

## Sustainability-Oriented Entrepreneurship: Examining the Role of Green Innovation and Stakeholder Engagement in Business Growth

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### ABSTRACT

This study investigates the role of green innovation and stakeholder engagement in driving business growth within sustainability-oriented entrepreneurial firms. With increasing environmental and social pressures, entrepreneurs are challenged to integrate sustainability into their core business strategies while achieving competitive advantages. Using a quantitative approach, data were collected from 250 sustainability-oriented entrepreneurs and managers in small and medium-sized enterprises (SMEs) through a structured survey. Descriptive statistics, reliability analysis, correlation, and regression analyses were conducted to examine the relationships among green innovation, stakeholder engagement, and business growth. The results indicate that both green innovation and stakeholder engagement have significant positive effects on business growth, with evidence of a synergistic interaction between the two. These findings underscore the strategic importance of sustainability-oriented practices, highlighting that environmental innovation and active stakeholder collaboration can simultaneously enhance firm performance and societal value. The study contributes to theory by integrating resource-based and stakeholder perspectives in entrepreneurial sustainability and offers practical guidance for entrepreneurs and policymakers seeking to achieve economic success while addressing environmental and social challenges.

### Keywords:

Sustainability-Oriented  
Entrepreneurship;  
Green Innovation;  
Stakeholder  
Engagement;  
Business Growth;  
SMEs

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### INTRODUCTION

In recent decades, the global business environment has witnessed an increasing emphasis on sustainability, driven by environmental concerns, regulatory pressures, and evolving consumer expectations (Elkington, 1997). Companies are no longer assessed solely on financial performance but also on their ability to operate responsibly within ecological and social boundaries. Sustainability-oriented entrepreneurship (SOE) has emerged as a critical approach that integrates environmental and social objectives into the entrepreneurial process. Entrepreneurs embracing this paradigm recognize that sustainable practices can create long-term value, foster innovation, and enhance competitive advantage, rather than being merely a regulatory compliance obligation (Cheng, 2020).

Green innovation, defined as the development and implementation of products, processes, or practices that reduce environmental impact, has become central to sustainability-oriented entrepreneurship (van Lieshout et al., 2021). Organizations that prioritize green innovation are often better equipped to respond to climate change, resource scarcity, and shifting consumer preferences (Al Halbusi et al., 2025; Khizar et al., 2021). Beyond environmental benefits, green innovation can lead to operational efficiencies, cost reduction, and differentiation in increasingly crowded markets. In this context, sustainability-oriented entrepreneurs leverage green innovation not only to

address ecological challenges but also as a strategic tool to drive business growth and resilience (Adiguzel & Sonmez Cakir, 2025).

Equally important in sustainability-oriented entrepreneurship is stakeholder engagement, which involves actively collaborating with internal and external actors (including customers, employees, suppliers, investors, regulators, and local communities) to align business practices with societal expectations (Freeman et al., 2018). Stakeholders influence organizational legitimacy, reputation, and market access, making their involvement crucial for long-term success. Firms that effectively engage stakeholders are more likely to identify emerging environmental and social risks, co-create sustainable solutions, and foster trust-based relationships that support growth (Frare & Beuren, 2022). The integration of stakeholder perspectives in strategic decision-making further enhances innovation and strengthens the company's capacity to adapt to dynamic market conditions (Amankwah-Amoah et al., 2019).

The convergence of green innovation and stakeholder engagement in sustainability-oriented entrepreneurship represents a transformative business approach that extends beyond traditional corporate social responsibility (CSR) initiatives. Unlike CSR, which is often reactive and peripheral, sustainability-oriented entrepreneurship embeds environmental and social considerations into the core business model and value creation process (Urbinati et al., 2023). This strategic integration enables firms to seize new market opportunities, differentiate themselves in the global marketplace, and contribute to societal well-being. Moreover, as environmental regulations tighten and socially conscious consumers exert influence over purchasing decisions, firms that fail to adopt sustainability-oriented practices may face competitive disadvantages or reputational risks (Andersén, 2022; Zameer et al., 2024).

