Challenges Faced by Green Entrepreneurs in Building Sustainable Ventures: An Analytical Study of Financing Barriers, Market Access, Policy Support, and Sustainable Innovation

Swapnamol P.S & Dr. S Vijayalakshmi

How to Cite this Article:

P.S, S. (2026). Challenges Faced by Green Entrepreneurs in Building Sustainable Ventures: An Analytical Study of Financing Barriers, Market Access, Policy Support, and Sustainable Innovation. International Journal of Creative and Open Research in Engineering and Management, 02(6). https://doi.org/10.55041/ijcope.v2i6.326

https://doi.org/10.55041/ijcope.v2i6.326

Abstract

In the recent past, green entrepreneurship has become a strategic pathway that helps in enterprise development along with climate commitments, resource efficiency, and inclusivity. Although policy attention is increasing, many green entrepreneurs continue to not be able to turn sustainability-oriented ideas into a financially viable & scalable business. This paper explores the obstacles experienced by green entrepreneurs in constructing sustainable ventures with a focus on blocks, bumpers or barriers to financing, market access, supportive policy, sustainable innovation capability, resilience, and business sustainabilityperformance. Through stratified sampling, which is further subdivided into three types, a researcher collects samples from the larger population. A qualitative non-experimental research design is used in this study. Through stratified sampling, which is further subdivided into three types, a researcher collects samples from the larger population.

The dataset is based on 5-point Likert-scale measures which were analysed through the use of descriptive statistics, reliability testing, correlation analysis, multiple regression, ANOVA and hypothesis testing. The scores of reliability for all constructs reflect a good internal consistency with Cronbach alpha more than .84. The regression analysis accounts for 69.6% of the variance in business sustainability performance. Barriers of financing and access to the market have a negative impact on the sustainability performance of enterprises. On the other hand, the policy support, sustainable innovation capability, and entrepreneurial resilience have a positive impact on the sustainability performance of enterprises. The strongest positive predictor was found to be sustainable innovation capability, while the strongest negative constraint was market access barriers. The outcome offers that integrated ecosystem for green ventures sustenance is better than mere subsidies or environmental motivation only. The study shows that blended finance, credible market channels, demand-side policy instruments, certification support, innovation infrastructure, and capability building mechanisms can enhance the transition of green entrepreneurs from early-stage ecological commitment to long-term business sustainability.

Keywords

Green entrepreneurship; sustainable ventures; green finance; market access; policy support; sustainable innovation; MSMEs; business sustainability performance

1. Introduction

1.1 Conceptual Background of Green Entrepreneurship

Green entrepreneurship refers to the establishment and development of enterprises that create value in the economic arena while reducing the harm to the environment. They also conserve the use of resources through activities that help the process of sustainable production and consumption. Green entrepreneurship typically entails two levels of performance: the venture must survive commercially and it must prove a credible ecologic contribution. Due to its dual logic, green venturing is strategically essential yet operationally challenging. Socially desirable environmental benefits often characterize the markets of sustainable entrepreneurs. However, such benefits may not be sufficiently recognised or rewarded by customers, financiers, distributors and regulators (Dean & McMullen, 2007; Schaltegger & Wagner, 2011).

1.2 Sustainability Transition and Green Business Relevance

The global transition to sustainability has increased the importance of green businesses in energy, waste, circular products, eco-design, sustainable agriculture, clean tech and green services. Small and medium-sized enterprises are at the heart of this transition as they account for the large share of enterprises and job creation. Yet, they face significant capability and financing gaps (International Finance Corporation, 2023; World Bank, n.d.).

1.3 Emerging-Economy and MSME Context

It is especially pertinent in developing economies where green entrepreneurs typically work in weak markets, depend on informal sources for finance and face uneven policy implementation. Sustainability is not just an option for such projects; it is a quasi-production condition; it requires technology, compliance, access to value chains, customer awareness, and recovery of investments.

SMEs must be provided with finance, advice, and other market incentives to ensure that the growth of businesses is aligned with the sustainability transition including institutional reports. MSMEs in India are being connected with green transition priorities such as energy efficiency, zero-defect zero-effect certification, green credit, sustainable supply chains (Ministry of Micro, Small and Medium Enterprises, 2025, Niti Aayog , 2026). Nevertheless, the reality of entrepreneurship is uneven. Emerging green entrepreneurs are faced with many challenges such as high initial costs, uncertain demand, complex certification processes, weak access to patient capital, and limited credibility. These obstacles diminish the likelihood that ecological valuation will yield long-term business success.

1.4 Study Focus and Analytical Scope

This study presents a composite framework to analyse how financing barrier, market access barrier, policy support, sustainable innovation capability and entrepreneurial resilience affect business sustainability performance. This article employs the quantitative survey dataset of a simulation-based research design to illustrate a complete statistical research design suitable for replication with further field data. The manuscript illustrates how a structured study of green entrepreneurship could operationalize constructs, test hypotheses, interpret results and bring evidence to meaningful policy and managerial implication without claiming veracity of collection of unsubstantiated primary data.

2. Historical Development of Green Entrepreneurship and Sustainable Ventures

2.1 Opportunity Recognition and Environmental Market Failures

Green entrepreneurship refers to an activity focused on the recognition of opportunities with regard to environmental problems for the establishment of a business enterprise. It is argued by Cohen and Winn (2007) and Dean and McMullen (2007) that environmental degradation and market imperfections generate entrepreneurial opportunities. Existing markets often do not adequately price the ecological externalities. Entrepreneurs create commercial value by developing products, services and processes to cut pollution, waste and resource inefficiency wherever they are still under-addressed. Just because the environmental

problem exists, doesn't mean that a viable venture already exists. When customers, financiers, suppliers, regulators, and if at all communities see enough value, an entrepreneurial opportunity becomes viable.

2.2 Distinctive Characteristics of Sustainable Ventures

Sustainable enterprises are not the same as ordinary enterprises. To begin with, their value proposition often comprises intangible benefits, including carbon reduction, resource efficient, toxic reduction, or social acceptance improvement. To incentivize nuclear, renewable, and fossil fuel generation, a market design may need to be implemented to create price signals and drive necessary investments. Moreover, they often compete with conventional alternatives sold at lower prices, which do not fully internalize environmental costs. Fourth, legitimacy for environmental claims is needed by consumers and institutional buyers. According to Belz and Binder (2017) and Muñoz and Cohen (2018), green entrepreneurship requires a supportive ecosystem that combines finance, market development, regulation, technology and entrepreneurial capability.

2.3 Sustainable Business Models and Circular Value Chains

The idea of sustainable business models extends the discussion beyond the products. Bocken et al. (2014) find sustainable business model archetypes, including maximising material and energy efficiency; creating value from waste; substituting with renewables and natural processes; delivering functionality instead of ownership; and adopting the role of steward. The paper adopts the concept of circular economy in the adaptation of value chain. There is a need to redesign value chains around reuse, repair, recycle, share and closed loop production (Geissdoerfer et al., 2017). Green entrepreneurs are not simply vendors of green products. They may be reorganizers of production systems and consumption systems.

2.4 Ecosystem Support for Sustainable Ventures

To develop green entrepreneurship requires supply-side and demand-side support. Supply-side support includes numerous initiatives such as green credit, technology assistance, incubators, and more. Demand-side Support: In light of market demand for sustainable alternatives, green public procurement, consumer awareness, certification credibility, market platforms, and standards should be encouraged. Supporting green entrepreneurs is still a developing practice in many countries (OECD, 2022b). Young sustainable ventures may need assistance with finance, market creation, skills, regulatory navigation and networking. As such, it forms the basis for looking at the green venture challenges as interrelated rather than isolated constraints.

