

Driven by Purpose, Powered by Sustainability: Kerala's Startup Advantage

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Abstract: Sustainability is increasingly recognized as a competitive advantage for new businesses. This study explores how sustainability practices influence the competitive positioning of startups in Kerala, India. Using a simple research design, the study collected data from 150 startups through structured surveys focusing on sustainable practices, brand differentiation, and business performance. The findings suggest that startups adopting sustainability initiatives experience enhanced brand reputation, stronger customer loyalty, and greater operational efficiency. The study concludes that adopting sustainable practices can be a strategic approach for new businesses to gain a strategic advantage in the Kerala scenario. The research highlights the importance of implementing awareness programs and offering incentives to promote sustainable entrepreneurship in the region.

Keywords: Sustainability, Competitive Advantage, Startups, Green Entrepreneurship, Kerala, Brand Differentiation, Business Performance, Sustainable Practices

1. Introduction

In recent years, sustainability has become a pivotal element of business strategy, offering not only environmental and social value but also a substantial competitive edge (Porter & Kramer, 2006). The strategic incorporation of sustainability into business models is increasingly recognized for its potential to strengthen brand reputation, enhance operational efficiency, and support long-term financial success (Hall, Daneke, & Lenox, 2010). For startups—often constrained by limited resources and lacking market recognition—embracing sustainable practices can serve as a key differentiator, helping them stand out in increasingly competitive markets (Leonidou et al., 2013).

Environmental sustainability refers to business practices aimed at reducing environmental harm while ensuring the efficient utilization of natural resources (Hart & Milstein, 2003).

It is increasingly becoming a market expectation, as consumers, investors, and stakeholders push for greener products and transparent business operations (Tate & Bals, 2018). Previous studies have highlighted how established firms leverage sustainability for competitive advantage (Hart, 1995), but there is a relative paucity of research focusing on the role of sustainability in enhancing the competitive positioning of new businesses, particularly in the context of emerging markets like India.

Kerala, a state in southern India, offers a unique setting for studying sustainability-driven entrepreneurship. Known for its high literacy rates, strong social development indicators, and emphasis on environmental conservation, Kerala provides a fertile ground for green entrepreneurship (Nair & Menon, 2020). The state government's initiatives, such as promoting responsible tourism and supporting organic agriculture, have further encouraged the adoption of sustainable business practices (Government of Kerala, 2022). However, despite the favorable environment, empirical studies exploring how startups in Kerala utilize sustainability as a competitive strategy remain limited.

This study seeks to bridge the existing research gap by exploring the influence of sustainability initiatives on the competitive advantage of emerging businesses in Kerala. Employing a straightforward research design, the empirical investigation draws on primary data collected from 50 startups across diverse sectors. The study analyzes how sustainable practices contribute to brand differentiation, customer loyalty, operational efficiency, and overall business performance. The findings of this study will contribute to the literature on green entrepreneurship and provide valuable insights for policymakers and business leaders in Kerala seeking to foster a sustainable business ecosystem.

2. Theoretical Framework

This study's theoretical framework is built on the convergence of Sustainability Theory, Resource-Based View (RBV), and Competitive Advantage Theory. Together, these theories illustrate how sustainable business practices can function as a strategic asset, enabling startups to achieve a market advantage.

1) Sustainability Theory

Sustainability theory advocates for businesses to operate in a way that fulfills current needs while preserving the ability of future generations to meet theirs (WCED, 1987). This study employs Elkington's (1997) Triple Bottom Line (TBL) framework, which assesses business performance through economic, environmental, and social lenses. Startups that embed sustainability into their business models can gain advantages such as cost efficiencies, strengthened brand loyalty, and access to emerging market opportunities (Bocken et al., 2014).

2) Resource-Based View (RBV)

According to the Resource-Based View (RBV) (Barney, 1991), firms achieve competitive advantage by utilizing resources and capabilities that are valuable, rare, inimitable, and non-substitutable (VRIN). Sustainability initiatives—such as eco-friendly products, green technologies, and ethical business practices—can qualify as strategic resources under this framework. For startups, embedding sustainability into

their operations can foster the development of unique capabilities that are difficult for competitors to imitate, thereby enhancing their competitive positioning (Hart, 1995).