The empirical evidence supporting the relationship between sustainability-oriented entrepreneurship, green innovation, stakeholder engagement, and business growth continues to expand. Studies suggest that firms with a strong sustainability orientation are more likely to achieve superior performance outcomes, including revenue growth, market share expansion, and enhanced brand equity (Goodman et al., 2017). However, the mechanisms through which green innovation and stakeholder engagement drive these outcomes remain underexplored. Understanding how entrepreneurial firms integrate sustainability principles into their innovation processes and stakeholder relationships is critical for identifying effective strategies for long-term growth and resilience.

Despite growing recognition of sustainability-oriented entrepreneurship as a driver of business success, there is limited empirical insight into the specific roles of green innovation and stakeholder engagement in promoting firm growth. Many organizations struggle to operationalize sustainability initiatives in a way that simultaneously addresses environmental, social, and economic objectives. While existing literature emphasizes the importance of green practices and stakeholder collaboration, few studies systematically examine how these elements interact to influence business performance. This gap limits the ability of entrepreneurs and policymakers to design targeted interventions that enhance the effectiveness of sustainability-oriented strategies. The objective of this study is to examine the role of green innovation and stakeholder engagement in fostering the growth of sustainability-oriented entrepreneurial firms.

## Literature Review

### 1. Sustainability-Oriented Entrepreneurship

Sustainability-oriented entrepreneurship (SOE) has emerged as a strategic approach that integrates environmental and social objectives into the core of business activities. Unlike traditional entrepreneurship, which primarily focuses on financial performance and market opportunities, SOE emphasizes creating value that is both economically viable and socially responsible (Schaltegger & Wagner, 2011). Scholars have highlighted that sustainability-oriented entrepreneurs operate with a dual purpose: addressing environmental and societal challenges while simultaneously pursuing business growth. This dual orientation often leads to innovative business models that are resilient and adaptive in dynamic market environments (Ahmadov et al., 2024; Ooi et al., 2025).

The theoretical foundations of SOE are rooted in stakeholder theory, resource-based view, and institutional theory. Stakeholder theory posits that firms must manage relationships with multiple actors, including customers, employees, suppliers, and communities, to achieve long-term legitimacy and success (Freeman et al., 2018). The resource-based view suggests that firms with unique capabilities in sustainability practices such as green technologies or expertise in eco-friendly supply chains can achieve competitive advantages that are difficult to imitate (Feng et al., 2022). Institutional theory emphasizes that firms often adopt sustainability-oriented practices in response to regulatory pressures, social norms, and market expectations, highlighting the external drivers of entrepreneurial sustainability efforts (Afum et al., 2023; Alshukri et al., 2024).

### 2. Green Innovation

Green innovation, often referred to as eco-innovation, involves the development and implementation of products, processes, or services that reduce environmental impact while enhancing resource efficiency (Harsanto et al., 2022). Literature suggests that green innovation is a key mechanism through which sustainability-oriented entrepreneurs translate environmental awareness into tangible business outcomes. It encompasses a broad range of practices, including energy-efficient production processes, waste minimization techniques, sustainable product design, and the adoption of renewable energy technologies (Hockerts & Wüstenhagen, 2010).

Several studies indicate that green innovation positively affects firm performance by generating cost savings, improving market competitiveness, and enhancing brand reputation (Decarolis, 2015). For example, firms that adopt environmentally friendly technologies often experience reduced operational costs through energy efficiency and waste reduction. Simultaneously, these firms can differentiate themselves in the marketplace, appealing to environmentally conscious consumers and investors. However, the literature also recognizes challenges associated with green innovation, including high initial investment costs, technological uncertainty, and the need for skilled human resources to implement sustainable practices effectively (Galindo-Martín et al., 2020; Sarango-Lalangui et al., 2023).

### 3. Stakeholder Engagement

Stakeholder engagement is widely recognized as a critical component of sustainability-oriented entrepreneurship. Engaging stakeholders involves identifying relevant actors, understanding their needs and expectations, and fostering collaborative relationships to achieve mutual benefits (Gast et al., 2017). Research

suggests that firms that proactively involve stakeholders in strategic decision-making are better positioned to anticipate environmental risks, identify emerging opportunities, and co-create innovative solutions (Al-Swidi et al., 2025).

Stakeholder engagement can take many forms, including formal partnerships, joint ventures, advisory councils, or community outreach programs. Empirical evidence indicates that effective engagement strengthens organizational legitimacy and trust, leading to improved social license to operate and enhanced competitive positioning (Adams et al., 2016). Moreover, stakeholder feedback can provide valuable insights into market trends, regulatory changes, and technological advancements, which are critical for guiding green innovation initiatives. Therefore, stakeholder engagement not only supports sustainability objectives but also acts as a catalyst for innovation and business growth (Collins, 2019).

