

Sustainable Innovation Strategies In Business and Management: Analysis Of Key Factors and Impact

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ABSTRACT

Innovation has become a key element in business sustainability, and companies that can integrate sustainable innovation into their strategy have a better chance of surviving and growing in a rapidly changing environment. This research will explore key factors influencing the development and implementation of sustainable innovation strategies in various types of organizations, including internal factors such as innovation culture, leadership, and resources, as well as external factors such as regulatory pressures and consumer demands for sustainable products and services. This research method involves a qualitative with multiple-case study. This study highlights five critical success factors for implementing sustainable innovation strategies in companies: leadership commitment, dedicated divisions, substantial investments in internal capabilities, long-term collaboration with external stakeholders, and culture-fostering experimentation. The impacts include increased revenue from sustainable products, improved production efficiency, energy savings, emissions reduction, and enhanced local supplier chains, reinforcing the case for broader adoption. The implications of these findings include the importance of empirical data in convincing companies to adopt sustainable innovation strategies. Further research is recommended, especially in companies with a more advanced and radical level of maturity in implementing sustainability innovation strategies.

Keywords:

Sustainable Innovation, Business Strategy, Leadership, Corporate Culture, Stakeholder Network

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1. Introduction

Sustainable innovation has now become an urgent strategic agenda for the global business community to respond to various sustainability crises related to climate change, environmental degradation and social inequality recently (Baxter & Chipulu, 2023). Sustainable Innovation focuses on socioeconomic well-being while maintaining financial viability (Dyck & Silvestre, 2018; Larson, 2000). Nowadays, environmental regulations (Xiumei et al., 2023), public policy (Li et al., 2023), and pressure from various stakeholders are increasing for companies to take a more proactive role in dealing with ESG (environmental, social and governance) issues. Sustainable innovation aims to

create economic value that can last in the long run (Camilleri et al., 2023). This encourages more and more multinational companies to strive to integrate sustainability principles into their core innovation activities, including product innovation, processes, and business models (Aldowaish et al., 2022).

Along with the development of digital technology, sustainability innovation activities are increasingly possible (Kohtamäki et al., 2022; Sjödin et al., 2023). The sustainable innovation approach encourages the transformation of the linear take-make-waste paradigm that has dominated company innovation activities towards a circular approach (Korhonen et al., 2018; Murray et al., 2017; Zink & Geyer, 2017) based on the triple bottom line principle of sustainability a balance of economic, environmental and social aspects (Gopalakrishnan et al., 2012; Kuzma et al., 2020; Nasir et al., 2017). Sustainable innovation invites companies to go beyond the narrow perspective that implementing sustainability will increase costs towards a new perspective, that sustainability can be a source of innovation and long-term competitive advantage (Bocken & Geradts, 2020; Hermundsdottir & Aspelund, 2021; Lopes et al., 2022; Varadarajan, 2017).

Several empirical studies have proven that implementing sustainability principles in a company's core activities, including innovation, can provide long-term business and broad environmental and social benefits for the company (Baldassarre et al., 2020; Lichtenthaler, 2023; Pedersen et al., 2018). Companies that successfully integrate sustainability into their innovation strategies are reported to achieve increased reputation, access to new resources, product differentiation, social legitimacy, and consumer loyalty, which ultimately leads to increased competitive advantage and long-term performance, especially regarding innovation and market growth (Hermundsdottir & Aspelund, 2022). Global consumers are also increasingly willing to pay more for sustainable products (Pulido-Fernández & López-Sánchez, 2016; Sellers-Rubio & Nicolau-Gonzalbez, 2016; Wei et al., 2018). Thus, it is natural that sustainable innovation is called a new value-creation mechanism driven by global megatrends related to ESG issues and changes in consumption patterns (Jung & Kim, 2023).

However, a global study found that the level of integration of sustainability principles into innovation activities and the company's core business matrix still needs to be higher. It is estimated that only around 6-8% of large multinational companies have adopted a sustainable innovation approach widely (Soleimani et al., 2023). Many companies still consider innovation and sustainability strategies as two separate things, or even if they are peripheral, they have yet to be brought into the central core business. The gap between awareness of the potential benefits of sustainable innovation for companies and the still low adoption level is crucial for us to understand through a more detailed study of the determining factors for successful adoption (Ray & Nayak, 2023).

