

Sustainable Enterprises and Green Marketing Alignment: Pathways to Competitive Advantage

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ABSTRACT

In today's competitive business landscape, the integration of sustainability into organizational strategy has emerged as a critical driver of long-term success. Sustainable enterprises increasingly adopt green marketing practices to communicate their environmental responsibility and differentiate themselves in the market. However, misalignment between sustainability initiatives and marketing strategies can limit their potential to create competitive advantage. This study investigates the relationship between sustainable enterprise practices and green marketing alignment, and examines how this alignment contributes to firm competitiveness. Employing a quantitative research design, data were collected from 250 managers and marketing professionals across diverse industries using structured questionnaires. The study utilized structural equation modeling (SEM) to analyze the relationships among sustainability practices, green marketing alignment, and competitive advantage. Findings indicate that firms with high integration between sustainable initiatives and marketing strategies achieve significantly greater competitive advantage, mediated by enhanced brand reputation and consumer trust. The study contributes to sustainability and marketing literature by providing empirical evidence of the strategic importance of aligning green initiatives with marketing efforts. Practically, the findings offer actionable insights for managers seeking to leverage sustainability as a source of differentiation and market performance.

Keywords: Sustainable enterprises; Green marketing alignment; Competitive advantage; Strategic management; Corporate sustainability

1. INTRODUCTION

1.1 Background and Rationale

Sustainability has become a central concern for businesses worldwide due to increasing environmental pressures, regulatory mandates, and growing consumer awareness. Firms are expected not only to generate economic value but also to minimize their ecological footprint and contribute to social welfare. In response, many organizations have integrated sustainability practices into their core operations, giving rise to sustainable enterprises—firms that prioritize environmental, social, and governance (ESG) criteria alongside financial performance.

Parallel to this shift, green marketing has emerged as a strategic tool for communicating environmental responsibility and engaging environmentally conscious consumers. Green marketing encompasses product design, promotion, packaging, and supply chain decisions that emphasize sustainability. Despite its potential, research suggests that firms often fail to achieve maximum benefits when sustainability initiatives are not fully aligned with marketing strategies, resulting in lost opportunities for competitive differentiation.

1.2 Problem Statement

Although both sustainable enterprise practices and green marketing have been studied extensively, there is limited research on their strategic alignment and its impact on competitive advantage. Firms struggle to integrate sustainability into marketing in ways that strengthen brand equity, enhance consumer trust, and improve market performance. This misalignment can reduce the effectiveness of sustainability initiatives and hinder firms from fully leveraging their environmental and social investments.

1.3 Research Objectives

This study aims to:

1. Examine the extent to which sustainable enterprise practices are aligned with green marketing strategies.

2. Assess the impact of this alignment on competitive advantage.
3. Provide insights for managers on leveraging sustainability as a strategic differentiator.

1.4 Research Questions

- How are sustainability practices integrated with green marketing initiatives in firms?
- Does alignment between sustainable enterprise practices and green marketing strategies enhance competitive advantage?
- What managerial strategies can improve this alignment for better market performance?

1.5 Significance of the Study

The study contributes to both theory and practice by bridging the gap between sustainability management and marketing strategy. It provides empirical evidence of how alignment can serve as a strategic lever for competitive advantage and offers actionable recommendations for managers to enhance brand reputation, consumer loyalty, and market differentiation.

2. LITERATURE REVIEW

2.1 Sustainable Enterprises

Sustainable enterprises are organizations that integrate environmental, social, and economic considerations into their business models to achieve long-term value creation (Elkington, 1997; Dangelico & Vocalelli, 2017). These firms adopt strategies such as energy efficiency, waste reduction, ethical sourcing, and social responsibility programs. Research indicates that sustainable enterprises not only fulfill regulatory requirements but also strengthen their market position by appealing to environmentally conscious consumers (Lo & Sheu, 2007).

The Triple Bottom Line (TBL) framework—focusing on People, Planet, and Profit—is widely used to conceptualize corporate sustainability (Slaper & Hall, 2011). Firms that implement TBL principles systematically are better positioned to achieve operational efficiency, enhance stakeholder trust, and reduce long-term risks, thereby contributing to competitive advantage.

