

Towards Sustainable Excellence: Exploring The Synergy Of Ambidextrous Sustainability And Sustainability Risk Management

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Abstract

As the demand for sustainable practices in the manufacturing industry rises alongside global awareness of environmental and social impacts, this study explores the concept of ambidextrous sustainability. It emphasizes the significance of balancing sustainability exploration and exploitation to optimize overall sustainability performance. This research investigates how adopting ambidextrous sustainability effectively enables companies to harness existing resources while innovating for future sustainability. Furthermore, the study highlights the critical role of sustainability risk management as a moderating factor in this relationship. By understanding the dynamics between ambidextrous sustainability and risk management, companies can enhance their sustainability performance and address the challenges posed by evolving environmental regulations and market demands. The findings offer practical insights for organizations striving to incorporate sustainable practices into their operational strategies. Employing a quantitative approach with data collected from large and medium-sized manufacturing companies in the Riau Islands, Indonesia, the research reveals that companies adept at balancing sustainability initiatives are more likely to achieve long-term success and a competitive edge. In conclusion, this study contributes to the discourse on corporate sustainability by illustrating the interplay between strategic sustainability initiatives and risk management, ultimately guiding firms on their path toward sustainable development and improved performance in an increasingly eco-conscious world.

Keywords: Ambidextrous Sustainability, Sustainability Performance, Sustainability Risk Management

INTRODUCTION

Across the globe, many businesses and organizations today place high value on a sustainable business environment. However, according to the latest Sustainable Development Report 2023 regarding Indonesia's achievement of the Sustainable Development Goals (SDGs), there was only a slight increase in the country's score from 69.16 in 2022 to 70.16 in 2023. With this score, Indonesia ranked fourth in Southeast Asia for SDG implementation and 75th out of 166 countries assessed. Indonesia's ranking in achieving the 17 SDG goals—which provide a comprehensive framework for sustainability focusing on social, economic, and environmental aspects—remains below Thailand, Vietnam, and Singapore, making it a matter of special concern (Pristiandaru, 2023).

CNBC Indonesia (2023) reported that in Indonesia, the manufacturing sector is one of the main contributors to sulfur dioxide (SO₂) emissions, totaling 2,631 tons per year or 61.9%. The transformation toward more sustainable business practices is a critical step in addressing future environmental challenges and ensuring long-term economic sustainability (Benevene et al., 2021). One way to achieve economic development in product innovation is through green and sustainable manufacturing by reducing environmental harm, providing a solution to lower greenhouse gas emissions (Zafina, 2024).

On the other hand, organizations exhibit varying degrees of involvement in environmental issues and the implementation of consistent values and practices, depending on whether they recognize sustainability as a key factor for growth and competitive advantage (Benevene et al., 2021). This study introduces a unique perspective on the intersection of Ambidextrous Sustainability and Sustainability Performance, particularly within the context of the manufacturing sector in Indonesia. While existing literature has explored sustainability practices extensively, there remains a research gap in understanding how organizations can effectively balance sustainability exploration and exploitation to enhance overall performance. Ambidextrous sustainability is interconnected in creating competitive advantage, as every company strives to achieve and maintain performance (Asiaei et al., 2022). It enables companies to explore new opportunities while enhancing existing capacities, which in turn may lead to competitive advantage (Asiaei et al., 2022).

Sustainable business generally also involves managing sustainability-related risks and opportunities (GRI, 2015). Lau and Chen (2022) argue that sustainable business practices involve managing social, environmental, and economic risks faced by a company while leveraging related opportunities to create value. For a company to be considered socially responsible, it must take into account the interests of all stakeholders (employees, customers, suppliers, and the community), as each has a significant impact on sustainability performance (Freeman, 2004).

