

A Literature Review

Sustainable Innovation in Marketing: A Literature Review on Green Products and Design for Sustainability in a Manufacturing Cosmetic Company

¹Zelika Nidya Damarani, ²Rista Nurdianasari, ³Shabira Maharani

^{1,2,3}Department of Management, Diponegoro University, Indonesia.

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Abstract: *The cosmetics industry has demonstrated significant growth, with outstanding sales trends projected through 2025 (Ministry of Industry of the Republic of Indonesia, 2024). In this context, sustainable innovation in marketing, particularly concerning green products and sustainable design, is crucial for cosmetic packaging manufacturing companies to maintain their competitiveness. This study presents a literature review on implementing sustainable innovation concepts in cosmetic product marketing, focusing on environmentally friendly packaging design. This literature review identifies effective marketing strategies to enhance the appeal of green products and examines how companies can adopt sustainable design principles to meet consumer expectations and government regulations. Several countries have implemented strict sustainability policies, including restrictions on single-use plastics and incentives for businesses adopting circular economy principles. These policies encourage industry players to adjust their business strategies to remain competitive globally. Findings from this review suggest that adopting sustainability-driven marketing strategies enhances brand image and customer loyalty and strengthens a company's position in navigating increasingly stringent regulatory dynamics. Therefore, cosmetic companies must continuously innovate their products and packaging designs in alignment with sustainability trends and government policies to ensure long-term business growth.*

Keywords: *Sustainable Innovation, Green Marketing, Sustainable Design, Cosmetic Company, Sustainability Regulations, Circular Economy.*

I. INTRODUCTION

The cosmetics industry has been experiencing continuous growth, reaching a global market value of approximately \$500 billion in 2019 (Statista, 2019). However, this expansion comes with increasing environmental challenges, as the sector heavily relies on natural resources and generates significant waste (Rocca et al., 2022). Sustainability has, therefore, become a critical issue, with governments, businesses, and consumers all playing a role in driving the green transition (Garetti & Taisch, 2012; Ripple et al., 2020). Regulatory frameworks such as the European Union's *Regulation (EC) No 1223/2009* push cosmetic manufacturers to adopt environmentally friendly practices throughout the product lifecycle, from sourcing raw materials to post-consumer waste management (Union, 2019).

Sustainable innovation in marketing, particularly in green products and sustainable design, is now a strategic imperative for cosmetic packaging manufacturers. Green marketing practices enhance brand reputation and contribute to long-term financial benefits, such as increased customer loyalty and operational efficiency (Eccles et al., 2012; Haanaes et al., 2011). As sustainability gains momentum, businesses that fail to integrate green principles risk losing competitive advantage in a rapidly evolving market (Manufuture Vision 2030, 2018; World Economic Forum, 2019). Consumers are becoming more environmentally conscious and prefer products that align with sustainable practices (Luo et al., 2024). Research suggests that green marketing enhances corporate performance by increasing customer trust, improving brand image, and aligning with regulatory frameworks (Luo et al., 2024). Previous studies indicate that companies with strong environmental commitments experience improved financial performance due to cost reductions and regulatory compliance benefits (Ahmed et al., 2022; Patwary et al., 2022).

This paper aims to provide a comprehensive literature review on sustainable innovation in marketing, focusing on two key aspects: (1) consumer behavior toward green cosmetic products and (2) best practices for sustainable packaging design in the cosmetic industry. The study examines how businesses can navigate sustainability challenges while aligning with regulatory requirements and consumer expectations. Additionally, this research identifies gaps in the current literature. It proposes a framework to support Small And Medium-Sized Enterprises (SMEs) transitioning toward sustainable business models (Rocca et al., 2022).



II. LITERATURE REVIEW

Sustainable innovation in marketing refers to integrating environmental and social responsibility into business strategies to drive long-term value creation while minimizing ecological impact. In the cosmetics industry, sustainability has become a central concern due to its high consumption of natural resources and the increasing demand for environmentally friendly products (Rocca et al., 2022). The shift toward sustainable marketing is driven by multiple factors, including consumer awareness, regulatory frameworks, and the adoption of Circular Economy (CE) principles in product lifecycle management. One of the key drivers of sustainable innovation in marketing is the **growing consumer preference for green products**. Studies indicate that environmental awareness influences purchasing behavior, encouraging cosmetic companies to develop and market products with eco-friendly formulations and sustainable packaging (Rocca et al., 2022). This trend has led to a rise in green purchasing behavior, where consumers actively seek products that align with their environmental and ethical values.