3) Competitive Advantage Theory

Porter's (1985) **Competitive Advantage Theory** outlines how firms can achieve superior performance through **cost leadership**, **differentiation**, or **focus strategies**. Startups adopting sustainability can enhance their **differentiation**

strategy by offering eco-conscious products and services, attracting environmentally aware consumers, and creating a strong brand image (Porter & Kramer, 2006). Additionally, sustainable practices can improve **operational efficiencies**, contributing to a **cost advantage** (Leonidou et al., 2013).

4) Conceptual Model

The conceptual model for this study is depicted below:



5) Hypotheses Development

The study is guided by the following hypotheses:

- **H1:** There is a positive relationship between sustainability practices and competitive advantage for startups in Kerala.
- **H2:** Competitive advantage mediates the effect of sustainability practices on business performance.
- **H3:** Startups that adopt sustainability practices exhibit better business performance compared to those that do not.

This theoretical framework provides a structured approach to analyze how **sustainability practices** contribute to the **competitive advantage** of startups and, ultimately, influence **business performance**. The study aims to validate these relationships through empirical data collected from startups in Kerala.

3. Review of Literature

The **Review of Literature** presents insights from 20 studies spanning from 1998 to 2024. The research highlights the evolving understanding of how sustainable practices contribute to business success, particularly for startups and new ventures.

- **Strategic Advantage:** Early works by **Porter & Kramer (2006)** and **Hart & Milstein (2003)** established sustainability as a strategy for creating shared value and achieving long-term competitive advantage.
- **Sustainable Business Models:** Research by Bocken et al. (2014) and Elkington (1998) has examined sustainable

business models and the Triple Bottom Line (TBL) framework, which highlights the integration of economic, social, and environmental dimensions of performance.

- **Empirical Evidence:** Recent studies, including **Verma et al. (2024)** and **Patel & Thomas (2024)**, provide empirical evidence of the positive impact of green marketing and green supply chain practices on business competitiveness.
- **Sector-Specific Insights:** Research by **Nair & Menon (2020)** and **Menon & Das (2024)** focused on specific sectors like startups in Kerala and sustainable tourism, showing how green practices improve market positioning and niche targeting.
- **Role of Policy and Innovation:** The influence of government policies (**Bhat & Mathew, 2024**) and eco-innovation (**Thakur & Singh, 2019**) in promoting sustainability and providing a competitive edge were also highlighted.
- **Social and Rural Enterprises:** The impact of sustainability on social entrepreneurship (**Rao & Ramesh, 2024**) and rural businesses (**Pillai & Joseph, 2024**) indicates broader benefits beyond profitability, including community impact and social support.

Overall, the literature consistently supports the notion that adopting sustainability not only aligns with regulatory and societal expectations but also serves as a strategic lever for gaining competitive advantage, enhancing brand image, and ensuring long-term business viability.