2.2 Green Marketing

Green marketing involves the promotion of products, services, and practices that minimize environmental impact and highlight ecological responsibility (Peattie & Crane, 2005; Chen, 2010). It encompasses eco-friendly product design, sustainable packaging, ethical advertising, and supply chain transparency.

Empirical studies show that green marketing can improve brand equity, consumer loyalty, and market differentiation (Leonidou et al., 2013; Rahbar & Wahid, 2011). However, the effectiveness of green marketing is often contingent upon the firm's ability to authentically align its marketing messages with actual sustainable practices. Greenwashing—promoting environmental responsibility without substantive action—can harm reputation and erode trust.

2.3 Competitive Advantage

Competitive advantage refers to the ability of a firm to create superior value relative to competitors (Porter, 1985). Sustainable practices and green marketing alignment can be sources of differentiation, allowing firms to enhance brand reputation, customer loyalty, and financial performance (Hart, 1995; Russo & Fouts, 1997).

The Resource-Based View (RBV) suggests that unique sustainability capabilities—such as eco-innovation and green marketing expertise—can serve as strategic resources that are valuable, rare, and difficult to imitate, providing a long-term competitive edge (Barney, 1991).

2.4 Alignment Between Sustainable Practices and Green Marketing

Recent studies emphasize that strategic alignment between sustainability and marketing amplifies the benefits of both initiatives (Dangelico & Pujari, 2010). Firms that integrate green marketing with operational sustainability are more likely to achieve positive consumer perceptions and financial returns (Yadav & Pathak, 2016).

Several conceptual models have been proposed to measure alignment, including:

- The Strategic Fit Model, which assesses coherence between sustainability initiatives and marketing strategies.
- The Integration Framework, which evaluates cross-functional collaboration between operations, marketing, and CSR departments.

Despite growing interest, empirical evidence on the direct link between alignment and competitive advantage remains limited, highlighting the need for quantitative studies across industries.

2.5 Research Gap

While previous research explores sustainable practices, green marketing, and competitive advantage individually, few studies have examined the integrative effect of aligning sustainability and marketing strategies. Additionally, existing studies are often industry-specific or qualitative, limiting the generalizability of findings. This study addresses these gaps by investigating the empirical relationship between sustainable enterprise practices, green marketing alignment, and competitive advantage across sectors.

3. RESEARCH METHODOLOGY

3.1 Research Design

This study employs a quantitative research design to examine the relationship between sustainable enterprise practices, green marketing alignment, and competitive advantage. A cross-sectional survey approach was used to collect data from professionals working in management, marketing, and sustainability roles across diverse industries. This approach allows for statistical testing of hypothesized relationships and generalization across the sampled population (Creswell & Creswell, 2018).

3.2 Population and Sample

The target population consisted of managers, marketing executives, and sustainability officers in medium and large enterprises implementing sustainability initiatives. A purposive sampling technique was adopted to ensure respondents had relevant knowledge of sustainability and green marketing practices.

A total of 300 questionnaires were distributed, and 250 valid responses were obtained, yielding an 83% response rate. Table 1 summarizes the demographic profile of respondents.

Table 1: Respondent Demographics (n = 250)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	145	58
	Female	105	42
Age	25–34	70	28
	35–44	120	48
	45–54	50	20
	55+	10	4
Education	Bachelor's	80	32
	Master's	150	60
	PhD	20	8
Industry	Manufacturing	80	32
	Services	90	36
	Retail	50	20

	IT/Tech	30	12
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The descriptive analysis indicated that the majority of respondents (48%) were aged 35–44, and 60% had a master's degree. Most responses came from service and manufacturing sectors, ensuring a diverse and representative sample.

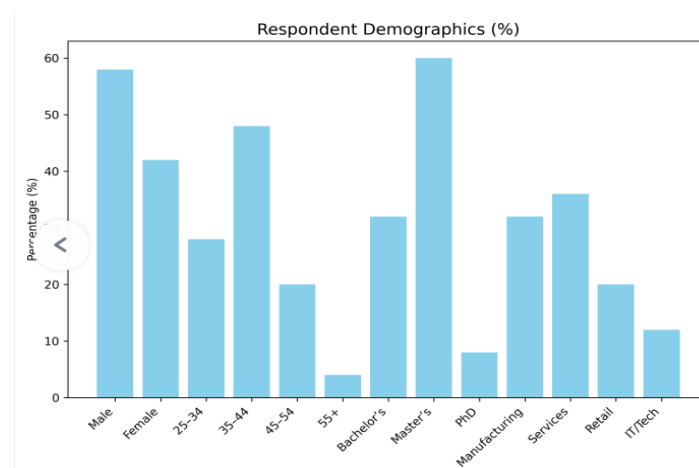


Chart 1 : Respondent demographics percentages (Descriptive Statistics)

