharib et al., 2023).

Businesses consider health and living conditions crucial to their core business activities as environmental challenges increasingly jeopardize economic growth. All aspects of business are required to carry out environmentally friendly practices. Eco-friendly practices refer to the tendency to conduct business activities that generate commercial benefits while not harming the environment (Asad et al., 2023). Recent studies, in particular, show that eco-intellectual capital is critical to the sustainability of MSMEs (Antwi-Boateng et al., 2023; Buhaya & Metwally, 2024; Gharib et al., 2023; Jiao et al., 2023).

Intellectual capital is any intangible and non-physical source of benefits that is usually partially or wholly owned by a company and helps generate value. Intellectual capital can also be defined as information about how the company ensures competition, increases profits in business, or gathers information about technology, experience, rational property rights, education and industry expertise, team communication tools, client services, and various trademarks that, in the end, generate profits for the company (Gharib et al., 2023). Companies continue to produce more environmentally friendly innovations as the concept of a sustainable environment continues to develop to prevent ecological damage and global warming. Not only companies but also consumers, when choosing the products they use, consider the concept of environmental friendliness (Gharib et al., 2023).

Awareness of the importance of being environmentally friendly encourages the creation of eco-intellectual capital. Eco-intellectual capital helps companies meet strict global environmental procedures, generate value, and respond to consumer needs regarding ecological issues. Thus, eco-intellectual capital is a collection of resources, competencies, and information committed to environmental innovation or green conservation (Gharib et al., 2023). Eco-intellectual capital consists of 3 components: green human capital, green structural capital, and green relational capital (Antwi-Boateng et al., 2023).

Eco-intellectual capital has the tendency and ability to increase the operational excellence of corporate organizations to achieve and meet sustainable development goals led by international bodies (UN), change their products in a more environmentally friendly direction according to customer needs, and gain competitive advantage (Yusoff et al., 2019). This aligns with the three sustainability dimensions that are the company's goals: ecological, social, and financial (Cavicchi & Vagnoni, 2017).

The results of research conducted by Yusliza et al., (2020) found that eco-intellectual capital has a positive effect on the economic, environmental, and social performance of the organization, as well as research conducted by Antwi-Boateng et al.,

(2023) which proves that eco-intellectual capital affects business sustainability. Conversely, some studies have found different results, such as research by Yusoff et al., (2019) and Gharib et al., (2023), which prove that there is no influence between eco-intellectual capital and business sustainability. The disparate results regarding the relationship between eco-intellectual capital and sustainability indicate that the relationship between these fundamental variables needs to be revisited.

The inconsistent findings in various studies may be due to the mechanism of the relationship between eco-intellectual capital and sustainability, which moderating variables, namely eco-dynamic capability, may influence. Huang and Xiao (2023) assert that when environmental conditions change frequently, companies must continuously update resources and capabilities to sense and seize new opportunities, thereby achieving a sustainable competitive advantage. Therefore, the eco-dynamic capability must be developed into the eco-dynamic capability necessary for sustainability because it is considered a very relevant factor due to its sustainability-oriented characteristics (Da Giau et al., 2020; Gruchmann et al., 2021; Linde et al., 2021).

Previous research on eco-intellectual capital, eco-dynamic capability, and business sustainability has mainly been conducted on large companies; few studies have been undertaken on MSMEs (Passaro et al., 2023). The sustainability of MSMEs is essential, given the significant contribution of MSMEs to development and economic growth. This research was conducted on MSMEs in Bangko Sub-district, Rokan Hilir Regency, Riau Province, because the potential of MSME businesses in this area is quite significant, which is indicated by the large number of MSMEs and is also supported by the economic potential of the region and the investment climate in Bangko Sub-district, Rokan Hilir Regency. Plus, after three years of being canceled due to the COVID-19 pandemic, the Tongkang Burning Festival was held again in 2023. This event has attracted thousands of local and international tourists to Bagansiapiapi City, Rokan Hilir Regency (Redaksi, 2023c). It is also expected to encourage MSMEs to continue to grow and develop to maintain their sustainability because this event is also accompanied by the Creative Economy Festival and MSME Bazaar (Fernando, 2023). The purpose of this study is to examine and analyze the influence of eco-intellectual capital on MSMEs' sustainability performance, as well as to test and analyze eco-dynamic capability as a moderator in the relationship between eco-intellectual capital and MSMEs' sustainability performance.