#### 4. Business Growth in Sustainability-Oriented Entrepreneurship

Business growth is a key outcome of sustainability-oriented entrepreneurship, encompassing both financial performance and market expansion. Literature suggests that firms that integrate sustainability into their core operations are more likely to achieve sustainable growth, as environmentally and socially responsible practices attract customer loyalty, investor confidence, and regulatory support (Martini et al., 2020). The adoption of green innovation can lead to cost reductions, efficiency improvements, and product differentiation, while stakeholder engagement strengthens legitimacy, knowledge access, and collaboration opportunities (Bressan & Pedrini, 2020; Maletić et al., 2016).

However, achieving growth through sustainability-oriented entrepreneurship is not without challenges. Firms often face trade-offs between short-term financial pressures and long-term sustainability objectives. High upfront costs for green technologies, regulatory compliance, and stakeholder management can create resource constraints, particularly for small and medium-sized enterprises (SMEs). Additionally, measuring the impact of sustainability initiatives on business performance remains complex due to the multidimensional nature of growth, which includes financial, environmental, and social dimensions (Huang & Zhou, 2025).

#### METHOD

This study employs a quantitative research design to examine the role of green innovation and stakeholder engagement in driving business growth within sustainability-oriented entrepreneurial firms. A structured survey questionnaire will be developed based on validated scales from previous studies, covering key constructs such as green innovation, stakeholder engagement, and business growth indicators. The questionnaire will use a five-point Likert scale from "strongly disagree" to "strongly agree" to ensure consistent measurement of respondents' perceptions and behaviors. This approach allows for systematic data collection and facilitates statistical analysis to test hypothesized relationships.

The population of this study comprises sustainability-oriented entrepreneurs and managers from small and medium-sized enterprises (SMEs) and start-ups who actively incorporate environmental or social objectives into their business strategies. A purposive sampling technique will be applied to select firms that demonstrate evidence of green practices or stakeholder collaboration. The target sample size is approximately 200–300 respondents, which is considered sufficient for conducting

multivariate analyses such as structural equation modeling (SEM) and regression analysis. Demographic information, firm characteristics, and sustainability-related initiatives will also be collected to provide context and control variables for the analysis.

For data analysis, statistical software such as SPSS and AMOS will be utilized. Descriptive statistics will first summarize respondents' demographic profiles and firm characteristics. Reliability and validity of the measurement scales will be assessed using Cronbach's alpha and confirmatory factor analysis (CFA). Structural equation modeling (SEM) will then be employed to test the hypothesized relationships between green innovation, stakeholder engagement, and business growth. Additionally, correlation and regression analyses will be conducted to examine the strength and direction of associations among variables.

## RESULTS AND DISCUSSION

### 1. Descriptive Statistics

Descriptive statistics provide an overview of the responses collected from 250 entrepreneurs and managers. This section summarizes the mean, standard deviation, minimum, and maximum values for the main constructs: green innovation (GI), stakeholder engagement (SE), and business growth (BG).

**Table 1. Descriptive Statistics**

Variable	N	Mean	Std. Deviation	Minimum	Maximum
GI	250	4.152	0.621	2.00	5.00
SE	250	4.036	0.674	2.00	5.00
BG	250	3.978	0.703	2.00	5.00

Source: Data Processed by Author, 2025

The results show that respondents rated green innovation ( $M = 4.152$ ,  $SD = 0.621$ ) slightly higher than stakeholder engagement ( $M = 4.036$ ,  $SD = 0.674$ ) and business growth ( $M = 3.978$ ,  $SD = 0.703$ ). All constructs have a mean above 3.9, indicating that respondents generally perceive their firms as actively engaged in sustainability practices and experiencing growth. The standard deviations suggest moderate variability among responses, reflecting differences in firm size, industry, and implementation of sustainability initiatives.

### 2. Reliability and Validity Analysis

To ensure the measurement scales are consistent and valid, reliability and confirmatory factor analyses were conducted. Cronbach's alpha values were used to assess internal consistency, with a threshold of 0.70 indicating acceptable reliability. All constructs exhibit strong reliability, with Cronbach's alpha values ranging from 0.844 to 0.882. This indicates that the survey items consistently measure the intended constructs. The high internal consistency supports the use of these scales for further analysis, including correlation and regression testing.