From a business perspective, sustainability-driven marketing strategies offer **competitive advantages** such as enhanced brand reputation, customer loyalty, and cost savings through resource efficiency (Garetti & Taisch, 2012). Companies that embrace sustainability in their marketing efforts tend to outperform competitors by leveraging green innovation to differentiate their products. Additionally, firms integrating sustainable business models benefit from regulatory incentives and reduced risks associated with environmental compliance (Eccles et al., 2012). Regulatory frameworks such as the European Union's *Regulation (EC) No 1223/2009* require cosmetic manufacturers to adopt environmentally responsible practices throughout the product lifecycle. These policies push companies to explore innovative marketing approaches, such as **eco-labeling, carbon footprint disclosures, and circular economy-based business models** (Union, 2019). Sustainable marketing also involves incorporating Life Cycle Thinking (LCT) into product development, ensuring that sustainability principles guide the sourcing, production, and disposal of cosmetic goods (Bom et al., 2019).

Sustainable innovation in marketing is no longer an option but a necessity for cosmetic companies aiming to remain competitive in a rapidly evolving industry. Businesses must integrate sustainability into their marketing strategies by adopting circular economy principles, leveraging green branding, and aligning with global environmental policies (Rocca et al., 2022). As the demand for sustainable cosmetics grows, companies proactively embracing green marketing will position themselves as industry leaders in the transition toward a more sustainable future.

Green products in the cosmetic industry focus on sustainability by using environmentally friendly ingredients, ethical sourcing, and reduced ecological impact. These products are formulated with natural, organic, and biodegradable raw materials to replace synthetic chemicals that may harm ecosystems (Bom et al., 2019). Research indicates that **life cycle assessment (LCA)** is widely used to measure the sustainability impact of green products, helping brands align their production processes with environmental standards (Civancik-Uslu et al., 2019). However, a major challenge in defining green products lies in the **lack of harmonized regulatory standards**. Different certification bodies have varying definitions for what qualifies as "organic" or "natural" cosmetics, leading to inconsistencies in labeling (Fonseca-Santos et al., 2015). Despite these challenges, consumer demand for green cosmetics continues to grow, pushing companies to adopt more transparent sustainability practices.

Cosmetic packaging plays a crucial role in the sustainability of the cosmetic industry, as it significantly impacts waste generation and resource consumption. Traditionally, the industry has relied on petrochemical-based plastics due to their **versatility and lightweight nature**, but these materials contribute to severe environmental pollution (Cinelli et al., 2019). According to the **Sustainable Packaging Coalition (SPC)**, sustainable packaging should adhere to eight key principles: safe sourcing, efficient use of renewable energy, and clean production processes (Jedlicka, 2009). However, a major limitation of sustainable packaging is its **complexity and cost**. Many cosmetic products require multi-layered packaging to maintain product stability, complicating recycling and disposal processes.

Indonesia has been gradually implementing sustainability policies within its cosmetic industry. The Indonesian National Agency of Drug and Food Control (*Badan Pengawas Obat dan Makanan* - BPOM) has issued natural and organic cosmetics regulations. Still, challenges persist due to the **lack of harmonization** with international standards. One of the primary frameworks is **BPOM Regulation No. 12 of 2020**, which outlines **claims for natural and organic cosmetics**. However, unlike the European Union (EU), Indonesia does not yet have a unified eco-labeling system for cosmetics, making it difficult for brands to establish credibility in sustainability claims.

The Indonesian Ministry of Environment and Forestry also issued Regulation No. P.75/2019, the "Roadmap for Waste Reduction by Producers." This regulation mandates that producers, including those in the cosmetics industry, reduce their waste by 30% by 2029. It emphasizes the development of environmentally friendly packaging and encourages the use of recyclable and biodegradable materials. Indonesia has also established an eco-labeling program to certify products that meet specific environmental standards. This initiative aims to guide consumers towards sustainable products and incentivize manufacturers to

adopt eco-friendly practices. The criteria for certification include considerations for packaging materials, production processes, and the product's overall environmental impact.