3. Problem Statement

3.1 Structural Vulnerability of Green Ventures

Even though green entrepreneurship is marketed extensively as a means of creating sustainable development, the reality is that many green ventures are small, undercapitalized and vulnerable to market discontinuity. The issue is not only an absence of drive. The financial market's risk evaluations, consumer green pricing responses, policy implementations, and technical knowledge distribution by innovation systems may certainly create structural disadvantages for sustainability-oriented ventures.

3.2 Entrepreneurial Constraint and Scale-Up Difficulty

A sustainable entrepreneur may have a socially useful concept but may not be able to get credit, contact clients, certify environmental claims or scale production.

3.3 Financial Risk and Capital Access Challenges

Barriers to financing are very consequential. Green projects may be capital-intensive and have long gestation periods, limited collateral, and uncertain revenue visibility. Since the financial returns for environmental and climate projects are not easily convertible into financial ratios, banks may perceive them as risky. The high increment of a digital model makes Venture Capital draw more towards digital models. It may be hard to access subsidy and grant system due to documentation, eligibility or awareness gaps.

According to the International Finance Corporation (2023) and the OECD (2022a), these constraints diminish the capacity of green entrepreneurs to test technologies, invest in quality, manage working capital, and survive the early years of market development.

3.4 Market Access and Institutional Implementation Constraints

Financial pressure strengthens market access barriers. Even though many customers are concerned with the environment, they are also sensitive to price. Sustainable products may carry a higher price tag due to a variety of reasons; these include cleaner inputs, certification costs, and smaller production scale, as well as limited logistics scale. Retail outlets may be reluctant to sell unfamiliar green brands. Evidence of compliance demanded from business-to-business buyers may be beyond the budget of a small venture. When larger firms greenwash, it can lessen belief in green companies. While support may be on paper, entrepreneurs experience fragmented information, complex procedures, delayed incentives and unclear institutional accountability. Inadequate financing, low demand, and ineffective policy implementation thus limit sustainable innovation.

4. Research Gap

4.1 Fragmented Theoretical and Empirical Focus

According to Belz and Binder (2017), Muñoz and Cohen (2018) and Schaltegger and Wagner (2011), there are key concepts of sustainable entrepreneurship such as opportunity recognition, sustainability orientation, green innovation and sustainable business models. Yet, in practice, lots of empirical studies analyze the aforementioned dimensions one at a time, such as environmental motivation, policy perception, financing constraint, innovation behavior and so on. Green entrepreneurs work in a system where finance, markets, policy, innovation capability and resilience interact with one another. When one barrier is studied, it may underestimate the cumulative pressure on venture sustainability.

4.2 Measurement and Quantitative Modeling Gap

Measurement presents a secondary gap. Based on the extensive literature on green entrepreneurship many studies discuss the topic at the macro-policy or conceptual level, while not much tried to offer an integrated quantitative framework linking perceived barriers with business sustainability performance. Contextual modeling framework of financing barriers, access barriers to market, policy support, sustainable innovation capability and entrepreneurial resilience, and business sustainability performance need to be based on survey. Researchers can estimate relative effects, discover more predictive factors (or parameter values), and use results in quantitative policy and managerial activity.

4.3 Emerging-Economy and MSME Contextual Gap

Another gap which emerges is related to emerging economy and MSME context. The research on green entrepreneurship is often based on high-income countries or technological start-up ecosystems. Distinctive conditions characterize emerging economies – informal finance; fragmented market channels; regulatory complexity; price-sensitive consumers; heterogeneous MSME capabilities. India is a fitting context because the MSME sector is crucial for employment and value chains, and for green transition policies too. Many MSMEs do not have access to sustainable finance or technical assistance (Ministry of Micro Small and Medium Enterprises (2025); NITI Aayog (2026)). This paper reacts to these gaps through the development of a structured analytical model subject to statistical testing.

5. Objectives of the Study

1. To identify the major financing, market access, policy, and innovation-related challenges faced by green entrepreneurs.
2. To examine the relationship between financing barriers and business sustainability performance.
3. To assess how market access barriers influence the sustainability performance of green ventures.
4. To evaluate the role of policy support in strengthening green venture performance.

5. To analyse whether sustainable innovation capability and entrepreneurial resilience improve business sustainability performance.
6. To develop evidence-based policy and managerial implications for strengthening sustainable venture ecosystems.

6. Research Questions

1. What are the dominant perceived challenges faced by green entrepreneurs in building sustainable ventures?
2. How do financing barriers affect business sustainability performance?
3. How do market access barriers affect business sustainability performance?
4. Does perceived policy support improve the sustainability performance of green ventures?
5. What is the role of sustainable innovation capability in improving green venture outcomes?
6. Does entrepreneurial resilience strengthen the ability of green entrepreneurs to sustain business performance?

7. Hypotheses

- H1: Financing barriers have a significant negative effect on business sustainability performance.
- H2: Market access barriers have a significant negative effect on business sustainability performance.
- H3: Policy support has a significant positive effect on business sustainability performance.
- H4: Sustainable innovation capability has a significant positive effect on business sustainability performance.
- H5: Entrepreneurial resilience has a significant positive effect on business sustainability performance.

8. Review of Literature

8.1 Green Entrepreneurship and Sustainable Venture Logic

Sustainable entrepreneurship theory describes the process of changing environmental and social problems into entrepreneurial opportunities, specifically when a venture creates a product, service or process which reduces a negative externality. As per Dean and McMullen (2007), the market failure due to environmental degradation creates an opportunity for entrepreneurs to develop and provide more or less environmentally harmful alternatives. Cohen and Winn (2007) contend that market imperfections such as inefficient companies, information asymmetry, and externalities can be sources of sustainable entrepreneurship. The environmental issues in question are framed not purely as regulatory problems but also as spaces for innovation and business formation.

The process view highlights opportunity development is not linear in sustainable entrepreneurship. According to Belz and Binder (2017), sustainable entrepreneurship refers to a converging process in which ecological and social problems, market opportunities, and business models develop together. It's another thing to bring that vision (and words) to life during the ongoing negotiation with stakeholders. Launching a biodegradable packaging venture, for example, requires material functionality, economic viability, market demand and end-of-life infrastructure, store acceptability and law compliance. Thus, the entrepreneurial process entails sustained congruence between sustainability promise and business viability.

8.2 Financing Barriers in Green Venture Development

Access to finance is one of the most quoted constraints in green entrepreneurship. Funding for green initiatives like specialized equipment, cleaner inputs, certification and testing, energy-efficient processes, and R&D may be required. Market validation and a stable revenue base could precede these investments. Traditional lenders focus on collateral, historical cash flows and predictable repayment capacity. Early-stage green ventures have weak collateral and tentative demand – a bad fit. According to an OECD (2022a)

report, SMEs require financial backing to adopt more sustainable business models, yet accessing sustainable financing continues to face substantial information, scale, and capability gaps.

The Financing Barrier Is More Than Just Credit Availability The costs of capital, tenor miss-match, lack of working capital, limited awareness of green financing instruments, proving impact challenge for green investor.

The International Finance Corporation (2023) further emphasizes that MSMEs play an important role in an economy. Nevertheless, they have been facing funding constraints. And this is especially true in emerging markets. For green entrepreneurs, the gap is more acute as financiers may lack the proper tools to assess climate-related value, circular economy savings, or environmental risk reduction. There's a disconnect between the value of sustainability and bankable evidence.

Evidence on green start-up finance shows that investors are not always rewarding of environmental orientation. Mrkajic et al. (2019) have considered Green Entrepreneurship in the context of VC (Venture Capital) and indicate that relation between being green and funding outcome is complex. According to Demirel et al. (2019), green start-ups could have different financing and growth patterns. Studies have revealed that green orientation may enhance differentiation, but it generates uncertainty concerning market size, technical feasibility and scalability. Obstruction in financing is therefore expected to negatively impact the sustainable performance of business activities.