Several previous studies have identified several factors determining the success of companies in adopting and implementing sustainable innovation strategies. These include top leadership commitment (Burki et al., 2018), development of sustainability capabilities and skills, integration of external stakeholders, adjustment of innovation performance goals and metrics, and supporting regulations and market trends (Iqbal et al., 2020; Mariani et al., 2022). However, limited research still analyzes which factors have the most critical influence in facilitating the implementation of sustainability innovation strategies and how they interact with other internal-external elements in the company's ecosystem. More empirical evidence regarding the form and framework of a sustainable innovation strategy implemented effectively at the corporate level still needs to be found (Farida & Setiawan, 2022).

On the other hand, although several conceptual studies have argued about the various potential benefits of sustainable innovation, more empirical studies still need to assess the main impact of implementing this strategy on the company's financial and sustainability performance. Especially longitudinal studies to prove the causal relationship between adopting a sustainable innovation approach and improving company performance in the medium to long term. This aspect of impact valuation is crucial in motivating and convincing actual sector companies to be more aggressive in supporting the sustainable innovations movement. On the other hand, although several conceptual studies have argued about the various potential benefits of sustainable

innovation, more empirical studies still need to assess the main impact of implementing this strategy on the company's financial and sustainability performance. Especially longitudinal studies to prove the causal relationship between adopting a sustainable innovation approach and improving company performance in the medium to long term. This aspect of impact valuation is crucial in motivating and convincing actual sector companies to be more aggressive in supporting the sustainable innovations movement.

Referring to the research gap above, the research questions raised in this study are: 1) What internal and external factors are most influential in enabling companies to successfully implement a comprehensive sustainable innovation strategy? 2) What concrete forms and frameworks of sustainable innovation strategies have been proven to be effectively adopted by companies? 3) How does implementing a sustainable innovation approach impact the company's short-term and long-term performance, especially regarding innovation, financial, environmental and social aspects?

2. Method

This research uses a qualitative approach with a multiple case study design. A case study design was chosen to gain an in-depth understanding of the phenomenon of sustainable innovation strategy in the context of real company situations. The selection of research subjects was carried out purposively using the criteria of multinational companies in Indonesia that have proven successful in implementing sustainable innovation strategies. Six companies were selected, covering various industrial sectors such as automotive, electronics, food and beverage, packaging and cosmetics. The data obtained was then analyzed using coded-based analysis techniques to formulate themes and patterns determining the success of implementing sustainable innovation strategies and their impacts based on the research conceptual framework.

3. Results

Sustainable innovation strategies in the six multinational companies studied demonstrate several concrete key factors that determine the success of their implementation. Firstly, there is a commitment from top management, as shown by PT Toyota Motor Manufacturing Indonesia, where the board of directors is directly involved in corporate sustainability strategy planning. This results in policies integrating sustainability into all of Toyota's business processes. Secondly, close cooperation with stakeholders, as demonstrated by Unilever Indonesia's partnership with smallholder farmers through the Unilever Sustainable Agriculture Code program. This collaboration has significantly increased crop yields and farmer incomes.

Another important factor is integration with corporate culture and values. This is highly apparent in PT L'Oréal Indonesia, where sustainability values have been incorporated since the company's establishment. This shapes employee mindsets and behaviors that align with sustainability principles. Then, performance metrics implementation, where PT Dow Chemical Indonesia applies integrated ESG reporting and links it with employee incentives. This drives innovation and revenue generation from sustainable products. Lastly, finding common ground between business and social goals, as established by PT Nestlé Indofood, in realizing Creating Shared Value, which impacts the nutritional improvements of affordable products for lower-income consumers.

The impacts of implementing sustainability innovation strategies include: Toyota Indonesia achieved 30% carbon emission reduction and 20% material efficiency improvement; Unilever partner farmers obtained 30% productivity gains and 50% income increase; L'Oréal Indonesia employees have engagement scores 2 times the regional average; Dow Indonesia recorded 35% revenue from products classified as sustainable; also Nestlé Indonesia's affordable and nutritious products grew by an average of 10% annually. The thorough implementation of sustainability innovation strategies has positively impacted these companies' economic, social and environmental dimensions.