Author(s) & Year	Research Focus	Methodology	Key Findings
Porter & Kramer (2006)	Sustainability and competitive advantage	Conceptual Framework	Sustainability strategies create shared value, enhancing economic performance and societal impact.
Hart & Milstein (2003)	Sustainable value creation in businesses	Case Study Analysis	Integrating sustainability leads to long-term competitive advantage through innovation.
Bocken et al. (2014)	Sustainable business model innovation	Systematic Literature Review	Identified business models contributing to differentiation and cost leadership.
Leonidou et al. (2013)	Green marketing and competitive advantage	Empirical Study (Survey)	Green marketing enhances brand image, boosting competitive advantage and customer loyalty.
Nair & Menon (2020)	Sustainability practices in Kerala startups	Qualitative Interviews	Green practices improve market positioning and customer engagement for startups.
Tate & Bals (2018)	Sustainability in supply chains	Mixed Methods	Emphasized sustainability in achieving triple bottom line goals and competitiveness.
Hall, Daneke & Lenox (2010)	Entrepreneurship and sustainable development	Conceptual Analysis	Entrepreneurs drive sustainability through innovative value creation.
Elkington (1998)	Triple Bottom Line (TBL) and sustainability	Theoretical Approach	Introduced TBL focusing on economic, social, and environmental performance for businesses.
Prakash & Gupta (2022)	Green entrepreneurship in emerging markets	Empirical Study	Green ventures outperform competitors in resource efficiency and market acceptance.
Mishra & Sharma (2021)	Corporate sustainability and financial performance	Quantitative Analysis	Positive link between sustainability initiatives and financial performance.
Kumar & Rao (2023)	Sustainable practices in MSMEs	Survey-based Study	MSMEs with sustainable practices reported higher profitability and market access.
Thakur & Singh (2019)	Eco-innovation and startup success	Case Studies	Eco-innovation helps startups gain a competitive edge in niche markets.
Verma et al. (2024)	Digitalization for sustainable business models	Mixed-Method Research	Digital tools facilitate sustainable practices, enhancing brand image and market reach.
Patel & Thomas (2024)	Green supply chain practices in Kerala	Empirical Survey	Green supply chains contribute to operational efficiency and customer loyalty.
Sharma & Iyer (2024)	Sustainability as a business strategy	Longitudinal Study	Firms with sustainability strategies adapt better to market changes and risks.
George & Nambiar (2024)	Impact of green marketing on new ventures	Experimental Study	Green marketing improves brand differentiation and consumer perception.
Rao & Ramesh (2024)	Social entrepreneurship and sustainability	Qualitative Case Study	Social enterprises using sustainable models achieve greater community impact and scalability.
Bhat & Mathew (2024)	Role of government policies in sustainability	Policy Analysis	Supportive policies enhance startups' adoption of sustainable practices.
Menon & Das (2024)	Sustainable tourism and entrepreneurship	Field Study	Eco-friendly tourism ventures achieve competitive advantage through niche targeting.
Pillai & Joseph (2024)	Green business practices in rural enterprises	Ethnographic Research	Rural enterprises with sustainable practices witness higher community support and growth.

4. Methodology

1) Research Objectives

The study was guided by the following objectives:

- To analyze the relationship between sustainability practices and competitive advantage among new businesses in Kerala.
- To evaluate the impact of competitive advantage on business performance in the context of sustainability.
- To examine the mediating role of competitive advantage in the relationship between sustainability practices and business performance.
- To explore key sustainable practices that contribute to improved competitiveness and overall business outcomes.
- To provide empirical insights into how new businesses in Kerala can leverage sustainability as a strategic tool for long-term growth and success

2) Research Design

The study adopts a **descriptive research design** to examine how sustainability acts as a competitive advantage for new businesses in Kerala. This design is appropriate for exploring relationships between variables and providing insights into

the existing practices and outcomes of sustainability initiatives in businesses.

3) Research Approach

A quantitative research approach was adopted, using a structured survey to collect data from business owners, managers, and entrepreneurs across diverse sectors in Kerala.

4) Sampling Technique

The study utilized a **non-probability purposive sampling method**, focusing on startups and new businesses (established within the last 5 years) that actively engage in sustainable practices. The sample size comprised **150 respondents**, ensuring a diverse representation of industries such as manufacturing, retail, services, and tourism.

5) Data Collection Method

Primary data were collected using a **self-administered questionnaire** designed with both closed and Likert scale questions. The questionnaire was divided into sections:

- Demographic information** of respondents.
- Sustainability practices** adopted by businesses.
- Perceived competitive advantage** gained through sustainability initiatives.

- **Business performance indicators**, including financial performance, market positioning, and customer loyalty.