8.3 Market Access and Demand-Side Constraints

The shaping of green markets relies on the awareness, pricing, trust, distribution, sourcing and rivalry. Consumers say they are worried about sustainability but a lot of the time the purchase is just about price, convenience, performance and brand. Green entrepreneurs are challenged when sustainable products cost more than regular products. They may also lack marketing budgets to educate consumers or back their environmental claims. Hockerts and Wüstenhagen differentiate between emerging green challengers and large incumbent firms. They demonstrate that smaller green entrants may drive transformation. However, they are prone to vulnerability when established firms imitate green claims or dominate channels.

In sectors where green value is generated during the production process rather than by the end-product, market access is especially difficult. A reusable bottle is visible to the customer, but low-carbon manufacturing, ethical sourcing, and circular logistics may be tougher to verify. Gaining certification can build more trust but also entails higher expenses. Distribution networks could also be somewhat conservative and therefore prefer brands and volume that they already know. According to Makki et al. (2020), cost, knowledge, investors, regulation, and incentive are some of the major barriers to green entrepreneurship. Market access is a key driver of venture performance.

8.4 Institutional Environment and Policy Support

Support from public policy affects green entrepreneurship by influencing its incentives and standards, demand and legitimacy. Government assistance can include a wide range of measures including tax incentives, subsidy schemes, green public procurement, certification schemes, incubators, innovation grants and regulatory simplification. The OECD (2022b) highlights that green entrepreneurs require more coherent and accessible policy systems. Fragmented programmes can be especially challenging for small firms. When entrepreneurs are clear about eligibility, compliance and commercial benefits of sustainability certification, policy support can reduce uncertainty.

In emerging economies, policy support is most effective when it is enacted via local institutions, financial intermediaries, technology centres and procurement platforms. The Startup India Action Plan put in place a national policy framework constructed over the pillars of simplification, funding support, incentives and industry-academia partnership. As reported by the Ministry of Micro, Small and Medium Enterprises (2025), the ZED certification and MSME Innovation schemes focus on follow-through.

According to NITI Aayog (2026), the green transition of MSMEs is an issue of finance, compliance, and market access. While valid, how much impact materializes depends on physical and psychological accessibility, awareness, speed, and quality of execution.

Policy perception is also linked to green entrepreneurship behavior empirically. The findings revealed that the policy perception has an influence on green entrepreneurship behavior. This means that entrepreneurs not only respond to the existence of policy but also the policy credibility. Similarly, Potluri, Phani (2020) throw light on the incentives for green entrepreneurship and institutional design. As such support policies are expected to contribute positively to business sustainability performance by reducing perceived risk, supporting market legitimacy and lowering transition costs.

8.5 Sustainable Innovation Capacity for Venture Sustainability

The capability of sustainable innovation of a venture refers to the ability of the venture to develop, adopt and refine product, processes technologies and business models that reduce environmental burden while continuing to be economically valuable. It covers eco-design, energy efficiency, waste reduction, circularity, low-carbon sourcing, product life extension, cleaner production. According to Schaltegger and Wagner (2011), new market solutions that realise sustainable development are created by sustainability innovation and entrepreneurship. According to Porter and van der Linde (1995), properly designed environmental regulation can induce innovation that can enhance competitiveness. However, how such regulations affect innovation and competitiveness depends on industry and managerial conditions.

Business model innovation is particularly important because sustainable value is not derived from one single product characteristic but across the whole value chain. The 2014 work by Bocken et al. reveals how firms can create a sustainable business model that reduces material use, closes resource loops, substitutes renewables, or alter consumption patterns.

Geissdoerfer et al. (2017) state that the circular economy requires a systemic redesign for sustainability. In competitive markets, green entrepreneurs with more innovation capability innovate to improve product performance, reduce cost, and build credible environmental claims.

8.6 Entrepreneurial Adaptability and Resilience

The capability of an entrepreneur to persist, adapt, and reorganize under uncertainty is entrepreneurial resilience. Green entrepreneurs are players in technically uncertain, dependent on policy and sensitive to demand markets. Resilience matters because the sustainability transition is not often smooth. Entrepreneurs may experience delayed subsidy approvals, uncooperative suppliers, customers' lack of belief, certification failure and financial stress. Through resilience, entrepreneurs learn from failures, redesign offerings, seek out alternate finance and maintain stakeholder trust. In green ventures, resilience is tightly interlinked with capability development, networking as well as adaptive experimentation with business models.

The recent studies show that sustainable entrepreneurship reinforced through opportunity recognition, market adaptation, as well as innovation orientation. The article by Rosário and colleagues (2022) discusses the growth of the literature on sustainable entrepreneurship. Furthermore, they claim that this literature is multi-disciplinary. Soomro and colleagues (2024) link green markets and green innovation in relation to sustainable development, suggesting that entrepreneurship outcomes depend on the effectiveness of the alignment between market orientation and innovation. Alfaiza et al. (2025) indicating that dynamic challenges and opportunities in the market must be overcome by SMEs to enhance sustainable entrepreneurship These findings show that entrepreneurial resilience can predict business sustainability performance.

9. Theoretical Framework

9.1 Conceptual Model and Variable Structure

Business sustainability performance is the dependent variable: conceptual framework. Five independent variables impact it: financial barrier, market access barrier, policy support, sustainable innovation capability and entrepreneurial resilience. Obstacles to financing and market access are expected to have negative effects because they limit resources, lessen sales potential, increase uncertainty and reduce scaling potential. Backed by research hypothesis, policy support is expected to influence entrepreneurs positively through their sustainable innovation capabilities and entrepreneurial resilience. This is because the above factors improve legitimacy, lower transaction cost, strengthen differentiation and help to adapt under uncertainty.

9.2 Ecosystem-Based Interpretation of Venture Sustainability

The framework assumes that the performance of green ventures does not only depend on environmental intention or concern. The organization needs environmental intent to be converted into investable, marketable, compliant, innovative and resilient. A project that strongly adheres to green principles but poorly financed can fail of scale. An undertaking with a technological innovative character may not generate demand if there is no marketing access. A company whose support is eligible for policy based support but has weak managerial capability will not be able to convert it into performance. As a result, the study treats ecosystem level outcome of green venture sustainability are resource access, market recognition, institutional support, innovation and adaptive capacity.

10. Research Methodology

10.1 Quantitative Analytical Design

The research uses a quantitative analytical design. Quantitative design is suitable because the purpose of this design is to estimate relationships among measurable constructs, compare perceived challenges, test hypotheses, and compute the relative influence of predictors on business sustainability performance. The green venture whose entrepreneur, founder, MSME owner, or sustainability-oriented manager is the unit of analysis. Constructs measured by using structured Likert items which are then processed into composite scores.

10.2 Dataset Construction and Research Integrity

To ensure methodological transparency, this study employs a simulation-based survey dataset created by the authors. This set of data is prepared to reproduce believable response patterns of green entrepreneurs, and MSME managers for analysis demonstration. Field-verified evidence is not depicted as such. Prior to journal submission, the application of the same instrument and analysis should be undertaken using verified primary survey data, documented sampling procedures, and relevant ethics approval, where human participants are involved. This technique upholds research integrity while offering a full statistical model for future empirical deployment.

10.3 Statistical Analysis Workflow

The statistical workflow will involve descriptive statistics to summarize construct intensity, Cronbach alpha to test the internal consistency, Pearson correlation to assess bivariate relationships, multiple regression to estimate the effect of the predictors on the performance of business sustainability, one-way ANOVA to study the variation in performance across the stage of the venture, and testing hypotheses to determine whether each theoretical proposition is supported. It is recommended by conventional psychometric guidance Nunnally & Bernstein 1984 that a threshold of .70 for alpha is accepted as an acceptable reliability statistic for exploratory research.