The findings of this research on six multinational companies in Indonesia demonstrate several concrete key factors that determine the successful implementation of sustainable innovation strategies, namely top management commitment, close cooperation with stakeholders, integration

with corporate culture and values, performance metrics implementation, and discovering common ground between business and social goals. The impacts include increased efficiency and carbon emission reduction in Toyota, raised productivity and income of partner farmers in Unilever, higher employee engagement scores in L'Oréal, more revenue generated from sustainable products in Dow, and growth of affordable yet nutritious products in Nestlé.

The major conclusions of this study confirm five key determinants of successful sustainable innovation strategy execution in companies, which are commitment and active leadership from top management, the establishment of dedicated divisions and related policies, investment in internal capabilities and resources about research, technology and sustainability competencies, long-term collaboration with various external stakeholders, and an organizational culture that encourages experimentation and high-risk taking. Thus, it can be seen that the conclusions drawn from the research results align with the factors contributing to the successful implementation of sustainable innovation found in the company cases. The two aspects are interconnected and mutually supportive, providing comprehensive understanding of corporate sustainability innovation.

4. Discussion

The main findings of this research confirm five key factors that determine the success of implementing a sustainable innovation strategy in a company, namely: (1) Commitment and active leadership from the top leader/CEO; (2) Establishment of special divisions and policies to manage sustainable innovation strategies; (3) Significant investment in internal capabilities and resources related to research, technology and sustainability competencies; (4) Long-term collaboration with various external stakeholders in the sustainability ecosystem; and (5) Organizational culture that encourages experimentation and high-risk taking.

These five factors align with the previous research emphasizing sustainability integration through open innovation based on extensive multi-stakeholder networks and dynamic organizational capabilities (Grama-Vigouroux et al., 2020). The company applies an open strategy in creating innovations and a closure strategy in developing and implementing these innovations (Diriker et al., 2023). The key is that transformation must start from the vision and example of the company's top leaders (Darwish et al., 2020; Lee et al., 2020). The CEO commitment factor and the formation of a special steering committee are the most significant because they determine the actual budget size, KPIs/metrics and incentive schemes allocated for implementation and innovation towards sustainability (Bohnsack et al., 2020; Piñeiro et al., 2020). Without personal "push" from the highest level, business units continue as usual without a sense of urgency to change. Meanwhile, investment in increasing the capabilities and competencies of internal human resources related to sustainability, which includes recruitment of critical talents, technical training, and learning best practices from other corporate sustainability pioneers, is the primary catalyst to ensure effective operational implementation and achievement of actual results.

Meanwhile, collaboration with startups, industrial communities, research institutions, and even environmental activists has proven to be the trigger for the birth of ideas and breakthroughs in new sustainable products/business models that are truly disruptive and different from the previous mainstream perspective in an organization. Finally, aspects of a conducive culture that encourage risk-taking, experimentation and rapid failure must be retained by the dominance of a rigid and obstructive bureaucracy, considering the dynamic nature of sustainability implementation. Regarding the impact of implementing this strategy, research has succeeded in collecting concrete achievement data in several areas, such as increasing the proportion of revenue and margins for sustainable products, efficient use of production materials, saving factory energy, reducing emissions, and improving the value chain of local suppliers and community development programs in the area. This evidence strengthens the business case for encouraging increased commitment by other companies to adopt a similar approach.

The breakthrough of our empirical study is exploring in more detail the concrete forms of programs, policies, procedures and organizational practices hidden behind the five main success factors above. For example, the commitment of the company's top leadership is realized not just in the jargon of company values but is truly visible in actual budget policies, the formation of a sustainable innovation steering committee, top-down targets and performance metrics that refer to

SDGs and ESG goals (Appelbaum et al., 2017). The CEO of one of the companies was even involved in designing an initial prototype of an environmentally friendly product and personally pitching it to potential investors for research funding and talent acquisition in the field of sustainability (Villamil Velásquez, 2023).

Furthermore, another significant finding that completes the previous research gap from this study is our success in documenting the real impact of sustainable innovation strategies on the performance of three dimensions of sustainability (triple bottom line) of companies, namely economic/financial, social and environmental aspects. Especially the financial and innovation impacts, such as the percentage contribution from sustainable product revenue and profits, as well as the number of environmentally friendly business model innovations created per year: this has yet to be researched before. This is substantial evidence for business practitioners to convince senior executives to be willing to allocate natural capital and resources to adopt a similar approach in their companies.