METHODOLOGY

The research was conducted in Bangko District, Rokan Hilir Regency, Riau Province. The research was conducted in 2024 with a research period of 6 months, from April to September 2024. The population in this study were all MSMEs in the Bangko District, Rokan Hilir Regency, Riau Province. Based on data from the Office of Cooperatives, Micro, Small, and Medium Enterprises of Rokan Hilir Regency, 2,152 MSMEs were

obtained in the Bangko District Area, Rokan Hilir Regency. This study's sampling technique used was the Yamane formula (Sugiyono, 2018). By using this formula, a sample of 337 MSMEs was obtained. Two types of data and data sources are used in this study, namely primary data and secondary data. Primary data in this study is obtained through questionnaires on respondents' responses to the variables studied in MSMEs in the District of Bangko District, Rokan Hilir Regency, Riau Province. Meanwhile, secondary data in this study were obtained from the Rokan Hilir Regency Cooperative and Micro, Small, and Medium Enterprises Office.

The variables in this study are divided into three, namely: the independent variable, namely eco-intellectual capital, which consists of 3 components, namely green human capital, green structural capital, and green relational capital; the moderating variable is eco-dynamic capability; and the dependent variable is the sustainability of MSMEs. All variables are measured using instruments used in previous studies, such as answering questions on a Likert scale of 1 to 5. MSMEs' sustainability is measured by research instruments (Hariyono & Narsa, 2024). Green human capital, green structural capital, and green relational capital are calculated using instruments used in research (Antwi-Boateng et al., 2023). Eco-dynamic capability is measured by the instrument used in research (Antwi-Boateng et al., 2023). This study's data analysis model uses a simple linear regression approach and moderated regression analysis (MRA).

RESULTS AND DISCUSSION

This study was conducted by distributing questionnaires directly to the respondents. A total of 337 questionnaires were distributed, corresponding to the sample size. Of these, 149 questionnaires were returned, representing a response rate of 44.2%. All returned questionnaires were complete and could be analyzed.

Descriptive Statistical Results

Descriptive statistical analysis in this study was conducted by presenting the number of data points, minimum (min) value, maximum (max) value, mean value, and standard deviation of the variables used.

Table 1. Descriptive Statistical Results

	N	Minimum	Maximum	Mean	Std. Deviation
Eco-Intellectual Capital	149	73	90	85,23	3,650
Eco-Dynamic Capability	149	23	30	28,43	1,657
Sustainability Performance	149	20	25	23,23	1,338
Valid N (listwise)	149				

Source: Processed Data, 2024

Based on the descriptive statistical results presented in Table 1, it can be observed that the mean values for each variable are greater than the standard deviation values. This indicates that the level of data deviation is relatively small and suggests a low level of variation, reflecting that the data distribution in this study is normal and unbiased (Ghozali, 2021).

Results of the Coefficient of Determination (R^2) Test

Table 2. Coefficient of Determination (R^2) Test Results

	Adjusted R Square
R^2 Test	0.308

Source: Processed Data, 2024

Based on Table 2, the Adjusted R Square value of 0.308 indicates that the influence of eco-intellectual capital and eco-dynamic capability on MSMEs sustainability performance is 30.8%, while the remaining 69.2% is influenced by other variables not included in this study.

Hypothesis Testing and Discussion

Table 3. Simple Linear Regression Test Results (Model 1)

Variable	B	Sig	t_{value}	t_{table}	Result
Eco-Intellectual Capital	0.206	0.000	6.992	1.976	Significant

Source: Processed Data, 2024

From Table 3, it can be stated that eco-intellectual capital significantly influences MSMEs sustainability performance. This is evident as the t-value of 6.992 is greater than the t-table value of 1.976, and the significance value of 0.000 is less than 0.050. Based on these results, it can be concluded that eco-intellectual capital significantly influences MSMEs sustainability performance. The results of this study support the results of previous studies, namely Yusoff et al., (2019), Antwi-Boateng et al., (2023), Gharib et al., (2023), Jiao et al., (2023), Buhaya & Metwally (2024).