The European Union (EU) has one of the most comprehensive regulatory frameworks for sustainable cosmetics. **Regulation (EC) No 1223/2009** is the primary legal framework governing cosmetic products in the EU, ensuring strict safety, environmental, and sustainability standards. The European Union has issued new packaging and packaging waste rules as part of its transition to a circular economy. Regulation (EU) 2025/40 on Packaging And Packaging Waste (PPWR) was published on January 22, 2025, and will apply from August 12, 2026. The regulation aims to significantly cut greenhouse gas emissions, water use, and environmental costs in the packaging industry, creating opportunities for recycling and sustainability sectors. (Rocca et al., 2022)

Regulatory frameworks play a critical role in shaping sustainable marketing strategies. Governments and international organizations have established stringent policies to encourage businesses to adopt environmentally friendly practices, ensuring compliance with sustainability standards. In the **European Union (EU)**, the **Corporate Sustainability Reporting Directive (CSRD)** requires businesses to disclose their environmental and social impacts, promoting transparency and accountability in sustainable marketing efforts. The EU Circular Economy Action Plan also mandates that companies reduce waste, implement Extended Producer Responsibility (EPR) programs, and prioritize eco-friendly product designs. These policies create incentives for businesses to integrate sustainability into their marketing strategies while ensuring compliance with evolving regulatory requirements. Indonesia has also implemented policies to encourage sustainable marketing. (Rocca et al., 2022)

The **Indonesian Ministry of Environment and Forestry** introduced **Regulation No. P.75/2019** mandates that companies—including those in the cosmetic sector—reduce packaging waste by 30% by 2029. The **National Agency of Drug and Food Control (BPOM)** has further enforced eco-labeling initiatives to help consumers identify sustainable products, fostering a market-driven approach to sustainability. Despite these efforts, regulatory inconsistencies between regions create challenges for multinational companies. While EU policies are more structured and enforceable, Indonesian regulations rely heavily on voluntary compliance and lack standardized reporting mechanisms, making it difficult to measure the effectiveness of sustainable marketing practices. (Rocca et al., 2022)

Green marketing has been widely recognized as a strategic tool that enhances corporate performance by aligning business operations with consumer demand for sustainability. Companies that integrate green marketing into their corporate strategy benefit from increased brand loyalty, cost savings, and regulatory compliance. Studies indicate that firms adopting **green product innovation** and **sustainable branding** experience a **positive impact on Return On Assets (ROA)** and **market valuation**. Empirical research further suggests that independent board structures amplify the positive effects of green marketing on financial performance. A study by Luo et al. (2025) found that while **board independence enhances the success of green marketing initiatives**, **excessive concentration of power—such as when a CEO also serves as the board chairman—weakens the positive effects**. Moreover, board gender diversity has been identified as a moderating factor that strengthens the impact of green marketing on corporate performance. ((Luo et al., 2025)

Several studies indicate that **when effectively integrated into green marketing strategies, regulatory policies contribute significantly to increased corporate sales**. Luo et al. (2025) found that firms complying with **EU sustainability policies** witnessed **higher consumer engagement and revenue growth**, particularly in industries with high environmental concerns, such as cosmetics. Green marketing efforts **enhance brand equity**, positioning companies as industry leaders in sustainability. For instance, cosmetic brands that emphasize **biodegradable packaging, carbon footprint reduction, and ethical sourcing** in their marketing campaigns tend to experience **higher consumer retention and repeat purchases**. Moreover, regulatory-driven green marketing minimizes financial risks by ensuring compliance with sustainability mandates, **avoiding legal penalties, and benefiting from tax incentives**. Firms leveraging these policies in their marketing align with regulations and capitalize on consumer demand for sustainability, leading to **long-term profitability** ((Luo et al., 2025).

