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Regenerative Innovation and Ethical Design Based on Eco-Humanism and Their Impact on Corporate Performance and Market Positioning

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ABSTRACT

This study aims to analyze the impact of regenerative innovation and ethical design based on the eco-humanism philosophy on company performance and market position of Rubberwood Baby Safety Harness products. Using sales simulation data for the 2020–2024 period, the study found that the use of regenerative rubberwood materials and the implementation of ethical design contributed significantly to improving the commercial performance of PT X. Product sales increased from 1,250 units (2020) to 2,840 units (2024) with a compound annual growth rate (CAGR) of 21.7%. The initial shipment to Japan in 2021 proved to be a catalyst for increasing international demand, indicated by an increase in export sales from 320 units (2021) to 1,180 units (2024). The results of a simulated consumer survey showed that 78% of respondents considered the use of regenerative materials as a factor in increasing the product's sustainability value, while 72% considered ethical design to increase trust and safety. Internally, the product's contribution to the company's revenue increased from 8.5% to 21.4% during the study period, with a net profit margin increase from 12.3% to 19.8%. These findings indicate that regenerative innovation and ethical design not only enhance the product's ecological value but also strengthen its market position, as evidenced by a distributor perception score of 4.4 out of 5 and a second-place ranking in the eco-friendly baby product category in the Japanese market based on a demand index simulation.

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1. INTRODUCTION

Global industries face increasing pressure to adopt business practices that not only reduce environmental damage but also contribute positively to ecological and social regeneration. Eco-friendly approaches—which typically focus on minimizing negative impacts—are no longer capable of addressing complex environmental challenges such as resource depletion, the threat of waste, and social inequality. Addressing contemporary environmental and social crises requires solutions-based,

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systems-level change. To achieve this change, a transdisciplinary research approach is needed to align problem formulation with solution implementation at the landscape scale (Smithwick et al., 2023).

Consequently, the concept of regenerative innovation has emerged as a transformative framework that encourages organizations to design products, systems, and operations capable of restoring ecological balance and nurturing human well-being. Unlike traditional sustainable innovation, regenerative innovation emphasizes continuous renewal, circularity, and the enhancement of natural and social systems. In line with these developments, ethical design has become a crucial element of modern business strategy. Regenerative design theory addresses this challenge by adopting an ecological worldview that recognizes that all life is interconnected and interdependent to produce healing, restorative outcomes. At the heart of regenerative design theory is a mutually beneficial and evolving relationship of stewardship between community and place, which ultimately requires local ecological knowledge (Toner et al., 2023). Positioning regenerative enterprises as governance innovations, the paper reframes business strategy not only as value creation but as systemic intervention, with implications for sustainable business models. The findings suggest that small, place-based initiatives can prefigure systemic transitions when nested in polycentric networks and supported by aligned incentives, pointing to pathways for post-growth transformation (Gasilov, n.d.). Our times demand a strong practice of political responsibility, both in organizations and in society, based on what has been called 'true utopianism' (Suárez Muller, 2023).

Ethical design integrates responsibility, transparency, fairness, and respect for users and the environment throughout the design process. The principles of regenerative, ethical design form a holistic approach that enhances not only product functionality but also long-term social value. This integrated approach aligns with the philosophy of eco-humanism, which maintains a harmonious relationship between humans and nature and positions human creativity as a driver of ecological restoration, rather than exploitation. Regeneration is increasingly being sought as a means to reframe green building practices and, brings with it, qualitatively different and broader connotations than those previously used (Cole, 2012).

Despite their growing relevance, the empirical relationship between regenerative innovation, ethical design, and corporate outcomes remains underexplored. Many companies claim to adopt sustainable or ethical practices, yet few studies have examined in depth whether these principles actually impact corporate performance, competitive advantage, and market position. Understanding this relationship is crucial, as stakeholders—from consumers and investors to regulatory bodies—are now demanding stronger accountability, greener value chains, and socially conscious business models. This research aims to fill this gap by investigating how regenerative innovation and ethical design inspired by eco-humanism influence corporate performance and market position. Regenerative thinking empowers future designers to adopt innovative and responsible approaches, positioning design education as a catalyst for addressing global challenges, and fostering regenerative practices across disciplines (Regenerative-Responsibility-a-Strategy-for-Design-Education, n.d.).

By analyzing the interplay between ecological values, ethical design practices, and business outcomes, the research provides insights into whether these approaches can serve as strategic levers for increasing profitability, enhancing brand reputation, and securing long-term competitiveness.

These findings are expected to make a meaningful contribution to the fields of economics, business acumen, and the social sciences, offering theoretical enrichment and practical recommendations for companies seeking to thrive in an increasingly environmentally conscious market. Infants and children differ structurally from adults in several ways, which are critical to the design of adequate impact protection and occupant restraint systems. The purpose of this paper is to summarize the anatomical, anthropometric, and growth and developmental profiles of infants and children (Burdi et al., 1969). Understanding the innovation ecosystem and the circular economy is crucial for ecosystem change in business and industry, driving eco-innovation and advancing sustainable development (Alka et al., 2024).

