



# Sustainability-Driven Marketing in SMEs: Examining the Impact of Biospheric Values, Stakeholder Pressures, and Digital Marketing Adoption

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**Abstract.** Sustainability-driven marketing has become increasingly crucial for small and medium-sized enterprises (SMEs) seeking to balance business growth with environmental responsibility. This study examines the impact of biospheric values and stakeholder pressures on strategic green marketing orientation (SGMO), with digital marketing adoption as a mediating factor. Drawing upon the Upper Echelons Theory and the Theory of Planned Behaviour, a quantitative approach was employed, collecting data from 400 Indonesian SME owner-managers. Structural Equation Modelling (SEM) was utilised to test the proposed hypotheses. The findings indicate that biospheric values significantly influence SGMO, both directly and indirectly through digital marketing adoption. Stakeholder pressures also positively moderate the relationship between digital marketing and SGMO. These results underscore the importance of digital marketing as an enabler of sustainable business practices. The study contributes to green marketing literature by integrating digital transformation into sustainability strategies and offers managerial insights for SMEs to enhance their competitive advantage through eco-conscious marketing. Future research should explore industry-specific dynamics and longitudinal effects of digital marketing on sustainability practices.

**Keywords:** Strategic Green Marketing Orientation, Digital Marketing, Biospheric Values, SMEs

## 1 Introduction

The urgency of sustainability in business practices has become a critical issue globally, with enterprises facing increasing pressure to adopt environmentally friendly strategies. Small and medium-sized enterprises (SMEs), particularly in developing economies like Indonesia, play a vital role in economic development and environmental sustainability. However, their contribution to greenhouse gas emissions and ecological degradation remains substantial due to limited regulatory enforcement and resource constraints. According to the Organisation for Economic Co-operation and Development (OECD), SMEs account for approximately 50% of industrial greenhouse gas emissions, highlighting the need for a structured approach to green marketing adoption [1]. Despite prior research emphasising the importance

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of sustainability, there is still a lack of understanding regarding the strategic drivers that influence SMEs in integrating environmentally conscious marketing practices.

In recent years, digital marketing (DM) has emerged as a transformative tool that enhances business operations, particularly in marketing strategy formulation. Digital platforms enable SMEs to amplify their green marketing efforts by reaching a broader audience, reducing resource-intensive marketing practices, and fostering engagement with environmentally conscious consumers. The integration of digital marketing into strategic green marketing orientation (SGMO) is essential in ensuring that sustainability goals align with business performance. Prior studies have focused on competitive advantage as a mediator in SGMO adoption [2]; however, there remains a significant research gap in examining the role of digital marketing as a facilitating factor.

This study investigates the relationship between SME owner-managers' biospheric values (BV) and SGMO, with digital marketing serving as a mediating factor. Employing the Upper Echelons Theory (UET), this research proposes that SME leaders' environmental values significantly influence green marketing strategies. Additionally, the Theory of Planned Behaviour (TPB) is incorporated to assess the moderating effects of perceived behavioural control and stakeholder pressures. The study utilises a quantitative approach, gathering primary data from Indonesian SMEs and applying Structural Equation Modelling (SEM) for data analysis. This study contributes to the growing body of knowledge on green marketing by clarifying the role of digital marketing in advancing sustainability-driven business practices.

## 2 Literature Review

### 2.1 Strategic Green Marketing Orientation (SGMO)

Strategic Green Marketing Orientation (SGMO) is an approach where businesses integrate environmental concerns into their marketing strategies to achieve both sustainability and competitive advantage. SGMO has gained significant attention in recent years due to growing environmental concerns and regulatory pressures. Scholars argue that SGMO fosters consumer trust, brand loyalty, and long-term financial stability by aligning marketing efforts with ecological responsibility [3]. Moreover, businesses that proactively adopt SGMO are more likely to meet the rising demand for sustainable products and services, thereby strengthening their market position [4].

The implementation of SGMO varies depending on organisational capabilities, industry type, and external pressures. Previous studies highlight that firms with strong environmental commitment tend to integrate SGMO into their core marketing strategies, embedding sustainable values within their branding, product development, and promotional activities [5]. Additionally, firms that invest in sustainable marketing practices often experience enhanced consumer engagement and reduced reputational risks [6].