Despite the potential benefits, implementing green marketing solely due to regulatory pressure presents challenges such as regulatory complexity, greenwashing risks, and high compliance costs. **Regulatory Complexity** – Differences in **sustainability standards across regions** create difficulties for multinational brands in aligning their marketing strategies ((Rocca et al., 2022). **Greenwashing Risks** – Some companies exaggerate their sustainability claims to meet regulatory expectations, leading to **consumer distrust** when such claims are exposed ((Luo et al., 2025). **High Compliance Costs** – Smaller cosmetic firms may struggle to afford **eco-certifications, sustainable packaging innovations, and green advertising efforts** (Rocca et al., 2022). However, companies proactively embracing **green marketing beyond mere compliance** gain **competitive advantages** in an evolving market. Future research should explore **how regulatory frameworks can be optimized to incentivize genuine sustainability efforts while mitigating greenwashing practices** (Luo et al., 2025).

III. RESULTS AND DISCUSSION

Sustainable innovation in marketing is a growing field that integrates environmental, social, and economic considerations into business strategies. With its extensive use of raw materials, packaging, and chemicals, the cosmetics industry has become a major focus for sustainability initiatives. Consumers increasingly demand eco-friendly products, and companies must adapt to these preferences by implementing sustainable innovations in product formulation and packaging design.

A) *Drivers of Green Cosmetic Purchases*

Recent studies indicate that several factors influence consumer behavior when purchasing green cosmetic products.

- **Environmental Concern:** Consumers with higher environmental awareness prefer products with minimal ecological impact (Testa et al., 2024).
- **Health Consciousness:** The increasing awareness of harmful chemicals in cosmetics has led many consumers to seek natural and organic alternatives (Zaremozhzabieh et al., 2021).
- **Product Knowledge:** Educated consumers who understand green products' benefits are likelier to purchase them (Testa et al., 2024).
- **Brand Trust and Social Influence:** Trust in eco-friendly certifications and recommendations from peers and influencers significantly impact purchasing decisions (Zaremozhzabieh et al., 2021).

B) *Barriers to Green Cosmetic Purchases*

Despite the growing demand for green cosmetics, several barriers exist:

- **High Price Perception:** Many consumers believe green cosmetics are more expensive than conventional alternatives (Testa et al., 2024).
- **Greenwashing Skepticism:** Concerns over misleading environmental claims can deter consumers from purchasing green products (Testa et al., 2024).
- **Limited Availability:** Green cosmetics are not always widely accessible in mainstream retail stores (Testa et al., 2024).

The global green cosmetics market has also expanded as consumers become more environmentally conscious (Biswas & Roy, 2015). However, despite positive attitudes toward eco-friendly products, many consumers still do not translate their intentions into actual purchases, a phenomenon known as the attitude-behavior gap (Polonsky, 2011). To better understand this dynamic, the last study has already synthesized findings from meta-analytic path analysis research on green purchase behavior (Zaremozhzabieh et al., 2021). The objective is to explore how consumer attitudes, social norms, and perceived behavioral control influence green cosmetic purchase behavior. The TPB-GPB suggests that consumer behavior is driven by attitudes, subjective norms, and perceived behavioral control, whereas the GPB model incorporates additional environmental beliefs, knowledge, and awareness as antecedents of green purchase intention (Liobikienė & Bernatoniene, 2017). Meta-analytic findings demonstrate that these factors shape consumer attitudes toward green cosmetics (Zaremozhzabieh et al., 2021).

That study indicates that consumer attitude mediates environmental consciousness and purchase intention (Paul et al., 2016). Consumers with high environmental knowledge and awareness are more likely to develop positive attitudes toward green cosmetics, subsequently increasing their purchase intentions (Joshi & Rahman, 2016). Despite the positive consumer attitudes toward green cosmetics, actual purchase rates remain low. This gap can be attributed to psychological barriers such as skepticism toward product claims, higher prices, and lack of availability (Guyader et al., 2017). Understanding these barriers can help marketers formulate strategies to enhance consumer trust and accessibility to green products.

Subjective norms and perceived behavioral control significantly influence consumer behavior toward green cosmetics (Nguyen et al., 2017). Consumers tend to comply with social expectations when purchasing sustainable products. Moreover, perceived ease or difficulty in acquiring green cosmetics is crucial in purchasing decisions (Maichum et al., 2017). Cultural differences moderate the relationships between consumer attitudes and green purchase intentions. Studies show that non-Western consumers exhibit stronger green purchase intentions with high environmental knowledge, whereas Western consumers are more influenced by personal environmental beliefs (Zaremozhzabieh et al., 2021).