Eco-intellectual capital consists of 3 components: green human capital, green structural capital, and green relational capital. The term "green human capital" refers to human resources that have an awareness of environmental issues and assist businesses, particularly MSMEs, in acting in an ecologically responsible way. These resources include expertise, knowledge, skills, talents, and experience (Yusliza et al., 2020). The main driver of companies, including MSMEs, is people, so green human capital is a contributing factor in companies' efforts to achieve business sustainability (Suki et al., 2023). The second component of eco-intellectual capital is green structural capital. Green structural capital refers to intangible non-human assets that are owned by businesses, including MSMEs. These assets include commitments, databases, policies, strategies, and capabilities that are motivated by environmental concerns and that encourage the organization to act in an environmentally friendly way (Yusliza et al., 2020; Suki et al., 2023). Green structural capital consists of a set of capabilities of companies, including MSMEs, which include systems, protocols, databases, and patents that focus on environmental preservation and compliance with green principles owned and used by companies (Benevene et al., 2021). The influence of green structural capital extends to guiding employees towards optimal environmental practices, providing support, and directing environmental programs within the organizational framework to improve the company's sustainability performance (Benevene et al., 2021; Buhaya & Metwally, 2024).

Furthermore, the third dimension of eco-intellectual capital is green relational capital. Green relational capital indicates the relationship of firms, including MSMEs, with key stakeholders in matters relating to the environment and its management. Green relational capital provides information regarding the company's corporate social responsibility practices and plans. This will foster trust between stakeholders and organizational management (AL-Khatib & Shuhaiber, 2022). The development of green relational capital by companies, including MSMEs, leads to extensive sharing of environment-related information among stakeholders, reducing waste and increasing operational efficiency**,** increasing learning, training, and access to knowledge capabilities (Benevene et al., 2021). This increased capability will increase knowledge within the firm, leading to new green innovations that will ultimately improve the sustainability performance of firms, including MSMEs (Rehman et al., 2021; Buhaya & Metwally, 2024).

Table 4 Multiple Linear Regression Test Results (Model 2)

Variable	B	Sig	t value
Eco-Intellectual Capital	0.156	0.000	5.726
Eco-Dynamic Capability	0.174	0.004	2.912

Source: Processed Data, 2024

Table 5 Moderated Regression Analysis Test Results (Model 3)

Variable	B	Sig	t_{value}
Eco-Intellectual Capital	-0.730	0.035	-2.123
Eco-Dynamic Capability	-2.482	0.017	-2.411
Eco-Intellectual Capital * Eco-Dynamic Capability	0.032	0.011	2.584

Source: Processed Data, 2024

In comparing three regression models based on Table 3, 4 and 5:

1) Y= 7,634+(0,183)X1+e
2) Y= 54,999+(0,156)X1+(0,174)Z + e
3) Y= 79,577-(0,730)X1-(2,482)Z+(0,032)X1.M +e

It is evident that the type of moderation variable is a quasi-moderator, as indicated by the coefficients b2 and b3, where b2 is significant, and b3 is significant A variable known as quasi moderation interacts with the predictor variable and eventually turns into a predictor variable, moderating the link between the predictor and the dependent variables (Sukirno & Prsetyo, 2023). Therefore, this study concludes that eco-dynamic capability moderate the influence of eco-intellectual capital on MSMEs sustainability performance.

Eco-dynamic capability recognizes the significance of sustainability concerns for long-term sustainable policies and environmental practices (Yu et al., 2022). Company including MSME with eco-dynamic capability has an ability to integrate its competencies to the dynamic market and to coordinate its resources to achieve sustainability (Li et al., 2023). Eco-dynamic capability transforms the company into a sustainable company that considers environmental performance in its business activities, such as environmentally friendly product design and processes in various company operations. Eco-dynamic capability is a factor that is relied upon as external knowledge to drive the sustainable development agenda. Companies including MSMEs with eco-dynamic capability will be able to achieve competitive advantage and sustainability in the long term. This is because eco-dynamic capability serves as an ability that can transform environmentally friendly knowledge, ecologically friendly strategies, and environmentally friendly actions into sustainable businesses for companies, including MSMEs (Yu et al., 2022).

CONCLUSION

This study demonstrates that eco-intellectual capital significantly influences MSMEs' sustainability performance and eco-dynamic capability moderate the influence of eco-intellectual capital on MSMEs' sustainability performance. Theoretically, the research contributes to the empirical literature on the impact of eco-intellectual capital and eco-dynamic capability on MSMEs' sustainability performance. Practically, the study is highly beneficial for MSME actors, highlighting the importance of eco-intellectual capital and eco-dynamic capability in enhancing their sustainability. MSME actors that know how to use their eco-intellectual capital will create value added for the company.

Eco-intellectual capital will be a fundamental strategic lever to drive business effectiveness and continuous innovation, leading to a MSMEs sustainability performance. Furthermore, MSMEs with eco-dynamic capability will have an ability that can transform environmentally friendly knowledge, ecologically friendly strategies, and environmentally friendly actions into sustainable businesses for companies.