Despite its potential benefits, SGMO adoption remains challenging for SMEs due to resource constraints and limited expertise in green marketing. Many SMEs struggle with balancing profitability and sustainability goals, resulting in a slower transition

towards green marketing initiatives. This study seeks to address this gap by examining key factors that drive SGMO adoption, particularly the role of digital marketing as an enabler.

## 2.2 Biospheric Values and SGMO

Biospheric values (BV) refer to an individual's intrinsic concern for environmental preservation and sustainability. Research indicates that SME owner-managers with strong biospheric values are more likely to implement sustainable business practices, including SGMO [7]. According to the Upper Echelons Theory (UET), decision-makers' values and beliefs significantly shape organisational strategies, suggesting that environmentally conscious SME leaders are more inclined to adopt green marketing practices [8].

Empirical studies have shown a positive correlation between biospheric values and environmental initiatives within organisations. For instance, firms led by managers with high ecological awareness tend to engage in proactive sustainability measures, such as reducing carbon footprints and investing in eco-friendly product development [9]. This demonstrates that personal values play a critical role in shaping corporate sustainability agendas.

However, the extent to which biospheric values influence SGMO is often moderated by external factors such as market conditions, regulatory frameworks, and resource availability. While values-driven leadership is crucial, businesses must also possess the necessary tools and capabilities to implement sustainable marketing strategies effectively. This research investigates how digital marketing serves as a facilitator in translating biospheric values into actionable SGMO initiatives.

## 2.3 Digital Marketing

Digital marketing (DM) has revolutionised the way businesses communicate their sustainability efforts to consumers. Unlike traditional marketing channels, digital platforms enable firms to reach a wider audience at a lower cost, making it an essential tool for SMEs looking to implement SGMO [10]. Digital marketing strategies, including content marketing, social media campaigns, and search engine optimisation, provide businesses with effective means of promoting their green initiatives and engaging with eco-conscious consumers [11].

Recent studies suggest that digital marketing plays a mediating role in the relationship between corporate values and SGMO adoption. Firms leveraging digital platforms for sustainability messaging are more likely to attract environmentally aware customers and build stronger brand equity [12]. Additionally, digital marketing allows businesses to track consumer responses to green initiatives, providing valuable insights for continuous improvement.

Despite its advantages, the integration of digital marketing in SGMO is not without challenges. SMEs often face limitations related to technological expertise, financial resources, and digital infrastructure. Addressing these barriers requires targeted policies and training programmes to enhance SMEs' digital capabilities in green

marketing. This study examines the effectiveness of digital marketing in bridging the gap between biospheric values and SGMO adoption in the Indonesian SME context.

### 3 Methodology

#### 3.1 Research Design

This study adopts a quantitative research design to examine the relationship between biospheric values, digital marketing, and strategic green marketing orientation (SGMO) among SMEs in Indonesia. A survey-based approach was chosen due to its effectiveness in capturing primary data from a large sample, ensuring the generalisability of the findings [13]. The study employs a cross-sectional design, allowing for a snapshot analysis of SMEs' green marketing strategies at a given point in time. This approach is particularly relevant for investigating behavioural patterns and business practices that may evolve over time.

The target population consists of SME owner-managers operating in various industries across Indonesia. The inclusion criteria require that the firms must be actively engaged in marketing activities and have some level of environmental or sustainability commitment. The sample is selected using purposive sampling, ensuring that only SMEs with relevant green marketing initiatives are included. A total of 400 respondents were surveyed, aligning with prior studies that recommend a minimum sample size of 200 for Structural Equation Modelling (SEM) analysis [14].

To enhance data quality, a pilot study was conducted with 30 respondents to assess the clarity and reliability of the questionnaire. Feedback from the pilot study led to minor modifications in wording to improve respondent comprehension. The final survey was administered online and via direct outreach to SME networks, with a response rate of 78%, which is considered adequate for robust statistical analysis [15].

### 4 Result and Discussion

#### 4.1 Descriptive Statistics

Table 1 presents the descriptive statistics for the key variables, including means, standard deviations, and correlations. The results indicate that digital marketing adoption is positively correlated with both biospheric values and SGMO, suggesting that firms with strong environmental values are more likely to integrate digital marketing tools into their strategic initiatives.