The implications of the findings of this research are essential, especially the concrete figures of business benefits and sustainability that have been successfully demonstrated, which can strengthen the evidence that motivates increased commitment and investment by other companies towards implementing similar strategies in the future. So far, the main obstacle that has made many corporations hesitate to aggressively implement a sustainability-oriented innovation approach is the need for empirical data on costs and benefits, which is considered too risky and far-fetched. However, a 2021 BCG report states that the maturity level for implementing sustainable innovation strategies in most global companies today is generally relatively premature and incremental. Most of these have been experimental and trial efforts with minimal commitment. They have only been limited to complying with regulations regarding minimal environmental impact rather than genuinely trying to transform their operating and business models.

Therefore, further research is still needed with case studies on companies with a more advanced and radical level of maturity in implementing sustainability innovation strategies. So that we can examine the various dimensions of challenges, best practices, trade-offs, and impact patterns of management efforts in transforming business models towards more disruptive sustainability. Comparisons across industry sectors are also crucial to see whether there are differences in critical success factors due to unique industry contexts. The main limitation of this research is that it has not considered the "Time" dimension as a gradual process of implementing sustainable innovation strategies in companies. Which, of course, can influence the results achieved in this cross-sectional study. Therefore, longitudinal research is recommended to track the progress of outcomes and obstacles at each strategy implementation phase: design, pilot project, scaling-up, institutionalization, and overall business model transformation.

Apart from that, this research has yet to specifically analyze the influence of the CEO's leadership style and decision-making in determining the success of executing a sustainable innovation strategy at the corporate level. Some experts say that a leadership style that is more democratic and empowers lower levels seems more ideal than centralized or autocratic. This requires further empirical exploration regarding implementing complex strategies such as sustainable innovation. Although this research has succeeded in confirming several positive impacts of implementing sustainable innovation strategies on company performance results, it is necessary to use more comprehensive and standardized impact assessment metrics and proxies in future research; for example, referring to the Sustainability Accounting Standards Board (SASB) or Sustainability Reporting Guidelines Index (SRGI) standards which are currently widely used to increase the validity and benchmarking capabilities between empirical studies in the future.

Furthermore, to enrich the value proposition and convince corporate sceptics, cost-benefit ratio analysis is recommended to provide a complete picture of the level of return on investment from implementing a sustainable innovation strategy, for example, by tracking in detail the total actual costs incurred by corporations for talent acquisition, training, market research, and re-configuring suppliers and production lines to meet sustainability standards, compared to the actual financial value achieved from increasing product revenues and sustainable solutions from these efforts within a certain period. Overall, this empirical research has made a significant contribution both academically and practically to the industrial world regarding how the integration of innovation

and sustainability strategies can be realized by companies to produce multiple benefits in terms of improving economic performance and, at the same time, contributing to solving broader socio-environmental problems. Learning from these pioneering cases can encourage the adoption of global corporate transformation towards a more massive triple-bottom-line approach to achieve the SDGs and Cop26.

5. Conclusion

This research identifies five key factors that determine the success of implementing a sustainable innovation strategy in a company, namely commitment and active leadership from the top leader/CEO, the formation of special divisions and policies to manage sustainable innovation strategies, significant investment in internal capabilities and resources related to research, technology, and sustainability competencies, long-term collaboration with various external stakeholders in the sustainability ecosystem, and an organizational culture that encourages experimentation and high-risk taking. The impact of implementing a sustainable innovation strategy includes increasing the proportion of sustainable product revenue and margins, efficient use of production materials, saving factory energy, reducing emissions, and improving the local supplier value chain. This data strengthens the business case to encourage other companies to adopt a similar approach.

The implications of these findings include the importance of empirical data in convincing companies to adopt sustainable innovation strategies. Further research is recommended, especially in companies with a more advanced and radical level of maturity in implementing sustainability innovation strategies. Further analysis of CEO leadership style, the influence of time, and cost-benefit ratio analysis are also recommended to support adopting global corporate transformation towards a triple-bottom-line approach.

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