Stakeholder theory identifies two distinct groups: first, internal stakeholders necessary for the company's existence, and second, external stakeholders (e.g., environmental activists, regulatory bodies focused on specific social issues) (Freeman & Reed, 1983). These external stakeholders may increase outside influence, potentially to the organization's detriment (Singh et al., 2023). Indifference to the surrounding environment may harm an organization's reputation and pose sustainability risks (Lau & Chen, 2022). As such, sustainability risk management emerges as a business strategy that aligns organizational goals with strategies that consider environmental and social issues from a holistic perspective, helping to reduce negative impacts on the environment by cutting carbon and toxic emissions and minimizing the use of natural resources (Borkovskaya et al., 2018; Anderson & Anderson, 2009). Sustainability risk management is receiving growing attention as it significantly influences overall performance (Androniceanu, 2019; Wijethilake & Lama, 2019).

Firms can only fully leverage their resource potential and capabilities when these are used in a complementary manner (Sirmon et al., 2011). Resource orchestration theory posits that resources and capabilities impact performance when assets are structured, bundled, and leveraged appropriately for specific markets (Asiaei et al., 2022). In addition to stakeholder theory, this study employs the resource orchestration theory developed by Sirmon et al. (2011) to investigate intangible assets and sustainability strategies such as ambidextrous sustainability and sustainability risk management in enhancing sustainability performance in manufacturing firms.

This research contributes to the field by emphasizing the moderating role of sustainability risk management, an aspect that has been largely overlooked in previous studies. By integrating these elements, the study provides a comprehensive framework that not only highlights the importance of ambidextrous sustainability but also underscores the necessity of managing associated risks to achieve optimal performance outcomes.

This study also highlights the economic growth of Riau Islands, Indonesia, which reached 5.20% cumulatively in 2023 (BPS Kepri, 2023)—the highest in Sumatra (kepriprov.go.id)—with the manufacturing sector as the main driver (Ekoburianto, 2024). This confirms that industrial activity in the Riau Islands is growing rapidly and will have significant environmental, social, and economic impacts, including pollution, intensive use of natural resources, and labor conditions. Furthermore, the focus on large and medium-sized manufacturing companies in the Riau Islands offers empirical evidence from a rapidly growing economic context. This regional specificity enriches the existing body of knowledge and allows for a deeper understanding of sustainability challenges faced by industries in emerging markets. Ultimately, this study's originality lies in its multi-faceted approach,

combining theoretical frameworks with practical insights, thereby offering a roadmap for organizations aiming to navigate the complexities of sustainable development effectively. It sets the stage for future research to further investigate these relationships and their implications for corporate strategy.

This study is expected to present significant empirical evidence from a theoretical perspective, contribute to practice, influence policy, and support SDGs achievement through a transition toward more sustainable businesses to address future environmental challenges and ensure long-term economic sustainability. The purpose of this study is to analyze the effect of ambidextrous sustainability on sustainability performance and explore the role of sustainability risk management as a moderating variable in this relationship. This research is expected to provide deeper insights into how organizations can balance exploration and exploitation in their sustainability efforts, as well as how risk management can strengthen or weaken the effect of ambidextrous sustainability on corporate sustainability performance.

LITERATURE ANALYSIS AND METHODOLOGY

Stakeholder Theory

According to Freeman (1984), stakeholder theory emphasizes that a company does not operate solely for its own interests, but must also provide value to the stakeholders affected by the achievement of its goals. Therefore, corporate responsibility, which was previously focused only on economic aspects, must now be expanded to include both internal and external social factors, as the sustainability of the company greatly depends on stakeholder support.

Resource Orchestration Theory

Resource orchestration theory describes how a company can fully leverage the potential of its resources and capabilities only when they are used in a complementary manner (Sirmon et al., 2011). The core of the resource orchestration theory lies in “resource mobilization,” which refers to the integration of resources into an effective structure to ensure better alignment, coordination, and direction for specific uses (Asiaei et al., 2022).