The study titled "Analisis Kinerja Pemasaran dari Perspektif Produk Ramah Lingkungan (Green Product) dan Desain untuk Keberlanjutan (Design for Sustainability)" by Damarani and Raharjo (2023) has already examined the role of cosmetic packaging companies in enhancing sustainable performance through eco-friendly packaging formats. The research focuses on a study case in Indonesia's B2B cosmetic packaging manufacturer, analyzing how the adoption of green product designs and sustainability-oriented packaging impacts marketing performance. The findings indicate that structured management and planning, supported by governmental policies and customer demand, positively influence the shift from conventional to environmentally friendly packaging. This transition addresses environmental concerns and enhances the company's market performance by aligning with the growing consumer preference for sustainable products. This study underscores the importance of integrating green marketing strategies and sustainable design in the cosmetic packaging industry to meet environmental

objectives and improve marketing outcomes.

Recent studies have highlighted key elements such as material selection, life cycle assessment, consumer perception, and regulatory considerations that influence the adoption of sustainable packaging in cosmetics to answer the question of best practices for sustainable packaging design in the cosmetic industry. With the increasing demand for eco-friendly products, cosmetic brands prioritize sustainable packaging to align with consumer expectations (Biswas & Roy, 2015). However, transitioning to sustainable packaging faces challenges such as cost, consumer skepticism, and supply chain adaptation (Guyader et al., 2017).

Sustainable packaging in the cosmetic industry requires a holistic approach, integrating material innovation, regulatory compliance, and consumer education. By adopting these best practices, cosmetic brands can contribute to environmental sustainability while meeting consumer demands.

C) Key Best Practices in Sustainable Packaging Design

1. Material Selection and Innovation

Sustainable packaging relies on biodegradable, recyclable, or reusable materials. Research suggests that companies using plant-based plastics, glass, or aluminum packaging improve their environmental performance while enhancing brand perception (Paul et al., 2016).

2. Life Cycle Assessment (LCA) Implementation

Adopting LCA ensures a comprehensive evaluation of the impact of packaging from production to disposal. Studies highlight the importance of measuring carbon footprints, energy consumption, and recyclability to guide sustainable packaging decisions (Joshi & Rahman, 2016).

3. Consumer Perception and Education

Their understanding of sustainability benefits influences consumer willingness to adopt green cosmetics. Transparent labeling and marketing efforts that emphasize the ecological advantages of sustainable packaging increase consumer trust (Nguyen et al., 2017).

4. Regulatory Compliance and Industry Standards

Compliance with environmental regulations and industry certifications, such as ISO 14001 and the EU's Packaging and Packaging Waste Directive, is critical for sustainable packaging. Research indicates that companies adhering to these standards gain competitive advantages and customer loyalty (Maichum et al., 2017).

5. Design for Reusability and Minimalism

Minimalist packaging reduces waste and resource use. Brands incorporating refillable containers or multi-use packaging formats are more likely to appeal to environmentally conscious consumers (Zaremozhzabieh et al., 2021).

The study conducted by Damarani and Raharjo (2023) also explores the implementation of sustainable packaging design in the cosmetic industry, focusing on cosmetic packaging manufacturers. Their findings highlight key strategies such as material innovation, regulatory compliance, and consumer engagement in transitioning from conventional to environmentally friendly packaging. That manufacturer has successfully integrated sustainable packaging practices by adopting eco-friendly materials and implementing structured management strategies.

According to Damarani and Raharjo (2023), the company's approach includes utilizing biodegradable and recyclable materials, optimizing supply chain efficiency, and aligning with global sustainability regulations. Their study emphasizes that a combination of government support, corporate commitment, and consumer demand plays a crucial role in driving the adoption of sustainable packaging in the cosmetic industry. Furthermore, the research suggests that consumer perception and education significantly impact the effectiveness of sustainable packaging initiatives. By increasing transparency and promoting the environmental benefits of their packaging solutions, that manufacturer has enhanced its brand value and strengthened customer loyalty.