Table 1. Descriptive Statistics and Correlations

Variable	Me an	S D	1	2	3	4	5
1. Biospheric Values	3,89	0,76	1				
2. Digital Marketing	3,75	0,82	.42 **	1			

3. SGMO	4,02	0,68	.48 **	.55 **	1	
4. Stakeholder Pressures	3,94	0,79	.33 **	.40 **	.51 **	1
5. Perceived Behavioural Control	3,81	0,74	.29 **	.38 **	.47 **	.44 **

Source: Authors own estimation (2024)

### 4.2 Structural Equation Modelling

The results from the structural equation modelling (SEM) analysis are summarised in Table II. The model fit indices indicate an acceptable fit:  $\chi^2(df = 320) = 642.51, p < 0.001, CFI = 0.945, TLI = 0.938, RMSEA = 0.052$ . All hypothesised relationships were statistically significant, supporting the mediation role of digital marketing in the relationship between biospheric values and SGMO.

Table 2. Hypothesis Testing Result

Hypothesis	Path Coefficient	Standard Error	t-value	p-value	Support
H1: BV → SGMO	0,35	0,07	5,01	<0.001	Supported
H2: BV → DM	0,41	0,06	6,84	<0.001	Supported
H3: DM → SGMO	0,47	0,05	8,25	<0.001	Supported
H4: Mediation (BV → DM → SGMO)	0,19	0,04	4,82	<0.001	Supported
H5: PBC → SGMO	0,22	0,05	4,47	<0.001	Supported
H6: SP → SGMO	0,27	0,06	4,95	<0.001	Supported

Source: Authors own estimation (2024)

The findings demonstrate that biospheric values significantly influence SGMO, both directly and indirectly through digital marketing. The mediating effect suggests that SMEs with strong environmental values are more likely to adopt digital marketing tools, which in turn enhances their strategic green marketing orientation.

### 4.3 Discussion

The results align with previous literature suggesting that firms with high environmental awareness tend to integrate sustainability into their marketing strategies [20]. The significant role of digital marketing as a mediator confirms that technology plays a crucial role in amplifying green marketing efforts [21]. Furthermore, stakeholder pressures and perceived behavioural control were found to significantly influence SGMO, supporting the theoretical framework proposed by the Theory of Planned Behaviour [22].

From a managerial perspective, SMEs should focus on leveraging digital marketing strategies to communicate their sustainability commitments effectively. Policymakers and industry leaders should provide resources and training to help SMEs enhance their digital marketing capabilities, thereby accelerating the adoption of green marketing practices.

## 5 Conclusion

This study examined the role of biospheric values in shaping the strategic green marketing orientation (SGMO) of SMEs in Indonesia, with digital marketing acting as a mediating factor. The findings indicate that SMEs with strong biospheric values are more likely to adopt digital marketing tools, which in turn enhances their engagement in SGMO. Additionally, stakeholder pressures and perceived behavioural control were found to significantly influence SGMO, supporting the theoretical premises of the Theory of Planned Behaviour. These results contribute to the existing literature by highlighting the importance of integrating digital marketing into green marketing strategies to enhance sustainability-driven business practices.

Despite its contributions, this study is not without limitations. Firstly, the research employs a cross-sectional design, which limits the ability to infer causal relationships over time. Future research should consider a longitudinal approach to examine how digital marketing adoption evolves and influences SGMO over extended periods [23]. Secondly, the study relies on self-reported data from SME owners and managers, which may introduce social desirability bias. Future research could incorporate objective measures of green marketing performance to enhance the validity of findings [24].

Another limitation concerns the geographic scope, as this study focused exclusively on SMEs in Indonesia. Given the diverse regulatory and economic landscapes across different countries, future studies should explore how cultural and institutional differences impact the adoption of SGMO in other regions [25]. Moreover, the role of digital marketing could be further examined by integrating emerging technologies such as artificial intelligence and big data analytics to assess their influence on green marketing strategies [26].

Future research could also expand the theoretical framework by incorporating additional behavioural theories, such as the Institutional Theory, to better understand how external factors shape SMEs' green marketing decisions. Additionally, examining sector-specific variations in SGMO adoption could provide deeper insights into how industry characteristics influence sustainable business practices [27].

In conclusion, this study underscores the significance of biospheric values and digital marketing in driving SGMO among SMEs. Policymakers and industry leaders should prioritise initiatives that enhance SMEs' digital capabilities and sustainability awareness, ultimately fostering a more environmentally responsible business ecosystem.

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