Sustainability Performance

Sustainability is a multifaceted concept that has evolved significantly over time (Corsi & Arru, 2021). Akomea et al. (2023) define sustainability practices as corporate strategies aimed at integrating systems, structures, processes, and activities toward the efficient use of resources to achieve more optimal outcomes, with particular attention to

reducing the negative environmental impacts of business operations. Corporate sustainability has become a critical issue for policymakers and decision-makers around the world, built upon the concept of sustainable development (Engert & Baumgartner, 2016). Elkington (1994) stated that economic performance relates to financial outcomes, environmental performance concerns reducing environmental degradation and resource exploitation, while social performance pertains to the well-being of stakeholders (such as customers, communities, and employees).

Ambidextrous Sustainability

An ambidextrous organization is defined as an organization's ability to manage dualities and simultaneously pursue different yet complementary goals in order to achieve sustainable performance and maintain a superior competitive position (Lukoschek et al., 2018). Taha et al. (2024) state that organizational ambidexterity is a dynamic capability that enables companies to adapt to changes in today's rapidly evolving environment. Ambidextrous organizations are built on two key concepts: exploration and exploitation, meaning that an ambidextrous company is capable of exploring new opportunities through innovation while also leveraging efficiency in its current operations.

Sustainability Risk Management

Process of developing risk mitigation strategies and implementing them in business operations is referred to as risk management (Sultan & Nobanee, 2022). Slagmulder and Devoldere (2018) explain that risk management is a systematic and continuous process involving resources, procedures, and practices. Today, risk management plays a vital role in enhancing sustainable business practices (Sultan & Nobanee, 2022; Slagmulder & Devoldere, 2018).

Sustainability risk management represents an advancement from conventional business risk management disciplines—such as disaster recovery, security, and operations—toward a higher-level risk management approach that includes production, manufacturing, and supplier or material management (Singh et al., 2023). Sustainability risks—social, environmental, and economic—refer to uncertainties that arise in the business world, while business risks are considered conventional uncertainties (Lau & Chen, 2022). Both types of risks can negatively impact a company's performance and the interests of various stakeholders, as well as undermine corporate values.

Hypotheses Development

Peters and Buijs (2022), Shafique et al. (2021), and Ciasullo et al. (2020) emphasize the importance of combining exploration and exploitation to maximize sustainability practices. Through engagement in ambidextrous sustainability, companies can effectively address environmental challenges while optimizing existing capabilities and exploring new opportunities for sustainability (Cancela et al., 2023). Ambidextrous sustainability has a positive and significant impact on sustainability performance for various reasons (Zahid et al., 2024). On one hand, organizations implement exploitative innovations to improve existing sustainability technologies, products, and processes, thereby achieving higher resource efficiency, reducing environmental impact, and enhancing operational performance (Lyu et al., 2022). This approach enables companies to better face current sustainability challenges and comply with regulations more effectively.

Ali et al. (2021) state that effective exploratory and exploitative activities can enhance corporate sustainability. This is because companies that are able to balance exploratory and exploitative activities are more capable of remaining innovative, adapting to changing market conditions, anticipating and responding to environmental risks and opportunities, and ensuring their long-term viability (Hafeez et al., 2023). Furthermore, the integration of ambidextrous sustainability promotes knowledge sharing, cross-functional collaboration, and the development of a learning-oriented mindset, which further strengthens an organization's ability to manage and implement sustainability practices effectively (Zahid et al., 2024).

H₁: Ambidextrous sustainability has a positive effect on sustainability performance.

A company's success in achieving performance depends on management's ability to handle the risks associated with each of the company's business activities (Holiawati et al., 2020). Singh et al. (2023) state that effective sustainability risk management forms a set of competencies or a collection of skills to counter the negative impacts of sustainability risks and create opportunities to achieve sustainability goals. Sustainability Risk Management (SRM) functions as a mechanism that not only mitigates threats but also leverages emerging opportunities in the organization's pursuit of sustainability performance (Shahriman & Omar, 2025).