11. Data Sources and Sampling

11.1 Sample Profile and Venture Categories

The simulated sample comprises 168 green entrepreneurs, start-up founders, MSME owners, and sustainability-oriented business managers. The sample frame, which is hypothetical, pertains to the ventures that work in products for the environment, renewable energy, waste management, green services, sustainable agriculture and clean technology. The sample also contains ventures that are nascent, early-growth, scaling and established. This distribution tests whether any green venture challenges are concentrated in early-stage firms or whether challenges remain persistent throughout the growth cycle.

11.2 Measurement Scale and Composite Scoring

A structure questionnaire format is assumed The respondents were measured using 5-point Likert scales. The scale range from 1=strongly disagree to 5=strongly agree. Individuals or businesses that scored higher on the financing barriers and market access barriers are more constrained. A higher score on policy support, sustainable innovation capability, entrepreneurial resilience, and business sustainability performance indicates more favourable conditions. The data set used for analysis are coherent from within. Barriers will be simulated to have a negative correlation with performance while support and capability variables will be simulated to have a positive correlation with performance. This allows for a realistic demonstration of hypothesis testing based o regression.

Table 1. Demographic Profile of Respondents (n = 168)

Profile dimension	Category	Frequency	Percentage
Sector	Eco-friendly products	40	23.8
	Renewable energy	33	19.6
	Waste management	29	17.3
	Green services	21	12.5
	Sustainable agriculture	28	16.7
	Clean technology	17	10.1
Venture stage	Nascent	43	25.6
	Early growth	65	38.7
	Scaling	40	23.8
	Established	20	11.9
Firm size	Micro (1-10 employees)	85	50.6
	Small (11-50 employees)	56	33.3
	Medium (51-250 employees)	27	16.1
Primary funding source	Personal savings/bootstrapping	61	36.3
	Bank loan/green credit	35	20.8
	Government grant/subsidy	36	21.4
	Angel/VC/impact investment	16	9.5
	Family/friends	20	11.9

Note. The respondent profile is generated from a simulation-based analytical dataset and should be replaced with actual survey counts in field research.

12. Variables of the Study

12.1 Construct Classification and Measurement Logic

The study uses six multi-item constructs. Financing barriers and market access barriers are treated as constraint variables. Policy support, sustainable innovation capability, and entrepreneurial resilience are treated as enabling variables. Business sustainability performance is the outcome variable. Each construct is operationalized using four questionnaire items, and each respondent receives a composite score equal to the mean of the relevant items.

Table 2. Variables and Measurement Structure

Construct	Item codes	Operational meaning	Example questionnaire item
Financing barriers	FB1-FB4	Difficulty in obtaining adequate, affordable, and timely finance for green venture growth.	Green credit is difficult to access because collateral and cash-flow requirements are high.
Market access barriers	MAB1-MAB4	Demand, distribution, pricing, and customer-awareness constraints affecting sustainable products.	Customers hesitate to pay a premium for environmentally sustainable products.
Policy support	PS1-PS4	Perceived availability and usefulness of government schemes, certification support, and regulatory guidance.	Government schemes and institutional support are accessible for green venture development.
Sustainable innovation capability	SIC1-SIC4	Ability to adopt eco-design, cleaner processes, circularity, and resource-efficient innovation.	The venture regularly improves products or processes to reduce environmental impact.
Entrepreneurial resilience	ER1-ER4	Capacity to adapt, recover, and persist under uncertainty and resource constraints.	The entrepreneur can adjust the business model when sustainability-related obstacles arise.
Business sustainability performance	BSP1-BSP4	Commercial durability combined with customer retention, environmental contribution, and local value creation.	The venture has achieved stable performance while maintaining environmental responsibility.

Note. All items are measured on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree.

13. Data Analysis and Statistical Techniques

13.1 Sequential Analytical Procedure

The statistical analysis occurs in six stages. Demographic frequencies are calculated to characterize the sample structure. Next, we calculated descriptive statistics for each construct to identify the relative strength of barriers and enabling conditions. Cronbach alpha was computed for each scale to check the internal consistency. In fourth, Pearson correlation coefficients are estimated to assess bivariate relationships among variables. Fifth, multiple regression can be used to measure the independent impact of financing barrier, market access barrier, policy support, sustainable innovation capability and

entrepreneurial resilience on business sustainability performance. Sixth, we use ANOVA to examine whether sustainability performance differs by venture stage.

13.2 Regression Model Specification

According to the regression model estimated in the study, the business sustainability performance is expressed as follows: Business Sustainability Performance = beta0 + beta1(Financing Barriers) + beta2(Market Access Barriers) + beta3(Policy Support) + beta4(Sustainable Innovation Capability) + beta5(Entrepreneurial Resilience) + error. Expected signs are negative for β1, β2 and positive for β3, β4, β5. The $p < .05$ level indicates statistical significance at the .05 level, meaning they are related. Standardized beta coefficients help in comparing predictors to check which is stronger.

14. Findings and Interpretation

14.1 Descriptive Statistics of Key Constructs

Based on the descriptive statistics, the financing barriers which have the highest mean score among all the constructs followed by market access barriers. As such, green entrepreneurs face challenges of resource mobilization and demand generation as the most serious ones. The scoring indicates a moderate performance of policy support. It shows that the support mechanisms are there but not strong enough to offset the market and financial constraints. Sustainable innovation capability and entrepreneurial resilience scores are moderately favourable which means many green entrepreneurs have adaptive capability but they still need institutional and market support.

Table 3. Descriptive Statistics of Key Constructs

Construct	Mean	Std. deviation	Minimum	Maximum	Skewness
Financing barriers	3.820	0.670	2.25	5.00	-0.065
Market access barriers	3.685	0.691	1.00	5.00	-0.435
Policy support	3.125	0.737	1.25	5.00	0.182
Sustainable innovation capability	3.426	0.816	1.25	5.00	-0.246
Entrepreneurial resilience	3.607	0.838	1.50	5.00	-0.084
Business sustainability performance	3.371	0.931	1.00	5.00	-0.303

Note. Higher scores represent stronger agreement with the construct. For barrier constructs, higher mean values indicate more severe perceived constraints.

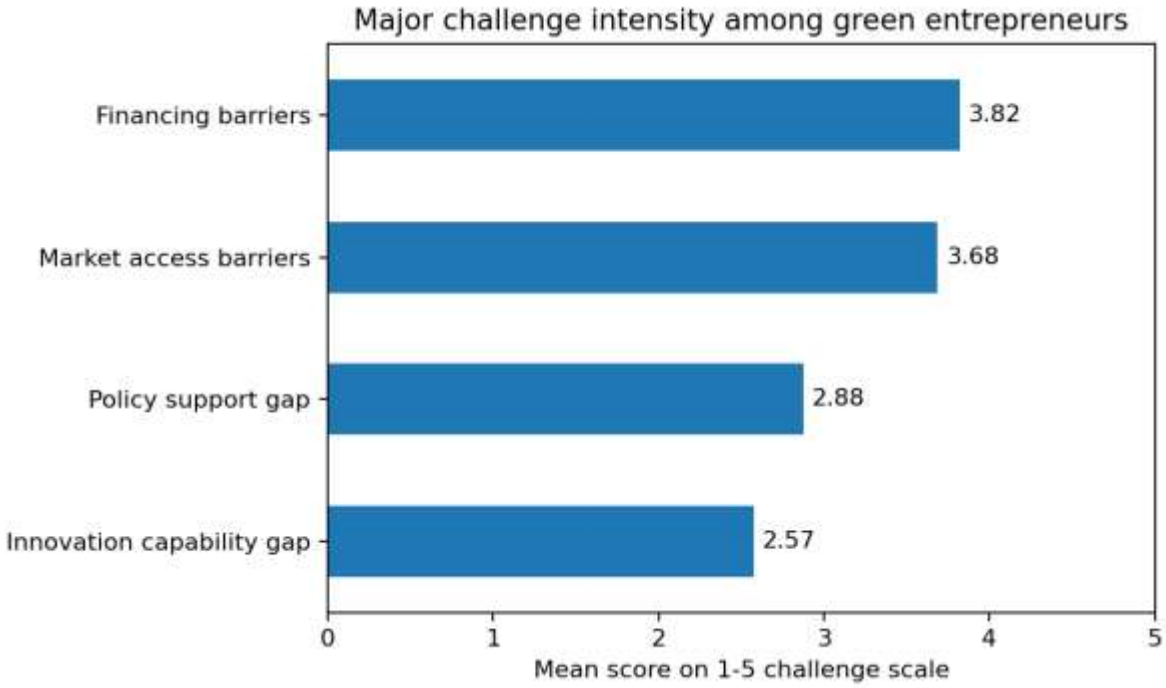

Figure 1. Mean challenge intensity among green entrepreneurs.