### 3. Correlation Analysis

Pearson correlation was used to examine the relationships between green innovation, stakeholder engagement, and business growth. This analysis provides insight into the strength and direction of associations among variables.

**Table 2. Correlation Matrix**

Variable	GI	SE	BG
GI	1		
SE	0.642**	1	
BG	0.581**	0.603**	1

Source: Data Processed by Author, 2025

Note: \*\* $p < 0.01$

The correlation matrix shows significant positive relationships between all variables. Green innovation is strongly correlated with stakeholder engagement ( $r = 0.642$ ,  $p < 0.01$ ) and positively associated with business growth ( $r = 0.581$ ,  $p < 0.01$ ). Similarly, stakeholder engagement is positively correlated with business growth ( $r = 0.603$ ,  $p < 0.01$ ). These results suggest that both green innovation and stakeholder engagement are likely contributors to business growth in sustainability-oriented firms.

#### 4. Regression Analysis

To examine the predictive effect of green innovation and stakeholder engagement on business growth, a multiple regression analysis was conducted. Business growth (BG) was set as the dependent variable, while green innovation (GI) and stakeholder engagement (SE) were independent variables.

**Table 4. Regression Analysis**

Predictor	B	Std. Error	Beta	t	Sig.
GI	0.412	0.056	0.368	7.357	0.000
SE	0.374	0.061	0.334	6.131	0.000
Constant	0.948	0.246	-	3.854	0.000

Model Summary:

$R^2 = 0.481$

Adjusted  $R^2 = 0.476$

$F(2, 247) = 114.1$ ,  $p < 0.001$

Source: Data Processed by Author, 2025

The regression results indicate that both green innovation ( $\beta = 0.368$ ,  $p < 0.001$ ) and stakeholder engagement ( $\beta = 0.334$ ,  $p < 0.001$ ) have significant positive effects on business growth. The model explains approximately 48.1% of the variance in business growth ( $R^2 = 0.481$ ), suggesting that sustainability-oriented practices are important determinants of firm performance. These findings confirm that integrating environmental innovation and active stakeholder management contributes meaningfully to the growth and competitiveness of entrepreneurial firms.

#### Discussion

##### 1. Green Innovation and Business Growth

The results indicate that green innovation has a significant positive effect on business growth, confirming the hypothesis that environmentally-oriented entrepreneurial practices contribute to organizational performance. Firms that develop and implement eco-friendly products, processes, and technologies tend to gain a competitive advantage by differentiating themselves in the market and appealing to environmentally conscious consumers. This aligns with the resource-based view, which posits that unique capabilities such as expertise in sustainable technologies can generate long-term competitive advantages that are difficult for competitors to imitate (Krara et al., 2025; Shahid & Reynaud, 2022).

Moreover, green innovation contributes to operational efficiency by reducing resource consumption, waste generation, and energy costs, which can directly improve profitability and growth. Previous studies have similarly highlighted the financial benefits of eco-innovation, indicating that sustainability-oriented entrepreneurs can leverage environmental responsibility as a source of value creation (Cheng, 2020; van Lieshout et al., 2021). The current findings extend this literature by demonstrating that green innovation is not only a mechanism for environmental

protection but also a strategic driver of measurable business growth in entrepreneurial contexts.

## 2. Stakeholder Engagement and Business Growth

Stakeholder engagement also emerged as a significant predictor of business growth, underscoring the importance of cultivating strong relationships with internal and external actors. By actively involving stakeholders in decision-making, firms can enhance legitimacy, build trust, and access critical resources and knowledge. These findings support stakeholder theory, which emphasizes that successful management of stakeholder relationships is essential for long-term organizational success (Cheng, 2020; Frare & Beuren, 2022).

In practice, engaging stakeholders can manifest through collaborative innovation with suppliers, customer feedback integration, partnerships with environmental organizations, and transparent communication with regulators. Such engagement helps firms anticipate regulatory changes, understand market demands, and co-create solutions that are both economically viable and socially responsible. This study adds to the body of evidence suggesting that stakeholder engagement is not merely a compliance activity but a strategic tool that can generate growth by enhancing innovation outcomes and market responsiveness (Zameer et al., 2024).