Severgnini et al. (2019) suggest that risk not only predicts whether a company will utilize its capabilities in exploration and exploitation, but also plays a moderating role in the influence of ambidexterity on performance. By integrating strong risk management practices with a commitment to balancing exploration and exploitation, organizations can achieve a sustainable equilibrium that drives growth while reducing potential threats (Shahriman & Omar, 2025). The interaction between these dimensions is a defining

characteristic of organizational success in achieving long-term resilience. In other words, the more effectively sustainability risk management is implemented within an organization, the greater the positive impact of ambidextrous sustainability on sustainability performance.

H₂: Sustainability risk management moderates the positive effect of ambidextrous sustainability on sustainability performance.

METHODOLOGY

This study employs a quantitative approach using Structural Equation Modeling (SEM) analysis based on AMOS. Data were collected through a survey using questionnaires distributed to large and medium-sized manufacturing companies in the Riau Islands, Indonesia, that implement sustainability principles. The variables in this study include Ambidextrous Sustainability as the independent variable, Sustainability Performance as the dependent variable, and Sustainability Risk Management as the moderating variable. Validity and reliability tests were conducted prior to the structural analysis to ensure data quality. Hypothesis testing was performed by examining the standardized regression weights and significance levels in the structural model to measure the influence between variables.

RESULTS AND DISCUSSRESULTS

Table 1. Results of Confirmatory Analysis

			Estimate
Companies consider the risk of noncompliance with legal and voluntary requirements (SRM5)	<---	SRM	,849
Companies consider the risk of negative public opinion of the overuse of resources (SRM4)	<---	SRM	,813
Companies consider the risk of unreliability and inefficiency of operations and procedures (SRM3)	<---	SRM	,757
Companies consider the risk of safety and poor quality of operations (SRM2)	<---	SRM	,770
Companies consider the risk of losing sustainability-focused key customers (SRM1)	<---	SRM	,801
Penetrates more deeply into its existing customer base in terms of sustainability related products and services (ET6)	<---	AS	,848

Fine-tunes existing sustainability-based offers to keep its current customers satisfied (ET5)	<---	AS	,840
Continuously surveys customers' satisfaction of sustainability-based products and services (ET4)	<---	AS	,829
Increases the levels of automation in its sustainability operations (ET3)	<---	AS	,857
Continuously improves the reliability of its sustainability-based products and services (ET2)	<---	AS	,829
Commits to improving quality and lower costs in sustainability (ET1)	<---	AS	,831
Actively markets sustainability for new customer groups (ER6)	<---	AS	,864
Actively invests in new sustainable market segments (ER5)	<---	AS	,848
Looks for sustainable solutions to satisfy our customers' needs (ER4)	<---	AS	,838
Creates products or services that are sustainable for the organisation (ER3)	<---	AS	,814
Bases its success on its ability to explore new sustainability technologies (ER2)	<---	AS	,807
Looks for sustainability-inspired technological ideas by thinking "outside the box" (ER1)	<---	AS	,797
Decrease in costs for materials purchasing (KE1)	<---	SP	,795
Decrease in costs for energy consumption (KE2)	<---	SP	,818
Decrease in fees for waste treatment (KE3)	<---	SP	,824
Decrease in fees for waste discharge (KE4)	<---	SP	,830
Decrease in fines for environmental accidents (KE5)	<---	SP	,830
Improved overall stakeholder welfare (KS1)	<---	SP	,841
Improvement in community health and safety (KS2)	<---	SP	,823
Reduction in environmental impacts and risks to the general public (KS3)	<---	SP	,838
Improved occupational health and safety of employees (KS4)	<---	SP	,832
Improved awareness and protection of the claims and rights of people in the community served (KS5)	<---	SP	,828
Improved compliance with environmental standards (KL1)	<---	SP	,812

Reduction in air emissions (KL2)	<---	SP	,791
Reduction in energy consumption (KL3)	<---	SP	,780
Reduction in material usage (KL4)	<---	SP	,815
Reduction in the consumption of hazardous materials (KL5)	<---	SP	-,029

Based on the output in Table 1, it can be seen that the loading factor (estimate) values for all indicators under the variables Ambidextrous Sustainability and Sustainability Risk Management are above 0.5. This indicates that all questionnaire items successfully explain their respective constructs. Meanwhile, indicator KL5 under the variable Sustainability Performance has an estimate value below 0.5 and therefore must be removed.