Figure 1 shows that financing barriers are the most intense challenge, with an average score above the midpoint of the scale. Market access barriers also remain high, confirming that entrepreneurs face difficulty converting environmental value into revenue. Policy support gap and innovation capability gap are lower than direct finance and market barriers, but they still indicate that supportive systems and technical capability are incomplete.

14.2 Reliability Analysis

Reliability analysis shows that all constructs demonstrate strong internal consistency. Cronbach alpha values range from .848 to .945, exceeding the commonly accepted threshold of .70 for exploratory and applied social science research. This indicates that the items within each construct measure the same underlying concept with acceptable coherence. The highest reliability is observed for business sustainability performance, suggesting that the four performance indicators form a consistent outcome scale.

Table 4. Reliability Statistics

Construct	Number of items	Cronbach alpha	Interpretation
Financing barriers	4	0.859	Good
Market access barriers	4	0.848	Good
Policy support	4	0.877	Good
Sustainable innovation capability	4	0.897	Good
Entrepreneurial resilience	4	0.907	Good
Business sustainability performance	4	0.943	Good

Note. Cronbach alpha values above .80 indicate strong internal consistency for the simulation-based scales.

14.3 Correlation Analysis

The correlation matrix shows theoretically consistent relationships. Financing barriers and market access barriers are negatively correlated with business sustainability performance, indicating that resource and demand constraints reduce perceived sustainability outcomes. Policy support, sustainable innovation capability, and entrepreneurial resilience are positively correlated with performance. Sustainable innovation capability has the strongest positive bivariate relationship with business sustainability performance, suggesting that green ventures perform better when they can continuously improve environmental and commercial value propositions.

Table 5. Pearson Correlation Matrix

Construct	FB	MAB	PS	SIC	ER	BSP
FB	1.000	0.325	-0.135	-0.221	-0.023	-0.503
MAB	0.325	1.000	-0.185	-0.181	-0.084	-0.523
PS	-0.135	-0.185	1.000	0.368	0.182	0.398
SIC	-0.221	-0.181	0.368	1.000	0.370	0.653
ER	-0.023	-0.084	0.182	0.370	1.000	0.373
BSP	-0.503	-0.523	0.398	0.653	0.373	1.000

Note. FB = financing barriers; MAB = market access barriers; PS = policy support; SIC = sustainable innovation capability; ER = entrepreneurial resilience; BSP = business sustainability performance.

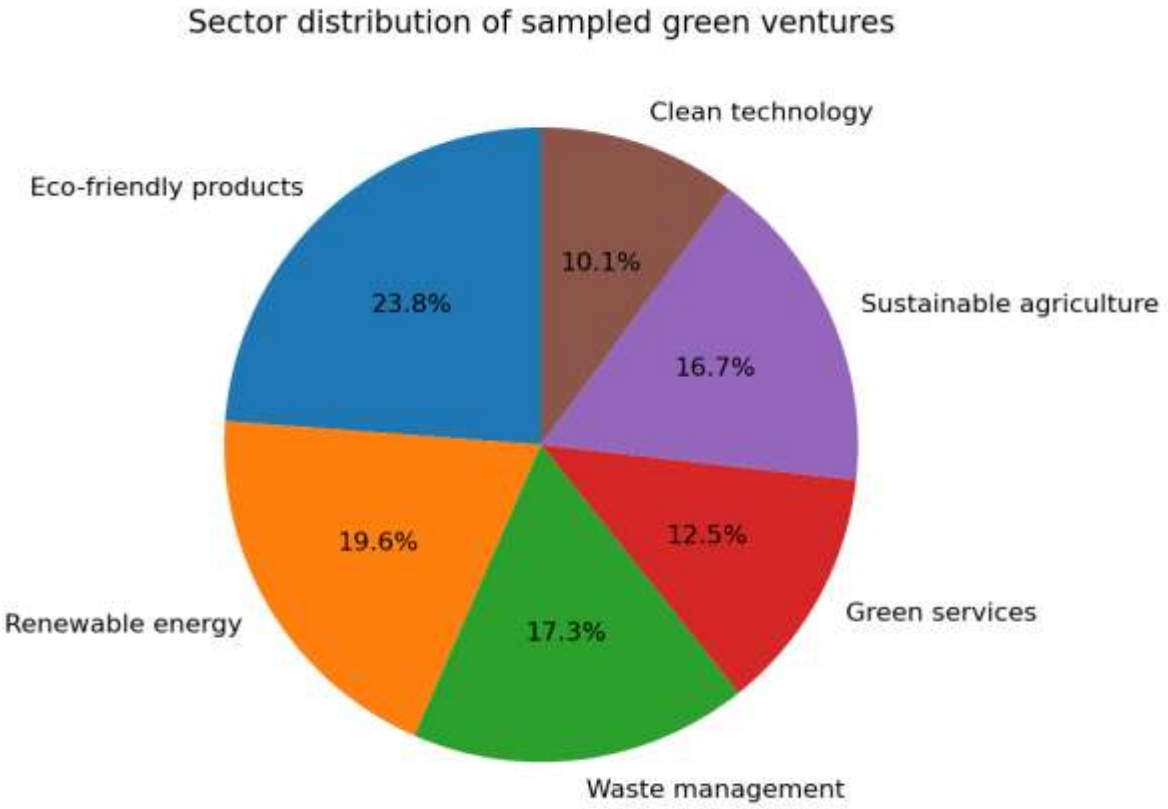

Figure 2. Sector distribution of sampled green ventures.

Figure 2 presents the sectoral distribution of the simulated sample. Eco-friendly products and renewable energy account for the largest proportions, followed by waste management, sustainable agriculture, green services, and clean technology. The spread of sectors reflects the multidimensional nature of green entrepreneurship and supports the use of a general sustainability venture framework rather than a single-sector model.

14.4 Regression Analysis

Multiple regression analysis is used to estimate the independent effect of each predictor on business sustainability performance. The model is statistically significant and explains a substantial proportion of variance in performance. The adjusted R-square value indicates that the predictors jointly account for approximately two-thirds of the variation in sustainability performance. This supports the argument that green venture performance is shaped by a combined ecosystem of finance, market access, policy, innovation, and resilience rather than by a single factor.

Table 6. Regression Model Summary

R	R-square	Adjusted R-square	F-statistic	df model	df residual	p-value
0.834	0.696	0.687	74.167	5	162	< .001

Note. Dependent variable: business sustainability performance.

Table 7. Regression Coefficients

Predictor	B	Std. error	Std. beta	t-value	p-value	95% CI	Decision
Constant	3.687	0.414		8.916	< .001	[2.870, 4.504]	Model intercept
Financing barriers	-0.397	0.065	-0.285	-6.114	< .001	[-0.525, -0.269]	Supported
Market access barriers	-0.428	0.063	-0.317	-6.829	< .001	[-0.551, -0.304]	Supported
Policy support	0.143	0.059	0.113	2.401	.017	[0.025, 0.260]	Supported
Sustainable innovation capability	0.493	0.058	0.432	8.562	< .001	[0.379, 0.606]	Supported
Entrepreneurial resilience	0.178	0.052	0.160	3.412	< .001	[0.075, 0.280]	Supported

Note. Negative B values indicate inverse relationships. Positive B values indicate direct relationships with business sustainability performance.