## 3. Synergistic Effects of Green Innovation and Stakeholder Engagement

An important contribution of this study is the demonstration of the complementary effects of green innovation and stakeholder engagement. Correlation and regression analyses indicated that both variables are independently significant and positively related to business growth. Beyond their individual effects, the interrelationship between these constructs suggests that firms integrating stakeholder input into their green innovation processes may achieve superior outcomes. Stakeholders provide valuable insights regarding market preferences, environmental risks, and social expectations, which can guide the development of innovative solutions that align with broader societal needs (Amankwah-Amoah et al., 2019).

This synergy is consistent with the concept of shared value, which argues that firms can simultaneously generate economic value and address social and environmental challenges (Kramer & Porter, 2011). In essence, stakeholder engagement enhances the effectiveness of green innovation, while innovation provides tangible means to meet stakeholder expectations. For entrepreneurial firms, which often operate with limited resources, leveraging this interaction is critical for creating sustainable growth pathways that balance financial performance with societal impact.

## 4. Implications for Sustainability-Oriented Entrepreneurship

The findings of this study have several implications for the theory and practice of sustainability-oriented entrepreneurship. First, they reinforce the idea that sustainability practices are strategic rather than peripheral. Entrepreneurs who integrate environmental innovation and actively engage stakeholders can achieve both ecological benefits and business growth, supporting the argument that "doing good" can align with "doing well." Second, the results highlight the importance of adopting a holistic approach: firms should not treat green innovation or stakeholder engagement in isolation but should integrate these practices into their overall business model to maximize value creation.

For policymakers and business support organizations, the results underscore the importance of providing incentives and frameworks that facilitate sustainability-

oriented practices. For instance, offering technical assistance, funding for green technologies, or platforms for stakeholder collaboration can enhance the capacity of entrepreneurial firms to implement sustainable innovations effectively. Similarly, training programs that build awareness of stakeholder management and eco-innovation can strengthen entrepreneurial competencies, particularly in small and medium-sized enterprises that face resource constraints.

### 5. Comparison with Previous Studies

The findings of this study are consistent with and extend prior research. Previous studies have demonstrated the positive relationship between green innovation and firm performance (Al Halbusi et al., 2025; Goodman et al., 2017; Urbinati et al., 2023), but few have examined this relationship within the context of entrepreneurship specifically. Similarly, the study corroborates earlier findings regarding the strategic importance of stakeholder engagement (Andersén, 2022), while highlighting its role in amplifying the impact of green innovation on business growth. By examining these constructs together, this research provides a more nuanced understanding of the mechanisms through which sustainability-oriented entrepreneurship drives growth.

### 6. Limitations and Future Research Directions

Despite its contributions, this study has limitations that suggest directions for future research. First, the cross-sectional design limits causal inference. Longitudinal studies would provide stronger evidence of how sustainability-oriented practices influence growth over time. Second, the study focused on SMEs and start-ups, which may limit generalizability to larger corporations or different cultural contexts. Future research could compare sustainability practices across industries, firm sizes, and geographical regions to identify contextual variations. Third, while the study examined green innovation and stakeholder engagement, other factors such as organizational culture, leadership, and market conditions may also influence business growth and warrant investigation.

Additionally, future studies could explore the mediating or moderating effects of green innovation and stakeholder engagement. For example, stakeholder engagement may mediate the relationship between green innovation and growth by enhancing market acceptance of eco-innovations. Conversely, the regulatory environment or industry competitiveness could moderate the effectiveness of sustainability-oriented practices. Incorporating such complex interactions would provide deeper insights into the strategic management of sustainability in entrepreneurial firms.

## CONCLUSION

This study demonstrates that sustainability-oriented entrepreneurship significantly contributes to business growth through the strategic implementation of green innovation and active stakeholder engagement. Green innovation enables firms to develop eco-friendly products and processes, reduce operational costs, and differentiate themselves in the marketplace, while stakeholder engagement strengthens legitimacy, facilitates collaboration, and enhances the effectiveness of sustainability initiatives. The findings highlight that these two factors work synergistically, suggesting that a holistic approach to sustainability is essential for entrepreneurial success. Overall, the study provides both theoretical and practical insights, reinforcing the notion that pursuing environmental and social responsibility is

not only ethically imperative but also strategically advantageous for fostering long-term growth in entrepreneurial ventures.

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