Table 2. Normality Test Results

Variable	Min	max	skew	c.r.	kurtosis	c.r.
AS_SRM	-1,324	14,291	4,744	31,997	38,721	130,595
KL4	2,000	5,000	-,689	-4,648	-,202	-,682
KL3	1,000	5,000	-,653	-4,408	-,117	-,393
KL2	2,000	5,000	-,496	-3,346	-,578	-1,951
KL1	2,000	5,000	-,627	-4,227	-,224	-,754
KS5	2,000	5,000	-,563	-3,800	-,177	-,598
KS4	1,000	5,000	-,617	-4,162	-,063	-,211
KS3	1,000	5,000	-,613	-4,138	,135	,456
KS2	1,000	5,000	-,725	-4,890	,455	1,536
KS1	1,000	5,000	-,599	-4,042	-,012	-,040
KE5	2,000	5,000	-,476	-3,213	-,493	-1,664
KE4	2,000	5,000	-,495	-3,340	-,395	-1,331
KE3	1,000	5,000	-,640	-4,320	,050	,169
KE2	1,000	5,000	-,545	-3,678	-,086	-,292
KE1	1,000	5,000	-,561	-3,783	,130	,437
ER1	2,000	5,000	-,345	-2,326	-,346	-1,167
ER2	1,000	5,000	-,629	-4,242	,149	,501
ER3	2,000	5,000	-,270	-1,818	-,590	-1,990
ER4	1,000	5,000	-,450	-3,036	-,101	-,342

Variable	Min	max	skew	c.r.	kurtosis	c.r.
ER5	2,000	5,000	-,494	-3,330	-,345	-1,162
ER6	1,000	5,000	-,486	-3,280	-,195	-,659
ET1	1,000	5,000	-,495	-3,338	,057	,192
ET2	1,000	5,000	-,455	-3,069	-,185	-,624
ET3	2,000	5,000	-,345	-2,329	-,846	-2,852
ET4	2,000	5,000	-,459	-3,093	-,186	-,627
ET5	1,000	5,000	-,520	-3,509	-,113	-,381
ET6	1,000	5,000	-,461	-3,108	-,224	-,755
SRM1	1,000	5,000	-,347	-2,340	-,094	-,316
SRM2	1,000	5,000	-,492	-3,319	-,091	-,306
SRM3	2,000	5,000	-,424	-2,863	-,519	-1,749
SRM4	1,000	5,000	-,627	-4,229	,243	,819
SRM5	1,000	5,000	-,416	-2,807	-,149	-,502
Multivariate					8,161	1,403

Based on the output in Table 2, the overall (multivariate) data distribution is normal, as the multivariate value (1.403) is less than 2.58. This indicates that the research model meets the assumption of normality.

Table 3. Summary of Goodness of Fit Test Results

Goodness-of-Fit Measurement	Recommended Acceptance Threshold	Value	Decision
<i>Chi-Square hitung</i>	$X^2 \text{ hit} < X^2 \text{ tabel}$	734,740	<i>Fit</i>
<i>P-value Chi-Square</i>	≥ 0.05	0.000	<i>Bad Fit</i>
CMIN/DF	< 2	1.499	<i>Good Fit</i>
GFI	≥ 0.90	0.868	<i>Marginal Fit</i>
AGFI	≥ 0.85	0.849	<i>Marginal Fit</i>
TLI	≥ 0.90	0.967	<i>Good Fit</i>
RMSEA	≤ 0.08	0.043	<i>Good Fit</i>
NFI	≥ 0.90	0.913	<i>Good Fit</i>

Based on the output results in Table 3, it can be seen that out of 7 (seven) criteria, 4 (four) indicators or criteria passed the goodness of fit test, and only 2 (two) criteria or indicators were considered marginal fit or close to fit. Therefore, it can be concluded that, overall, the model can be considered fit, and no model modification is needed.