The regression coefficient for financing barriers is negative and significant (B = -0.397, p < .001), indicating that stronger financing constraints reduce business sustainability performance. Market access barriers also show a significant negative effect (B = -0.428, p < .001), and the standardized beta suggests that market barriers represent the strongest negative predictor. Policy support has a positive and significant relationship with performance (B = 0.143, p .017), confirming the importance of accessible government schemes and institutional facilitation. Sustainable innovation capability is the strongest positive predictor, while entrepreneurial resilience also has a significant positive effect. These results confirm that green venture sustainability improves when entrepreneurs can innovate, adapt, and access institutional support while reducing finance and market constraints.

14.5 ANOVA by Venture Stage

A one-way ANOVA is performed to examine whether business sustainability performance differs across venture stages. The result is not statistically significant at the 5% level, indicating that performance variation across nascent, early-growth, scaling, and established ventures is not strong enough in the simulated dataset to confirm stage-based differences. However, the mean scores show a gradual improvement from nascent to established ventures, suggesting that accumulated experience and market learning may help improve sustainability performance even when the statistical difference is not significant.

Table 8. ANOVA for Business Sustainability Performance by Venture Stage

Source	Sum of squares	df	Mean square	F	p-value
Venture stage	0.798	3	0.266	0.303	.823
Residual	144.074	164	0.878		

Note. The ANOVA result is non-significant at p < .05, but mean values are still useful for descriptive interpretation.

Table 9. Mean Business Sustainability Performance by Venture Stage

Venture stage	n	Mean BSP	Std. deviation
Nascent	43	3.285	1.001
Early growth	65	3.373	0.921
Scaling	40	3.381	0.923
Established	20	3.525	0.873

Note. BSP = business sustainability performance.

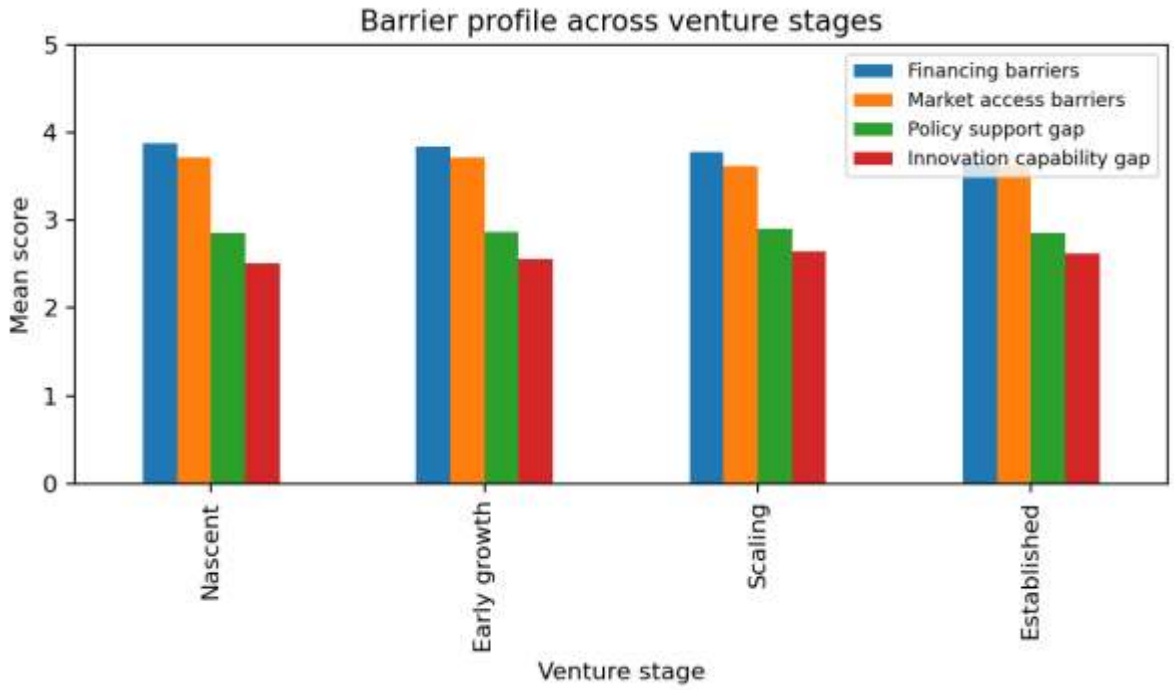

Figure 3. Barrier profile across venture stages.

Figure 3 compares financing barriers, market access barriers, policy support gap, and innovation capability gap across venture stages. Nascent and early-growth ventures show higher barrier profiles, especially for financing and market access. Established ventures show lower average challenge intensity, but the differences are not large enough to imply that mature green ventures are free from structural constraints.

14.6 Sustainability Performance Indicators

Business sustainability performance is represented through four indicators: revenue stability, customer retention, environmental contribution, and employment or local value creation. The profile indicates that environmental contribution receives a slightly stronger score than purely commercial indicators. This pattern is common in green ventures: entrepreneurs may be more confident about ecological mission and local value than about consistent revenue stability. The implication is that sustainability-oriented ventures need stronger market and finance systems to convert environmental purpose into commercial durability.

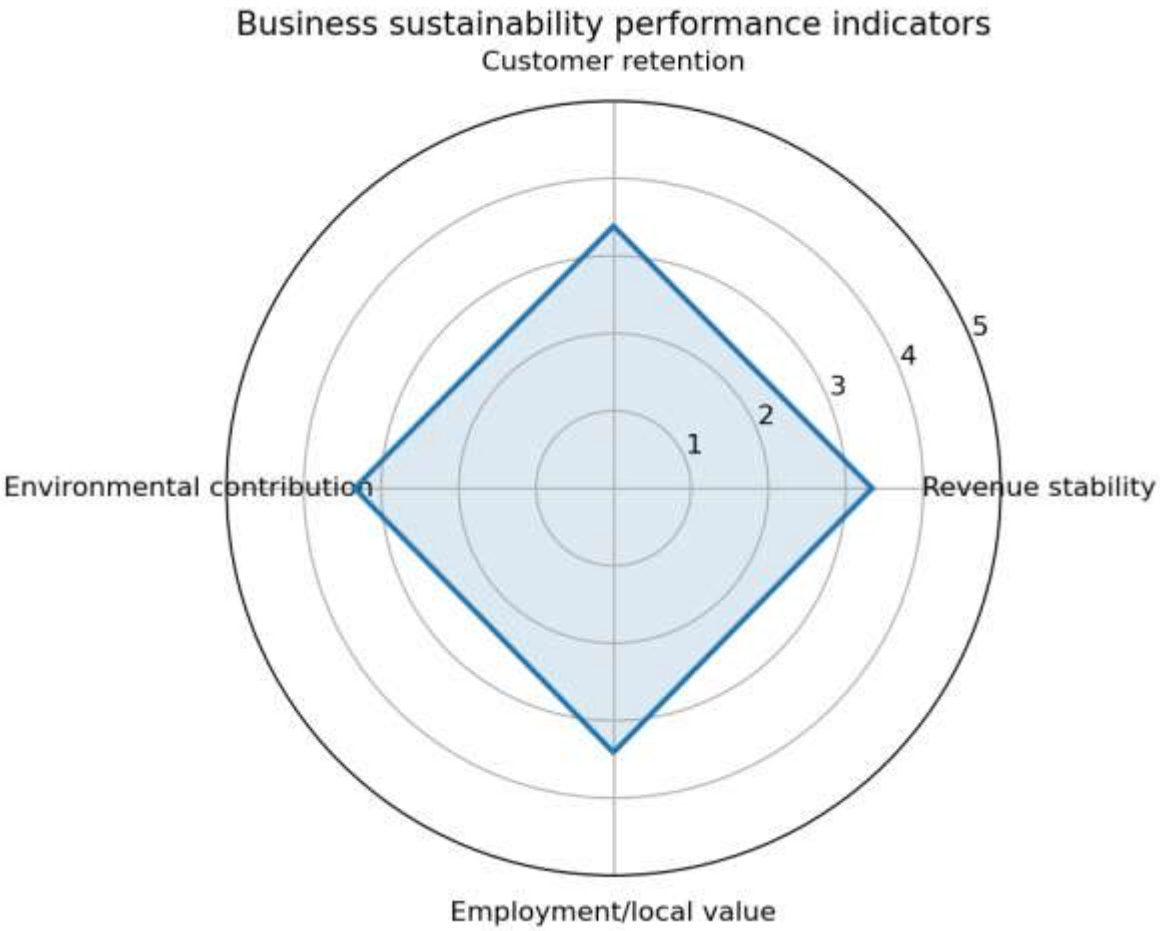

Figure 4. Sustainability performance indicator profile.