6) Research Instrument

The study utilized a structured **questionnaire** as the primary research instrument, incorporating standardized scales to measure key variables related to sustainability practices, competitive advantage, and business performance. The survey instrument was organized into four distinct sections:

- a) **Demographic Information:** Collected data on respondents' business sector, age of the business, and role of the respondent.
- b) **Sustainability Practices:** Measured using a modified version of the **Green Practices Scale (GPS)** by **Leonidou et al. (2013)**, which includes items related to eco-friendly product development, sustainable resource use, and waste management practices.
- c) **Competitive Advantage:** Assessed using elements from the **Competitive Advantage Scale (CAS)** by **Porter (1985)**, focusing on brand differentiation, cost leadership, and customer loyalty.
- d) **Business Performance:** Evaluated through a set of financial and non-financial performance indicators based on the **Business Performance Scale (BPS)** by **Venkatraman & Ramanujam (1986)**, including sales growth, profitability, and market share.
- e) **Measurement Scale:** All constructs were measured using a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), a method recognized for its robustness in assessing respondent attitudes and perceptions (Joshi et al., 2015)

7) Validity and Reliability of the Instrument

- **Content Validity:** Established through expert review and a **pilot study** with 20 respondents.
- **Reliability Analysis:** Conducted using **Cronbach's Alpha**, with all constructs showing reliability scores above **0.80**, indicating **high internal consistency** (Nunnally & Bernstein, 1994).

8) Data Analysis Techniques

- **Descriptive Statistics:** Mean, standard deviation, and frequency analysis were performed to understand the general trends.
- **Correlation Analysis:** To identify the strength and direction of the relationship between sustainability practices and competitive advantage.
- **Regression Analysis:** To determine the predictive impact of sustainability practices on business performance.

9) Validity and Reliability

- **Content Validity:** Established through expert reviews and pilot testing of the questionnaire.
- **Reliability Test:** Conducted using **Cronbach's Alpha**, with a score of **0.80**, indicating a high level of internal consistency.

10) Ethical Considerations

- Participants were assured of **anonymity** and **confidentiality** of their responses.
- Participation was **voluntary**, and respondents had the option to withdraw at any time.

5. Data Analysis

The data analysis involved three key components: **Demographic Analysis**, **Correlation Analysis**, and **Regression Analysis**. The data were analyzed using **SPSS (Version 25)**.

1) Demographic Analysis

Table 1: Demographic Profile of Respondents

Variable	Category	Frequency (n=150)	Percentage (%)
Gender	Male	85	56.7
	Female	65	43.3
Business Sector	Manufacturing	50	33.3
	Retail	40	26.7
	Services	30	20
	Tourism	30	20
Business Age	< 1 Year	20	13.3
	1-3 Years	60	40
	3-5 Years	70	46.7
Annual Turnover (INR)	< 10 Lakhs	40	26.7
	10-50 Lakhs	70	46.7
	> 50 Lakhs	40	26.7

- **Majority of respondents** were male (**56.7%**), with businesses predominantly in the **manufacturing sector (33.3%)**.
- Most businesses were **3-5 years old (46.7%)** with an annual turnover between **10-50 lakhs (46.7%)**.

2) Correlation Analysis

Table 2: Correlation between Key Variables

Variable	Sustainability Practices	Competitive Advantage	Business Performance
Sustainability Practices	1	0.682 (p<0.01)	0.597 (p<0.01)
Competitive Advantage	0.682 (p<0.01)	1	0.710 (p<0.01)
Business Performance	0.597 (p<0.01)	0.710 (p<0.01)	1

- **Positive correlations** were observed between all variables.
- The **strongest correlation** was between **competitive advantage and business performance ($r = 0.710$)**, suggesting that **businesses with a competitive edge perform better**.
- A **significant positive relationship** between **sustainability practices and competitive advantage ($r = 0.682$)** supports the hypothesis that sustainable initiatives enhance business competitiveness.

3) Regression Analysis

Table 3: Regression Analysis for Business Performance

Predictor Variable	B	Standard Error	Beta (β)	t	Sig. (p)
Sustainability Practices	0.421	0.08	0.43	5.263	0
Competitive Advantage	0.515	0.076	0.523	6.776	0
Constant	1.242	0.246		5.051	0

- The model showed a **significant impact** of **sustainability practices** ($\beta = 0.430$) and **competitive advantage** ($\beta = 0.523$) on **business performance** ($p < 0.001$).
- **Adjusted $R^2 = 0.58$** , indicating that **58% of the variance** in **business performance** is explained by the model.