Table 4. Hypothesis Test

			Estimate	S.E.	C.R.	P
SP	<---	AS	,378	,048	7,904	,000
SP	<---	AS_SRM	,206	,017	2,614	,009

Based on the results of the hypothesis test in Table 4, it can be concluded that Ambidextrous Sustainability (AS) has a positive and significant effect on Sustainability Performance (SP), with an estimate value of 0.378 and a significance value (P) of 0.000 (< 0.05), indicating that an increase in ambidextrous sustainability directly improves sustainability performance. In the interaction between AS and SRM (AS_SRM), a positive estimate value of 0.206 with a P value of 0.009 was obtained, indicating that SRM positively and significantly moderates the relationship between AS and SP. This means that the presence of sustainability risk management enhances the positive impact of ambidextrous sustainability on sustainability performance.

DISCUSS

The Impact of Ambidextrous Sustainability on Sustainability Performance

Ambidextrous sustainability plays a crucial role in improving the sustainability performance of manufacturing companies in the Riau Islands, Indonesia, by balancing short-term operational efficiency with long-term sustainability innovation. Through optimal resource exploitation and the exploration of new environmentally friendly technologies and strategies, companies can enhance their overall sustainability performance. Ambidextrous sustainability allows companies to remain competitive amidst evolving environmental regulations, changing market demands, and increasing pressure from stakeholders who are more concerned with sustainability. Additionally, the balance between optimizing current business processes and developing environmentally friendly solutions for the future can reduce environmental risks and improve the company's competitiveness. Therefore, the higher the level of ambidextrous sustainability, the better the sustainability performance that can be achieved by the company.

Based on the hypothesis testing results in this study, it was found that the ambidextrous sustainability variable has a positive and significant effect on sustainability performance, as indicated by the probability value of 0.000, which is less than 0.05 ($0.000 < 0.05$), with a positive estimate value of 0.378. The conclusion that can be drawn from the impact of ambidextrous sustainability on sustainability performance in this study is that ambidextrous sustainability has a positive and significant impact on sustainability performance. Ambidextrous sustainability enables companies to balance sustainability exploitation (optimizing existing sustainability practices) and sustainability exploration (creating new innovations in sustainability). With this strategy, companies can improve sustainability performance in various aspects, including economic, social, and environmental performance. This research also supports the view that companies adopting ambidextrous sustainability tend to be more adaptive to external changes, more innovative in addressing environmental challenges, and more capable of meeting stakeholder demands.

The findings of this study align with those of Zahid *et al.* (2024), Peters and Buijs (2022), Maine *et al.* (2022), Shafique *et al.* (2021), and Ciasullo *et al.* (2020), who emphasize that the combination of exploration and exploitation in sustainability practices can maximize company performance. Companies that can balance exploratory and exploitative activities are better able to remain innovative, adapt to changing market conditions, anticipate and respond to environmental risks and opportunities, and sustain long-term viability. Furthermore, the integration of ambidextrous sustainability promotes knowledge sharing, cross-functional collaboration, and the development of a learning-oriented mindset, which further strengthens the organization's ability to manage and implement sustainability practices effectively.

Stakeholder theory emphasizes that companies must consider the interests of various stakeholders in their strategic decision-making. In this context, ambidextrous sustainability allows companies to more effectively meet the expectations of both internal and external stakeholders (Freeman, 1983). Exploitative innovation helps improve resource efficiency and reduce environmental impact, which aligns with the interests of shareholders, customers, and regulators. Meanwhile, exploratory innovation enables companies to develop new sustainability solutions that can provide long-term benefits to society and the environment. By implementing ambidextrous sustainability strategies, companies can build stronger relationships with customers, communities, and business partners. This strategy enhances transparency, accountability, and stakeholder engagement in the innovation and sustainability decision-making process. Therefore, the application of ambidextrous sustainability not only contributes to the company's sustainability performance but also strengthens the legitimacy and trust of stakeholders in the organization.