This study has certain limitations, notably the low coefficient of determination (R^2) of 0.308, indicating that eco-intellectual capital and eco-dynamic capability together explain only 30.8% of the variance in MSMEs sustainability performance, while the remaining 69.2% is influenced by other variables not included in this study. For future research, it is recommended to include additional variables such as environmental accounting strategy (Latifah & Soewarno, 2023), entrepreneurial financial literacy (Meressa, 2023) and working capital (Rosyadah et al., 2022).

REFERENCES

Afrizal. (2022). *Bupati Afrizal Sintong Buka Bazar UMKM di Bagansiapiapi*. https://www.halloriau.com/read-rohil-1416466-2022-01-05-bupati-afrizal-sintong-buka-bazar-umkm-di-bagansiapiapi.html

Ahmed, W., Ashraf, M. S., Khan, S. A., Kusi-Sarpong, S., Arhin, F. K., Kusi-Sarpong, H., & Najmi, A. (2020). Analyzing the impact of environmental collaboration among supply chain stakeholders on a firm's sustainable performance. *Operations Management Research*, *13*(1), 4–21. https://doi.org/10.1007/s12063-020-00152-1

AL-Khatib, A. wael, & Shuhaiber, A. (2022). Green Intellectual Capital and Green Supply Chain Performance: Does Big Data Analytics Capabilities Matter? *Sustainability (Switzerland)*, *14*(16), 1–34. https://doi.org/10.3390/su141610054

Alcaniz, L., Gomez-Bezares, F., & Roslender, R. (2011). Theoretical perspectives on intellectual capital: A backward look and a proposal for going forward. *Accounting Forum*, *35*(2), 104–117. https://doi.org/10.1016/j.accfor.2011.03.004

Anantadjaya, S. P. D., Irma M. Nawangwulan, Candra, E., Rahmatya Widyaswati, & Achmad Choerudin. (2023). Pengaruh Financial Capabilities, Networking Terhadap Kinerja Usaha UMKM di Kota Sukabumi Melalui Intellectual Capital. *Jurnal Bisnisman : Riset Bisnis Dan Manajemen*, *5*(1), 16–32. https://doi.org/10.52005/bisnisman.v5i1.131

Antwi-Boateng, C., Mensah, H. K., & Asumah, S. (2023). Eco-intellectual capital and sustainability performance of SMEs: The moderating effect of eco-dynamic capability. *Cogent Business and Management*, *10*(3). https://doi.org/10.1080/23311975.2023.2258614

Asad, M., Majali, T., Aledeinat, M., Abdelkarim Almajali, D., & Akhorshaideh, A. H. O. (2023). Green entrepreneurial orientation for enhancing SMEs financial and environmental performance: Synergetic moderation of green technology dynamism and knowledge transfer and integration. *Cogent Business and Management*, *10*(3). https://doi.org/10.1080/23311975.2023.2278842

Astuty, E., Sudirman, I. D., & Aryanto, R. (2024). Sustainable resilience strategy: unleash the micro-businesses's potential in the digitalization and sustainability era. *Cogent Business and Management*, *11*(1). https://doi.org/10.1080/23311975.2024.2313672

Barney. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, *17*(1), 99–120. https://doi.org/https://doi.org/10.1177/014920639101700108

Barney, J. B., Ketchen, D. J., Wright, M., Hart, S. L., & Dowell, G. (2010). Invited Editorial: A Natural-Resource-Based View of the Firm: Fifteen Years After. *Journal of Management*, *37*(5), 1464–1479. https://doi.org/10.1177/0149206310390219

Benevene, P., Buonomo, I., Kong, E., Pansini, M., & Farnese, M. L. (2021). Management of green intellectual capital: Evidence-based literature review and future directions. *Sustainability (Switzerland)*, *13*(15). https://doi.org/10.3390/su13158349

Buhaya, M. I., & Metwally, A. B. M. (2024). Green intellectual capital and green supply chain performance: do external pressures matter? *Cogent Business and Management*, *11*(1). https://doi.org/10.1080/23311975.2024.2349276

Cavicchi, C., & Vagnoni, E. (2017). Does intellectual capital promote the shift of healthcare organizations towards sustainable development? Evidence from Italy. *Journal of Cleaner Production*, *153*, 275–286. https://doi.org/https://doi.org/10.1016/j.jclepro.2017.03.175