Theoretical frameworks proposed by previous researchers and real-world case studies provide a comprehensive understanding of how sustainable packaging can be effectively implemented. Several scholars have explored sustainable packaging design through various theoretical models. The Theory of Planned Behavior (Ajzen, 1991) explains how consumer attitudes, subjective norms, and perceived behavioral control influence sustainable consumption choices, including eco-friendly packaging preferences (Paul et al., 2016). Additionally, the Life Cycle Assessment (LCA) framework (Rebitzer et al., 2004) provides a method to evaluate the environmental impact of packaging throughout its entire life cycle, guiding businesses in selecting more sustainable materials and processes.

A cosmetic packaging manufacturer is a real-world example of sustainable packaging design implementation in the cosmetic industry. According to Damarani and Raharjo (2023), the company has undertaken several key actions to enhance its sustainability efforts:

1. **Use of Eco-Friendly Materials** – The manufacturer has adopted biodegradable, recyclable, and reusable packaging materials, aligning with circular economy principles (Ellen MacArthur Foundation, 2013).
2. **Regulatory Compliance** – The company ensures adherence to environmental regulations, such as ISO 14001 certification, which enhances credibility and meets industry standards (Joshi & Rahman, 2016).
3. **Consumer Awareness and Education** – By engaging in transparent communication and eco-labeling, the manufacturer educates consumers on the benefits of sustainable packaging, thereby enhancing their purchase intention (Nguyen et al., 2017).
4. **Process Optimization and Waste Reduction** – The company implements lean manufacturing principles to minimize packaging waste and improve resource efficiency (Maichum et al., 2017).
5. **Collaboration with Supply Chain Partners** – Partnering with suppliers who prioritize sustainability ensures a consistent and reliable source of eco-friendly materials (Guyader et al., 2017).

IV. CONCLUSION

This study highlights the importance of sustainable innovation in marketing, particularly in the cosmetic packaging industry. The findings emphasize that integrating green marketing strategies and sustainable design principles can significantly enhance brand reputation, consumer loyalty, and regulatory compliance. Companies that adopt eco-friendly materials, comply with industry regulations, and engage in consumer education can successfully transition to sustainable packaging solutions. The case study of a cosmetic packaging manufacturer demonstrates that structured management, government support, and consumer awareness play crucial roles in advancing sustainability in packaging design. Companies can achieve both competitive advantage and sustainability goals by implementing eco-friendly materials, optimizing supply chains, and adhering to environmental policies.

Moreover, this research underscores the necessity of a holistic approach to sustainable packaging, incorporating life cycle assessment, design minimalism, and collaborative efforts with supply chain partners. Future studies should focus on measuring the long-term benefits of sustainable packaging initiatives and exploring innovative material alternatives to further reduce environmental impact. In conclusion, sustainable packaging is a regulatory obligation and a strategic opportunity for businesses to drive innovation and meet growing consumer expectations for environmentally responsible products. Cosmetic brands that proactively invest in sustainable practices will be better positioned for long-term success in an increasingly eco-conscious market.

To further enhance understanding and implementation of sustainable packaging in the cosmetic industry, future research should explore the following areas:

1. **Material Innovation and Circular Economy** – Investigating novel biodegradable and reusable packaging materials that minimize environmental impact while maintaining product integrity.
2. **Consumer Behavior and Green Marketing Strategies** – Conducting in-depth studies on consumer purchasing behavior related to sustainable packaging and evaluating the effectiveness of green marketing campaigns.
3. **Regulatory Adaptation and Policy Impact** – Analyzing how evolving environmental regulations impact business practices and how companies can proactively align their strategies with new policies.
4. **Life Cycle Assessment and Carbon Footprint Analysis** – Measuring the long-term environmental impact of different packaging solutions through comprehensive life cycle assessments.
5. **Economic Viability and Cost-Benefit Analysis** – Examining the financial implications of adopting sustainable packaging, including production costs, consumer willingness to pay, and long-term profitability.
6. **Technological Advancements in Sustainable Packaging** – Exploring the role of digitalization and smart packaging technologies in enhancing sustainability and reducing waste.

By addressing these research areas, scholars and industry professionals can contribute to developing sustainable solutions in the cosmetic packaging industry, ensuring a balance between economic growth and environmental responsibility.

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