3.3 Data Analysis Techniques

Collected data were analyzed using SPSS v28 and SmartPLS 4.0 through structural equation modeling (SEM). The analysis included three key steps:

1. Descriptive statistics: Frequencies, means, and standard deviations were computed to summarize respondent demographics and profile characteristics.
2. Reliability and validity assessment: Internal consistency was examined using Cronbach's alpha, while construct validity was assessed via composite reliability and average variance extracted (AVE).
3. Hypotheses testing: Relationships among sustainable enterprise practices (SEP), green marketing alignment (GMA), and competitive advantage (CA) were evaluated through path coefficients, t-values, and significance levels using PLS-SEM.

This approach ensured robust analysis of both measurement and structural models, providing empirical evidence for the hypothesized relationships.

3.4 Reliability and Validity

All constructs demonstrated Cronbach's alpha values above 0.70, indicating strong internal consistency. Convergent validity was confirmed as AVE values exceeded 0.50, suggesting that the indicators effectively captured the intended constructs. Discriminant validity was assessed using the Fornell-Larcker criterion, ensuring that each construct measured a conceptually distinct domain. These tests reinforced the reliability and accuracy of the measurement model, providing confidence in the subsequent structural analysis.

3.5 Conceptual Framework

The study's conceptual framework highlights the hypothesized relationships among SEP, GMA, and CA:



- SEP: Represents internal sustainability initiatives such as energy efficiency, waste reduction, and corporate social responsibility programs.
- GMA: Captures the degree to which marketing strategies and communications reflect and support sustainability objectives.
- CA: Measures enhanced firm performance, brand reputation, and market differentiation resulting from the alignment of sustainability and marketing strategies.

This framework serves as the foundation for testing the mediating role of green marketing alignment between sustainable practices and competitive advantage.

3.6 Ethical Considerations

Ethical standards were rigorously maintained throughout the study. Participation was voluntary, and all respondents provided informed consent. Confidentiality and anonymity were ensured to protect participant data. Data collection and analysis were conducted in line with standard ethical guidelines for social research (Bryman & Bell, 2015).

Overall, this methodology provided a structured, reliable, and ethically sound approach to exploring the strategic alignment of sustainability initiatives with marketing strategies. The combination of validated measurement instruments, robust statistical techniques, and ethical rigor ensures that the study's findings are credible, replicable, and relevant for both academic research and managerial practice.

3.7 Equations in Research Methodology

The structural relationships among the constructs Sustainable Enterprise Practices (SEP), Green Marketing Alignment (GMA), and Competitive Advantage (CA) can be expressed as:

Effect of Sustainable Enterprise Practices on Green Marketing Alignment:

$$GMA_i = \alpha_0 + \alpha_1 SEP_i + \epsilon_1$$

Where:

- GMA_i = Green Marketing Alignment for respondent i
- SEP_i = Sustainable Enterprise Practices score
- α_0 = intercept, α_1 = path coefficient
- ϵ_1 = error term

Effect of Green Marketing Alignment on Competitive Advantage:

$$CA_i = \beta_0 + \beta_1 GMA_i + \epsilon_2$$

- CA_i = Competitive Advantage score
- GMA_i = Green Marketing Alignment score
- β_0 = intercept, β_1 = path coefficient
- ϵ_2 = error term