Da Giau, A., Foss, N. J., Furlan, A., & Vinelli, A. (2020). Sustainable development and dynamic capabilities in the fashion industry: A multi-case study. *Corporate Social Responsibility and Environmental Management*, *27*(3), 1509–1520. https://doi.org/https://doi.org/10.1002/csr.1891

Dahmudi, D. (2022). *Wabup Rohil: UMKM pilar penting penggerak ekonomi daerah*. https://riau.antaranews.com/berita/311333/wabup-rohil-umkm-pilar-penting-penggerak-ekonomi-daerah

Fernando. (2023). *Festival Bakar Tongkang 2023, Perayaan Tradisi Tionghoa yang Mengesankan dan Unik dari Riau yang Mendunia*.

Gharib, M., Alam, M. S., Hawaldar, I. T., Murshed, M., Khan, U., Alvarado, R., & Rehman, I. U. (2023). Roles of green intellectual capital facets on environmental sustainability in Oman. *Economic Research-Ekonomska Istrazivanja* , *36*(3). https://doi.org/10.1080/1331677X.2022.2149591

Ghozali, I. (2021). *Aplikasi Analisis Multivariate Dengan Program IBM SPSS 26* (Edisi Kese). Badan Penerbit Universitas Diponegoro.

Gruchmann, T., Timmer, V., Gold, S., & Geßner, C. (2021). Dynamic capabilities for sustainable change in the food processing industry: A multilevel perspective. *Journal of Cleaner Production*, *311*, 127534. https://doi.org/https://doi.org/10.1016/j.jclepro.2021.127534

Hariyono, A., & Narsa, I. M. (2024). The value of intellectual capital in improving MSMEs' competitiveness, financial performance, and business sustainability. *Cogent Economics and Finance*, *12*(1). https://doi.org/10.1080/23322039.2024.2325834

Hart, S. L. (1995). A Natural-Resource-Based View of the Firm. *The Academy of Management Review*, *20*(4), 986–1014. https://doi.org/10.2307/258963

Indonesia, K. (2022). *UMKM Indonesia*. https://kadin.id/en/data-dan-statistik/umkm-indonesia/

Jiao, X., Zhang, P., He, L., & Li, Z. (2023). Business sustainability for competitive advantage: identifying the role of green intellectual capital, environmental management accounting and energy efficiency. *Economic Research-Ekonomska Istrazivanja* , *36*(2). https://doi.org/10.1080/1331677X.2022.2125035

Kusuma, M., Narulitasari, D., & Nurohman, Y. A. (2022). Inklusi Keuangan Dan Literasi

Keuangan Terhadap Kinerja Dan Keberlanjutan Umkm Disolo Raya. *Among Makarti*, *14*(2), 62–76. https://doi.org/10.52353/ama.v14i2.210

Latifah, S. W., & Soewarno, N. (2023). The environmental accounting strategy and waste management to achieve MSME's sustainability performance. *Cogent Business and Management*, *10*(1). https://doi.org/10.1080/23311975.2023.2176444

Li, C., Hassan, H., Murad, M., & Mirza, F. (2023). Role of Green Dynamic Capabilities on Environmental and Social Innovation Behavior: Mediating of Green Creativity and Moderating of Innovation Proclivity. *Sustainability*, *15*(20), 14996. https://doi.org/10.3390/su152014996

Lin, Y., & Wu, L.-Y. (2014). Exploring the role of dynamic capabilities in firm performance under the resource-based view framework. *Journal of Business Research*, *67*(3), 407–413. https://doi.org/https://doi.org/10.1016/j.jbusres.2012.12.019

Linde, L., Sjödin, D., Parida, V., & Wincent, J. (2021). Dynamic capabilities for ecosystem orchestration A capability-based framework for smart city innovation initiatives. *Technological Forecasting and Social Change*, *166*, 120614. https://doi.org/https://doi.org/10.1016/j.techfore.2021.120614

Meressa, H. A. (2023). Entrepreneurial financial literacy - small business sustainability nexus in Ethiopia. *Cogent Business and Management*, *10*(2). https://doi.org/10.1080/23311975.2023.2218193

Passaro, R., Quinto, I., Scandurra, G., & Thomas, A. (2023). The drivers of eco-innovations in small and medium-sized enterprises: A systematic literature review and research directions. *Business Strategy and the Environment*, *32*(4), 1432–1450. https://doi.org/10.1002/bse.3197