Figure 4 presents a radar-style interpretation of the four performance indicators. The balanced but moderate profile suggests that green ventures are not failing in a single dimension; rather, they are operating in a middle zone where environmental contribution, customer retention, and revenue stability require coordinated improvement. Policy and managerial interventions should therefore focus on business model strengthening rather than only environmental messaging.

14.7 Hypothesis Testing Summary

Table 10. Hypothesis Testing Summary

Hypothesis	Statement	Statistical result	Decision	Interpretation
H1	Financing barriers negatively affect business sustainability performance.	B = -0.397; p < .001	Supported	Finance constraints reduce performance.
H2	Market access barriers negatively affect business sustainability performance.	B = -0.428; p < .001	Supported	Demand and distribution barriers reduce performance.
H3	Policy support positively affects business sustainability	B = 0.143; p .017	Supported	Accessible support improves performance.

Hypothesis	Statement	Statistical result	Decision	Interpretation
	performance.			
H4	Sustainable innovation capability positively affects business sustainability performance.	B = 0.493; p < .001	Supported	Innovation is the strongest positive predictor.
H5	Entrepreneurial resilience positively affects business sustainability performance.	B = 0.178; p < .001	Supported	Adaptive capability improves performance.

Note. Hypothesis decisions are based on p < .05 in the multiple regression model.

15. Discussion

15.1 Financing Constraints and Venture Performance

The results affirm that green entrepreneurs face a constraint structure that is a combination of both. Barriers to funding crop up as an important negative predictor, confirming that sustainability-oriented ventures can't depend only on strength of mission or consumer goodwill. Green technology implementation, certification, eco-design, and cleaner production require capital. When entrepreneurs do not have affordable and patient finance, they may postpone innovation, underinvest in quality, or stay stuck in the small-scale. The discovery is consistent with the institution's concern that SMEs need better access to sustainable finance and that financial intermediaries need better tools to support green MSMEs (International Finance Corporation, 2023; OECD, 2022a).

15.2 Market Access Constraints and Commercial Durability

Market access barriers appear to have the strongest standardized negative effect among the constraint variables. The finding suggests that even when finances are available, green businesses may still not be successful if they fail to educate customers, justify price premiums, secure distribution channels, or build trust. Go-green merchandise does not just compete with other green brands but also those that are that have become more competitive over the years with growing economies of scale and unaccounted by price environmental externalities. The finding fits with the sustainable entrepreneurship theory that considers market imperfections as sources of opportunity but also that market creation is difficult (Cohen & Winn, 2007; Dean & McMullen, 2007).

15.3 Policy Support and Institutional Facilitation

When policies are available and credible, they benefit entrepreneurs, showing that policy support has a positive effect on entrepreneurs. However, the relatively moderate descriptive score for policy support suggests that support may not be equally felt. The real issue is not that policy is totally absent; rather that the policy intent is not converted equally at the level of entrepreneurs. This supports the OECD (2022b), which claims that coherent support strategies and easier navigation would be of benefit to green entrepreneurs. MSME green transition initiatives (such as ZED certification and innovation schemes) for finance-oriented roadmaps in India show movement but need to be integrated with awareness, local facilitation, and market incentives (Ministry of Micro, Small and Medium Enterprises, 2025; NITI Aayog, 2026).

15.4 Sustainable Innovation Capability as a Performance Driver

The capacity for sustainable innovation is the strongest positive predictor of business sustainability performance. Theoretically this result is interesting because it implies that environmental identity alone is not sufficient to sustain green entrepreneurship. The effectiveness of a venture gets better when a venture is able to redesign product, make less resource intensive, integrate circularity in processes, and make refinements to the business model. The finding aligns with the sustainable business model literature that connects ecological performance, operational innovation and commercial innovation (Bocken et al., 2014; Geissdoerfer et al., 2017). It also strengthens the concept that green innovation links entrepreneurship with sustainable development outcomes (Galindo-Martín et al., 2020; Soomro et al., 2024).

15.5 Entrepreneurial Resilience and Adaptive Capacity

According to the analysis, entrepreneurial resilience has a positive and insignificant effect. This indicates that adaptive capability matters in uncertain green markets. The timing of returns, supplier failures, customer scepticism and policy ambiguity impact green entrepreneurs relationships. The ability to recover enables them to reconfigure resources, learn from feedback, and continue refining the venture. However, resilience should not be romanticized as an alternative to structural help. An entrepreneur is adaptable, nevertheless, persistent underfinance and weak demand can still sabotage the prospects of a promising venture. Consequently, the finding should be viewed not as justifying a shift in risk towards entrepreneurs but instead as backing capability-building programmes along with ecosystem reforms.

15.6 Venture Stage Differences and Performance Variation

The ANOVA result was not significant, suggesting venture stage alone does not explain sustainability performance. This is possible as green ventures at all stages could face various structural constraints, however, the nature of those constraints changes over time. Startups may face difficulties with traction and funding. Distribution and customer acquisition may be hard for early-growth firms. Efficiency difficulties can hamper scale-up firms' production capacity and certification and supply-chain compliance. Established businesses may find it hard to innovate and compete against giant players. Future field research should examine stage-specific barriers in more detail with larger samples and longitudinal designs.

16. Conclusion and Summary

16.1 Integrated Analytical Summary

This paper explored the difficulties encountered by green entrepreneurs in establishing sustainable ventures using an integrative analytical framework. Research barriers, market access barriers, policy support, sustainable capability and innovation, entrepreneurial resilience, and performance on sustainable business. Using a survey dataset assembled through simulation with a total number of 168 respondents, the paper demonstrated a full quantitative research design with reliability test, descriptive analysis, correlation, regression, ANOVA, figures, hypothesis testing.

16.2 Key Statistical Insights

The results show that financing barriers and market access barriers reduce business sustainability performance significantly. Support from the policy, a sustainable innovation capability and entrepreneurial resilience greatly enhance performance. According to the findings, Sustainable Innovation Capability is the strongest positive predictor whereas Market Access Barriers is the strongest negative predictor. Research findings suggest that green venture sustainability hinges on the capacity for blending ecological commitment with investable finance, credible market access, supportive policy, innovation capacity, and adaptive entrepreneurship.

16.3 Ecosystem-Based Conclusion

The crux is that green entrepreneurship should not be considered merely as an individual entrepreneurial act. It depends on the Ecosystem. A venture cannot be sustainable just because the entrepreneur has environmental concern. A company must secure patient capital, attract customers, avoid regulatory

sanctions, innovate continually, but stay afloat. Policies related to green entrepreneurship should, therefore, go beyond offering subsidies isolated from other initiatives and build a coordinated system that aligns finance, markets, technology, certification, and capability development.