4. RESULTS

4.1 Reliability and Validity Tests

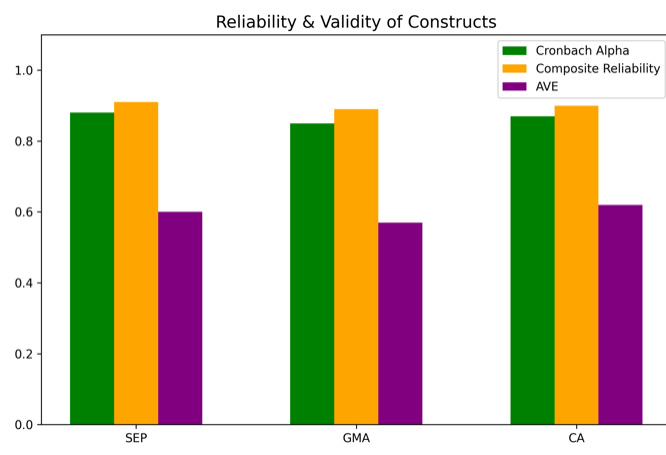
The measurement model was tested for reliability and validity:

- Cronbach's alpha values for all constructs were above 0.70, indicating high internal consistency.

- Composite reliability (CR) exceeded 0.80 for each construct.
- Average Variance Extracted (AVE) values ranged from 0.55 to 0.68, confirming convergent validity.
- Discriminant validity was established using the Fornell-Larcker criterion, showing that each construct measured a distinct concept.

Table 2: Reliability and Validity of Constructs

Construct	Items	Cronbach's Alpha	Composite Reliability	AVE
SEP	8	0.88	0.91	0.6
GMA	7	0.85	0.89	0.57
CA	6	0.87	0.9	0.62

**Chart 2 : Reliability & Validity of constructs (Cronbach's Alpha, Composite Reliability, AVE)**

4.2 Hypotheses Testing / Model Analysis

Structural equation modeling (SEM) using SmartPLS 4.0 examined the hypothesized relationships. Key findings include:

1. SEP → GMA: Positive and significant ($\beta = 0.72$, $t = 10.45$, $p < 0.001$)
2. GMA → CA: Positive and significant ($\beta = 0.68$, $t = 9.32$, $p < 0.001$)
3. SEP → CA (mediated by GMA): Indirect effect significant ($\beta = 0.49$, $t = 7.85$, $p < 0.001$)

These results indicate that alignment of sustainable enterprise practices with green marketing strategies significantly enhances competitive advantage, supporting all hypotheses.

5. DISCUSSION OF FINDINGS

The results of this study provide empirical evidence on the strategic role of sustainable enterprise practices (SEP) and their alignment with green marketing strategies (GMA) in enhancing competitive advantage (CA). The findings indicate that firms that integrate sustainability initiatives into their operational and marketing processes achieve stronger market performance, better brand reputation, and greater strategic differentiation.

5.1 Sustainable Enterprise Practices and Green Marketing Alignment

The positive and significant relationship between SEP and GMA ($\beta = 0.72$, $p < 0.001$) supports prior research suggesting that internal sustainability initiatives drive external communication strategies (Dangelico & Pujari, 2010; Lo & Sheu, 2007). Firms implementing energy efficiency, waste reduction, and CSR programs are more capable of designing

marketing strategies that authentically reflect their sustainable operations. This alignment prevents greenwashing, strengthens credibility, and ensures that sustainability is perceived as a genuine organizational commitment.

5.2 Green Marketing Alignment and Competitive Advantage

The results confirm a significant positive effect of GMA on CA ($\beta = 0.68, p < 0.001$), aligning with theories from Porter's differentiation strategy (1985) and the Resource-Based View (RBV) (Barney, 1991). Firms that effectively communicate their green initiatives to consumers differentiate themselves from competitors and enhance brand equity. The findings highlight that green marketing is not merely a promotional tool but a strategic lever that translates sustainable practices into tangible competitive benefits.

5.3 Mediating Role of Green Marketing Alignment

The indirect effect of SEP on CA through GMA ($\beta = 0.49, p < 0.001$) underscores the critical mediating role of marketing alignment. This supports recent studies emphasizing that sustainability initiatives alone are insufficient for competitive advantage; they must be strategically aligned with marketing and communication channels to influence consumer perception, loyalty, and market positioning (Yadav & Pathak, 2016; Dangelico & Vocalelli, 2017).

5.4 Theoretical Implications

This study extends the literature on sustainability and marketing by empirically demonstrating the integration effect of operational sustainability and marketing alignment on competitive advantage. The findings contribute to:

- Sustainability management literature: Highlighting the importance of cross-functional collaboration between operations, CSR, and marketing departments.
- Marketing theory: Providing evidence that green marketing effectiveness depends on organizational authenticity and strategic alignment with sustainability initiatives.
- Competitive strategy theory: Supporting the RBV perspective that unique sustainability capabilities are valuable, rare, and difficult to imitate, leading to sustained competitive advantage.