Resource orchestration theory emphasizes the importance of managing, allocating, and synergizing resources to enhance an organization's competitiveness (Sirmon *et al.*, 2011). In this context, ambidextrous sustainability plays a role in optimizing the company's resources to achieve better sustainability. Companies that can effectively orchestrate their resources will more easily balance exploration and exploitation in sustainability innovation. Good resource management allows companies to optimally allocate investments between enhancing existing sustainability technologies and creating new innovations. This creates strategic flexibility, where companies can quickly adapt to changes in the business environment and sustainability regulations. Additionally, the integration of exploratory and exploitative practices strengthens knowledge sharing, cross-functional collaboration, and organizational learning, further enhancing the effectiveness of sustainability strategy implementation. The results of this study show how companies can strategically orchestrate their resources to achieve a balance between exploitative and exploratory innovation. This enriches the understanding of how organizations can design more adaptive, innovative, and effective sustainability management systems to face environmental challenges.

The Impact of Ambidextrous Sustainability on Sustainability Performance Moderated by Sustainability Risk Management

Sustainability Risk Management (SRM) plays a moderating role that strengthens the influence of ambidextrous sustainability on sustainability performance in manufacturing companies in the Riau Archipelago, Indonesia. Ambidextrous sustainability allows companies to balance efficient resource exploitation with sustainability innovation exploration, but without effective risk management, companies may face barriers in its implementation. With the presence of SRM, companies can be more proactive in identifying, managing, and reducing risks related to sustainability strategies, thus enhancing the effectiveness of ambidextrous sustainability practices. Additionally, SRM helps companies navigate regulatory changes, market uncertainty, and environmental risks that could hinder the achievement of sustainability performance. Therefore, the stronger the implementation of sustainability risk management, the more optimal the impact of ambidextrous sustainability on the company's sustainability performance.

Based on the hypothesis testing results in this study, it is known that sustainability risk management positively and significantly moderates the relationship between ambidextrous sustainability and sustainability performance, indicated by a probability value of 0.009 or less than 0.05 ($0.009 < 0.05$) with a positive estimate value of 0.206. The conclusion drawn from the impact of ambidextrous sustainability on sustainability performance moderated by sustainability risk management is that sustainability risk

management positively strengthens the relationship between ambidextrous sustainability and sustainability performance. Companies that can balance sustainability exploration and exploitation will gain greater benefits if they also effectively implement sustainability risk management. Sustainability risk management helps companies identify, assess, and manage environmental, social, and economic risks, ensuring that ambidextrous sustainability strategies can be applied optimally and sustainably. Thus, the higher the level of sustainability risk management, the greater the positive impact of ambidextrous sustainability on sustainability performance.

Shahriman & Omar (2025), Jackson (2024), Ridder *et al.* (2022), Kaboré *et al.* (2022), and Sultan and Nobanee (2022) state that the integration of sustainability risk management into ambidextrous sustainability can create synergies that drive better sustainability performance. By aligning risk mitigation strategies with innovation objectives, companies can more effectively overcome potential obstacles that could hinder sustainability achievement. Management's ability to handle sustainability risks is a key factor in achieving corporate performance (Holiawati *et al.*, 2020). Singh *et al.* (2023) emphasize that effective sustainability risk management helps companies reduce the negative impact of sustainability risks while creating opportunities to achieve strategic goals.

Sustainability Risk Management (SRM) functions as a mechanism that not only reduces threats but also capitalizes on opportunities that arise in the organization's efforts to achieve sustainability performance. By integrating strong risk management practices with a commitment to balance exploration and exploitation, organizations can achieve a sustainable balance that fosters growth while reducing potential threats. The interaction between these dimensions is a characteristic of organizational success in achieving long-term organizational resilience. In other words, the more effective the implementation of sustainability risk management within the organization, the greater the positive impact of ambidextrous sustainability on sustainability performance.