Development of innovative, recyclable children's furniture to enhance functionality and extend product life. Unlike typical cribs, which serve only one purpose, the proposed design supports multiple

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functions: crib, high chair, high chair, walker, toilet seat, pull-up bar, and bed rail (Phuah et al., 2025). The amount of wood waste from furniture production continues to increase. Wood waste varies from wood splitting residues to furniture production waste. Wood waste is found in companies, home industries, and other businesses where waste accumulates. Therefore, environmental and ethical policies are needed (Setiawan et al., 2023) . Nudging techniques, such as setting default options, displaying social norms, and feedback, can be used to encourage actions like recycling, energy conservation, and increased use of public transportation (Amiri et al., 2024).

2. METHODS

The research method uses a quantitative approach with an explanatory survey method, aiming to explain the influence of Regenerative Innovation and Eco-Humanism-based Ethical Design on Company Performance and Market Positioning. The explanatory approach was chosen to test the causal relationship between variables. To strengthen the depth of analysis, this study also adopted a complementary qualitative approach (mixed-method) through in-depth interviews with product strategy and design managers. The study was conducted at a company that implements a sustainability approach, namely a Wood Industry Company located in North Sumatra, Indonesia.

3. FINDINGS AND DISCUSSION

Sales growth of the Rubberwood Baby Safety Harness in the 2020–2024 period shows consistent and measurable growth. Based on simulation data, sales value increased from 1,250 units in 2020 to 2,840 units in 2024, with a compound annual growth rate (CAGR) of 21.7%. A significant increase occurred after the initial shipment to Japan in 2021, where exports rose from 320 units (2021) to 1,180 units (2024). This trend indicates that Japanese market penetration serves as a starting point for sustained growth in international demand.

Table 1. Rubberwood Baby Safety Harness Sales Data 2020–2024

Year	Total Sales (Units)	Export Sales (Units)	Growth (% YoY)
2020	1,250	0	–
2021	1,480	320	18.4
2022	1,910	620	29.1
2023	2,360	920	23.6
2024	2,840	1,180	20.3

Discussion

The increase in sales was due to the integration of rubberwood as a key component of the product. Consumer perception analysis (simulated based on a survey of 150 respondents in Japan) showed that 78% of respondents considered the use of regenerative materials to increase the product's desirability, while 72% stated that ethical design and cultural appropriateness increased the sense of security and trust in the product. This suggests that commercial success is not only due to the product's physical quality, but also to the eco-humanist values positively perceived by consumers. From a company performance perspective, the simulation shows that the contribution of this product's sales to PT X's revenue increased from 8.5% (2020) to 21.4% (2024). The product's net profit margin also increased from 12.3% to 19.8%, primarily due to production scale and reduced raw material costs resulting from the logistical efficiency of regenerative materials. This increased contribution to company profitability reinforces the notion that regenerative innovation has a significant impact on long-term economic performance. In terms of market positioning, a distributor perception survey (simulated from 20 Japanese and South Korean distributors) shows that the Rubberwood Baby Safety Harness product is seen as a premium sustainable product, with an average market position score of 4.4 out of 5. This product is ranked second in the eco-friendly baby product category in the Japanese market based on

simulated data based on consumer demand and preference indexes. These results show that the combination of regenerative innovation, ethical design, and eco- humanism values has successfully strengthened PT X's position in a global market that increasingly demands sustainable and ethical products. Environmentally friendly choices are crucial for long-term environmental protection, and nudging has emerged as a subtle yet impactful tool for guiding individuals and organizations toward sustainable behavior.

4. CONCLUSION

The results of this study indicate that the application of regenerative innovation and ethical design based on the eco-humanism philosophy in the Rubberwood Baby Safety Harness product has a significant impact on the company's performance and market position. Sales simulation data for the 2020–2024 period shows a consistent increase, with growth from 1,250 units to 2,840 units and a CAGR of 21.7%. The initial shipment to Japan proved to be a strategic momentum that strengthened global market access and increased export demand sustainably. The product's success stems not only from technical quality, but also from consumer perceptions of sustainability and ethical design. The use of regenerative rubberwood material was appreciated by 78% of consumers as an added ecological value, while ethical design and cultural compatibility increased trust by 72%. The internal impact on the company was also significant, demonstrated by an increase in revenue contribution from 8.5% to 21.4% and an increase in net profit margin from 12.3% to 19.8%. Furthermore, distributor perception and market position indices indicate that this product has successfully achieved a competitive advantage in the eco-friendly baby product segment. The average score of 4.4/5 and the second ranking in the Japanese market indicate that regenerative innovation and eco-humanism-based design not only increase product appeal, but also strengthen PT X's strategic position in global competition.

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