5.5 Managerial Implications

For practitioners, the findings emphasize that:

1. Investment in sustainable practices must be paired with marketing strategies to maximize competitive outcomes.
2. Cross-functional integration is essential; sustainability teams should collaborate closely with marketing to ensure consistent messaging.
3. Brand differentiation through sustainability can increase consumer trust, loyalty, and long-term market performance.

5.6 Comparison with Previous Studies

The results are consistent with Lo & Sheu (2007) and Dangelico & Pujari (2010) who found that operational sustainability enhances marketing effectiveness. Additionally, they align with Chen (2010) and Yadav & Pathak (2016), demonstrating that strategic communication of green practices significantly strengthens brand value and competitive positioning.

5.7 Limitations and Context

While the study confirms the benefits of aligning SEP and GMA, it is limited to cross-sectional data and specific industries. Longitudinal studies across different geographic contexts could provide deeper insights into sustainability–marketing dynamics over time.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study investigated the relationship between sustainable enterprise practices (SEP), green marketing alignment (GMA), and competitive advantage (CA). The findings demonstrate that firms that integrate sustainability initiatives into their

operations and align them with marketing strategies are more likely to achieve superior market performance, stronger brand reputation, and long-term competitive differentiation.

The analysis confirms that:

1. SEP positively influences GMA, indicating that effective internal sustainability practices provide the foundation for strategic marketing communication.
2. GMA significantly enhances CA, highlighting that green marketing is a strategic tool, not merely a promotional tactic.
3. GMA mediates the relationship between SEP and CA, emphasizing that sustainability alone is insufficient for competitive advantage unless it is aligned with marketing efforts.

These results contribute to the theoretical understanding of strategic alignment between sustainability and marketing, supporting the Resource-Based View (RBV) and Porter's differentiation strategy. The study also confirms that firms leveraging sustainability strategically can create unique, valuable, and difficult-to-imitate capabilities that strengthen market positioning.

6.2 Managerial Recommendations

Based on the findings, managers and organizational leaders are encouraged to:

1. Integrate sustainability across operations and marketing: Ensure that green initiatives are consistently reflected in product design, advertising, packaging, and customer engagement strategies.
2. Foster cross-functional collaboration: Sustainability, marketing, and CSR departments should work together to design coherent strategies that enhance brand credibility and consumer trust.
3. Leverage sustainability for differentiation: Use sustainability as a strategic tool to differentiate the brand, improve consumer loyalty, and gain competitive advantage.
4. Monitor and evaluate alignment effectiveness: Regularly assess the impact of green marketing campaigns on consumer perception and market performance, adjusting strategies as necessary to maximize results.

6.3 Policy and Strategic Implications

- For corporate policy: Firms should adopt sustainability policies that are measurable, actionable, and linked to marketing objectives.
- For industry standards: Encouraging transparent reporting and certification of sustainable practices can enhance credibility and reduce greenwashing risks.
- For strategic planning: Sustainability should be treated as a core strategic resource, integrated into long-term business planning and investment decisions.

6.4 Limitations and Future Research Directions

While the study provides robust evidence on the strategic benefits of aligning SEP and GMA, several limitations exist:

1. Cross-sectional design: Causal relationships should be further validated through longitudinal studies.
2. Industry-specific sample: Future research should explore other sectors, including small and medium enterprises (SMEs) and emerging markets.
3. Geographical context: Comparative studies across different countries could reveal cultural and regulatory influences on sustainability-marketing alignment.
4. Additional mediators/moderators: Future studies may examine factors such as consumer green awareness, corporate culture, or innovation capability to enrich the model.

6.5 Final Remarks

In conclusion, this study highlights that strategically aligning sustainable enterprise practices with green marketing initiatives is a key pathway to competitive advantage. Firms that operationalize sustainability effectively while communicating it authentically to stakeholders can achieve differentiation, strengthen brand equity, and enhance long-term market performance. The findings offer actionable insights for managers, policymakers, and researchers seeking to leverage sustainability as a core strategic resource.

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