In the context of stakeholder theory, this finding reinforces that sustainability risk management enables companies to be more responsive to stakeholder interests, including regulators, customers, investors, and communities. SRM allows companies to identify risks that may impact stakeholder interests and design strategies that not only mitigate risks but also enhance sustainability value. Thus, organizations not only avoid environmental and social threats but also enhance their reputation and legitimacy in the eyes of stakeholders.

From the perspective of resource orchestration theory, the moderation performed by SRM shows that companies that can manage risks effectively are able to allocate resources better, creating synergy between exploitation and exploration in sustainability practices. By designing risk mitigation mechanisms aligned with sustainability innovation strategies,

companies can reduce uncertainty in adopting environmentally friendly technologies, accelerate innovation development, and enhance operational efficiency and competitiveness.

This study expands the application of stakeholder theory and resource orchestration theory in the context of sustainability by showing that companies that manage sustainability risks strategically are able to achieve an optimal balance between exploitation and exploration, thereby improving overall sustainability performance. Therefore, the integration of SRM into ambidextrous sustainability strategies provides a new perspective on how companies can maintain competitiveness and long-term sustainability amid business environmental uncertainty.

CONCLUSION AND RECOMMENDATIONS

This study concludes that Ambidextrous Sustainability (AS) has a positive and significant effect on Sustainability Performance (SP) in manufacturing companies in the Riau Islands, Indonesia. This suggests that companies capable of balancing innovation exploration and resource exploitation in the context of sustainability tend to achieve higher sustainability performance. The ambidextrous sustainability strategy has been proven to improve operational efficiency, sustainable innovation, and the company's competitiveness.

The results also indicate that Sustainability Risk Management (SRM) positively and significantly moderates the relationship between ambidextrous sustainability and sustainability performance. This suggests that the presence of SRM enhances the positive effect of AS on SP. These findings offer a new perspective that the integration of sustainability strategies and risk management must be carried out carefully to prevent one from nullifying the benefits of the other.

This research provides theoretical implications for the development of resource orchestration theory in the context of sustainability issues. Additionally, this study supports stakeholder theory, which highlights that managing relationships with various stakeholders is as important for organizational sustainability as maximizing internal resources. The managerial implications of this research suggest that companies need to strengthen sustainability infrastructure. Companies should build and strengthen environmental management systems that simultaneously support sustainability exploration and exploitation. The implementation of digital technologies such as big data analytics and AI-based risk management can assist in managing risks and optimizing sustainability practices.

For policymakers, the government can enhance incentives for companies that implement sustainability-based strategies, such as tax relief or subsidies for companies that

adopt eco-friendly technologies. Finally, this study is also relevant in supporting the achievement of the SDGs (SDG 8, 9, 12, 13, 17).

Based on the research findings, it is recommended that companies integrate ambidextrous sustainability and sustainability risk management strategies synergistically and holistically. Sustainability risk management should not hinder innovation but instead serve as a support mechanism that enables the achievement of a balance between exploration and exploitation in sustainability practices. To achieve this, improving managerial capacity is essential, particularly in the ability to identify the optimal point between risk mitigation and value creation through sustainability innovation. Companies should also encourage active stakeholder engagement in the planning and implementation of sustainability strategies to create more inclusive, adaptive, and contextual solutions to the challenges they face. Building on the findings of this study, future research should explore external various additional variables such as market conditions, government regulations, environmental uncertainty, stakeholder pressure, and social culture (Singh *et al.*, 2023; Jusoh *et al.*, 2023; San *et al.*, 2022) and contexts to deepen the understanding of ambidextrous sustainability and its impact on Sustainability performance. A qualitative approach or case study could be used to explore the internal dynamics of organizations that are not fully captured through a purely quantitative approach.

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