Redaksi. (2023a). *BPBD Rohil Kerahkan Puluhan Petugas Atasi Persoalan Banjir di Bagansiapiapi*. https://www.gardaterkini.com/read-135629-2023-10-17-bpbd-rohil-kerahkan-puluhan-petugas-atasi-persoalan-banjir-di-bagansiapiapi-.html

Redaksi. (2023b). *Buka Pelatihan Kewirausahaan, Bupati Rohil Harap Produk UMKM Bisa Masuk Indomaret*. https://mediacenter.rohilkab.go.id/view/buka-pelatihan-kewirausahaan-bupati-rohil-harap-produk-umkm-bisa-masuk-indomaret

Redaksi. (2023c). *Festival Bakar Tongkang 2023 Sedot Puluhan Ribu Wisatawan*. https://www.riaueditor.com/detail/Senibudpar/festival-bakar-tongkang-2023-sedot-puluhan-ribu-wisatawan

Rehman, S. U., Kraus, S., Shah, S. A., Khanin, D., & Mahto, R. V. (2021). Analyzing the relationship between green innovation and environmental performance in large manufacturing firms. *Technological Forecasting and Social Change*, *163*, 120481. https://doi.org/https://doi.org/10.1016/j.techfore.2020.120481

Rohil, L. (2023). *Resmikan Umah Oleh-oleh Bagansiapiapi, PHR Angkat Produk Lokal dan Perekonomian Masyarakat*.

Rosyadah, K., Rahman Mus, A., Semmaila, B., & Chalid, L. (2022). The Relevance of Working Capital, Financial Literacy and Financial Inclusion on Financial Performance and Sustainability of Micro, Small and Medium-Sized Enterprises (MSMEs). *American Journal of Humanities and Social Sciences Research*, *6*, 203–216. www.ajhssr.com

Sugiyono. (2018). *Metode Penelitian Bisnis* (Cetakan Ke). Alfabeta.

Suki, N. M., Suki, N. M., Sharif, A., Afshan, S., & Rexhepi, G. (2023). Importance of green innovation for business sustainability: Identifying the key role of green intellectual capital and green SCM. *Business Strategy and the Environment*, *32*(4), 1542–1558.

https://doi.org/10.1002/bse.3204

Sukirno, S., & Prsetyo, M. G. (2023). Moderation Firm Size on Influence Working Capital to Total Asset and Debt to Equity Ratio on Share Prices. *Jurnal Keuangan Dan Perbankan (KEBAN)*, *3*(1), 24–38. https://doi.org/10.30656/jkk.v3i1.8169

Teka, B. M. (2022). Determinants of the sustainability and growth of micro and small enterprises (MSEs) in Ethiopia: literature review. *Journal of Innovation and Entrepreneurship*, *11*(1). https://doi.org/10.1186/s13731-022-00261-0

Wilden, R., Gudergan, S. P., Nielsen, B. B., & Lings, I. (2013). Dynamic Capabilities and Performance: Strategy, Structure and Environment. *Long Range Planning*, *46*(1), 72–96. https://doi.org/https://doi.org/10.1016/j.lrp.2012.12.001

Yu, D., Tao, S., Hanan, A., Ong, T. S., Latif, B., & Ali, M. (2022). Fostering Green Innovation Adoption through Green Dynamic Capability: The Moderating Role of Environmental Dynamism and Big Data Analytic Capability. *International Journal of Environmental Research and Public Health*, *19*(16). https://doi.org/10.3390/ijerph191610336

Yusliza, M.-Y., Yong, J. Y., Tanveer, M. I., Ramayah, T., Noor Faezah, J., & Muhammad, Z. (2020). A structural model of the impact of green intellectual capital on sustainable performance. *Journal of Cleaner Production*, *249*, 119334. https://doi.org/https://doi.org/10.1016/j.jclepro.2019.119334

Yusoff, Y. M., Omar, M. K., Kamarul Zaman, M. D., & Samad, S. (2019). Do all elements of green intellectual capital contribute toward business sustainability? Evidence from the Malaysian context using the Partial Least Squares method. *Journal of Cleaner Production*, *234*, 626–637. https://doi.org/https://doi.org/10.1016/j.jclepro.2019.06.153

Zhang, J., Ouyang, Y., Philbin, S., Zhao, X., Ballesteros-Pérez, P., & Li, H. (2020). Green Dynamic Capability of Construction Enterprises: Role of the Business Model and Green Production. In *Corporate Social Responsibility and Environmental Management* (Vol. 27). https://doi.org/10.1002/csr.2012