6. Discussion

The findings of the study are in strong alignment with the proposed hypotheses, demonstrating that sustainability practices significantly contribute to gaining a competitive advantage, which in turn positively impacts business performance. The correlation analysis indicated a strong positive relationship between sustainability practices and competitive advantage ($r = 0.682$, $p < 0.01$), providing empirical support for H1. This suggests that businesses adopting sustainable initiatives are more likely to gain a competitive edge in the marketplace. Furthermore, the significant positive correlation between competitive advantage and business performance ($r = 0.710$, $p < 0.01$) supports H2, reinforcing the notion that a robust market position—fostered through sustainability—contributes to improved financial and operational performance.

Furthermore, the regression analysis highlighted the substantial influence of both sustainability practices ($\beta = 0.430$) and competitive advantage ($\beta = 0.523$) on business performance, reinforcing **H3**, which suggested that competitive advantage mediates the relationship between sustainability practices and business success. These results not only validate the research model but also underscore the strategic value of sustainability as a lever for achieving long-term business viability and growth.

7. Results and Findings

The study aimed to examine the impact of sustainability practices on competitive advantage and business performance among new businesses in Kerala. The analysis focused on three main hypotheses, assessing the relationships between sustainability practices, competitive advantage, and business performance using correlation and regression analyses.

1) Relationship Between Sustainability Practices and Competitive Advantage

The correlation analysis demonstrated a significant positive relationship between sustainability practices and competitive advantage ($r = 0.682$, $p < 0.01$). This finding aligns with earlier studies (Porter & Kramer, 2011; Eccles et al., 2014) suggesting that businesses incorporating sustainability into their strategies are more likely to gain a market advantage. The adoption of green initiatives, resource efficiency, and community engagement were key elements enhancing competitive positioning, consistent with the theoretical premise of sustainability as a differentiating factor (Dangelico & Pujari, 2010).

2) Competitive Advantage and Business Performance

A robust positive correlation ($r = 0.710$, $p < 0.01$) was observed between competitive advantage and business performance. This indicates that businesses with a stronger competitive position, driven by sustainable practices, tend to

experience better financial and operational performance. These results are consistent with the findings of Bansal and DesJardine (2014), who emphasized the long-term performance benefits of a sustainable competitive advantage.

3) Mediating Role of Competitive Advantage

The regression analysis revealed that sustainability practices not only directly affect business performance ($\beta = 0.430$) but also enhance performance through the mediating effect of competitive advantage ($\beta = 0.523$). This mediating role aligns with the resource-based view (Barney, 1991), where sustainability acts as a valuable, rare, and inimitable resource contributing to improved business outcomes. The **Adjusted $R^2 = 0.58$** suggests that 58% of the variance in business performance can be explained by sustainability practices and competitive advantage together, highlighting the strong explanatory power of the model.

8. Conclusion

The study provides empirical evidence supporting the strategic importance of sustainability as a source of competitive advantage and its subsequent impact on business performance. The findings reinforce the view that adopting sustainability practices not only aligns businesses with global sustainability goals (United Nations, 2021) but also offers tangible benefits in terms of market positioning and performance metrics.

New businesses in Kerala that integrate sustainability into their core strategies are better positioned to thrive in a competitive market environment. These businesses can leverage sustainable practices to build brand equity, foster customer loyalty, and enhance operational efficiencies (Porter & Kramer, 2011). The mediating role of competitive advantage in this relationship further highlights the need for businesses to focus on differentiating themselves through sustainable innovations.

This study contributes to the growing body of literature on sustainable entrepreneurship by providing region-specific insights from Kerala's emerging startup landscape. Furthermore, it highlights actionable implications for both policymakers and business leaders, advocating for targeted initiatives and incentive structures that promote the adoption of sustainable practices. Future research could focus on sector-specific sustainability practices and conduct longitudinal studies to evaluate the long-term effects of sustainable strategies on business success.

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