17. Policy Implications

17.1 Blended Finance and Green MSME Credit Architecture

To begin with, blended finance structures for green MSMEs should be promoted by government and financial regulators. These can include credit guarantees as well as concessional loans, first loss support, viability gap mechanism as well as climate-linked working capital. Eco-businesses require financing that accommodates the value of the environment and longer payback periods than conventional collateral. We should spur financial institutions to develop assessment tools that combines downstream cash-flow evaluation with sustainability performance.

17.2 Demand-Side Market Creation and Green Public Procurement

Secondly, there should be an enhancement of demand-side instruments. Green public procurement can create predictable markets for sustainable products and services. There can be an anchor demand for certified green ventures through public institutions, municipal organisations, universities, hospitals, and state enterprises. This assists entrepreneurs in overcoming the initial trust deficit and realizing scale economies. Ideally, certification systems are seen to be credible but within reach, while technical assistance should be given to small enterprises to fulfill documentation requirements.

17.3 Policy Navigation, Facilitation, and Administrative Coherence

Policy design should minimize fragmentation. Identifying which scheme applies, where to apply, what documents are needed, how long the approval will take are not easy tasks for entrepreneurs. The proposed solutions include creating one-stop digital platforms and establishing local facilitation centres, district-level green entrepreneurship cells, and sectoral advisory services that can enhance the usability of policy support. When assessing policy effectiveness, the measuring stick is not just how much money has been allocated but also the level at which entrepreneurs can access, how fast processing takes place and what post-support performance has been.

17.4 Green Innovation Infrastructure and Shared Technical Facilities

Fourth, governments ought to back green MSME innovation infrastructure. The cost of sustainable innovation can be brought down through shared facilities for testing, eco-design labs, common effluent and waste management infrastructure, circular economy clusters and university-industry technology transfer centres. Facilities of such nature are critical for the entrepreneurs who cannot themselves afford the R&D infrastructure or the specialized environmental testing.

18. Managerial Implications

18.1 Investment Readiness and Financial Discipline

Green business people must build the project ready along with the vision of sustainability. Preparing cash-flow projections, documenting environmental impact, accounting discipline, and speaking the language of the market are essential measures for luxurious hotels to adopt. Entrepreneurs need to create investor narratives explaining both the market opportunity and sustainability value. Organizations should aim to diversify their finance sources, if possible, by bootstrapping, bank credit, grants, supply-chain finance, impact investors, and customer pre-orders.

18.2 Market Access Strategy and Customer Education

Market access is best regarded as a strategic capability. Green entrepreneurs should not assume that demand will automatically arise from environmental benefits. They should put more resources in customer education, evidence-based claims, easy labelling, open-ended sourcing and partnerships with distributors that understand the sustainability market. Pricing strategy must express value rather than just cost.

Business-to-business markets could well be afforded by entrepreneur buyers with ESG commitments, export requirements or procurement policies.

18.3 Sustainable Business Model Innovation and Circular Practice

Business model practitioner must embed sustainable innovation. Businessmen should periodically examine usage of items, packaging, energy consumption, durability, reparability and waste recovery. By adopting the principles of the circular economy in a pragmatic way, organizations can achieve cost savings and enhance customer loyalty. In order to access external expertise, small green ventures must associate with incubator, universities, technology centre, industry association, etc.

18.4 Network-Based Entrepreneurial Resilience

In the end, networks rather than individual tenacity should build entrepreneurial resilience. Entrepreneurs can speedily solve complex problems with the help of mentors, peer founders, suppliers, and early adopters. When entrepreneurs agree on common goals, they use tried-and-tested means to achieve their ends. Networking and institutional engagement should be seen as primary strategic practices by managers.

19. Limitations of the Study

19.1 Simulation-Based Data Boundary

The empirical dataset leveraged in this manuscript is simulation-based; this is its key limitation. It illustrates analytical design and statistical interpretation but does not reflect real field survey evidence. Consequently, we should not generalize the numerical results to the green entrepreneurship population. The model, the structure of the questionnaire and the analysis can all serve to guide future primary research but require field data collection to claim empirical validity.

19.2 Cross-Sectional Research Design Boundary

Another limitation is the cross-sectional design. Survey cross-sectional data cannot establish causality even with real data. The limitations related to financing can diminish performance, while low-level performance can also hamper access to finance. The innovation capability may improve sustainability performance and may also relate better performing ventures having more resources for innovation and vice-versa (Negativity may also be present here) (Andrews, 2012). Longitudinal studies are required to investigate how green venture capabilities and barriers change over time.

19.3 Construct Breadth and Sectoral Scope

The third limitation has to do with construct breadth. The field of green entrepreneurship includes numerous businesses and sectors as a part of its operational framework. May apply differently across sector. To undertake sector-wise analyses and stage-wise analyses, future studies should use larger samples and may utilize multi-group regression or structural equation modelling. Qualitative interviews may also be considered to understand the lived experience of policy navigation and market creation.

20. Future Research Directions

20.1 Primary Field Data and Stratified Sampling

Further investigation is needed to collect primary data from credible green entrepreneurs from different regions, sectors and stages of operations. An empirical design which incorporates stratified sampling and which also includes such variables as the education of the founder, gender, years in operation, revenue range, certified/not certified, export-oriented/not export-oriented, and incubator-connected/not incubator-connected would be stronger. It will also allow researchers to find out whether the challenges related to financing, market access and innovation differ significantly across enterprise profiles.

20.2 Mediation, Moderation, and Structural Modelling

Structural equation modelling may be applied in future studies to test mediation and moderation effects. There may be mediation between policy support and business sustainability performance by sustainable innovation capability. Entrepreneurial resilience may alleviate the adverse consequences of financing constraints. August to later studies, certification can positively influence firm performance. Models like these would lend greater theoretical clarity to green entrepreneurship ecosystem operations.

20.3 Longitudinal and Comparative Research Designs

Longitudinal research is needed too. At different points in their life cycle, green ventures may experience different types of challenges. A panel dataset could show whether barriers weaken or strengthen over a number of years and the effect of policy support on survival and growth. Comparative studies across geographic regions will identify which combinations of policies are most effective for creating suitable financing. In the end, future studies could bring together financial data and environmental performance indicators, expand beyond perceptions.

21. References

Alfaiza, S. A., Hassan, H. B., Riyadh, H. A., Beshr, B. A. H., Taha, T. A., & Zangnaa, M. G. (2025). Navigating dynamic market challenges to enhancing sustainable entrepreneurship in SMEs through opportunities and disadvantages. Journal of Innovation and Entrepreneurship. https://doi.org/10.1186/s13731-025-00482-z

Belz, F. M., & Binder, J. K. (2017). Sustainable entrepreneurship: A convergent process model. Business Strategy and the Environment, 26(1), 1-17. https://doi.org/10.1002/bse.1887

Bocken, N. M. P., Short, S. W., Rana, P., & Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. Journal of Cleaner Production, 65, 42-56. https://doi.org/10.1016/j.jclepro.2013.11.039

Chu, Z., Zhang, W., Jiang, Y., & Xin, B. (2021). How does policy perception affect green entrepreneurship behavior? An empirical analysis from China. Discrete Dynamics in Nature and Society, 2021, Article 7973046. https://doi.org/10.1155/2021/7973046

Cohen, B., & Winn, M. I. (2007). Market imperfections, opportunity and sustainable entrepreneurship. Journal of Business Venturing, 22(1), 29-49. https://doi.org/10.1016/j.jbusvent.2004.12.001

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297-334. https://doi.org/10.1007/BF02310555

Dean, T. J., & McMullen, J. S. (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. Journal of Business Venturing, 22(1), 50-76. https://doi.org/10.1016/j.jbusvent.2005.09.003

Demirel, P., Li, Q. C., Rentocchini, F., & Tamvada, J. P. (2019). Born to be green: New insights into the economics and management of green entrepreneurship. Small Business Economics, 52(4), 759-771. https://doi.org/10.1007/s11187-017-9933-z

Galindo-Martin, M. A., Castano-Martinez, M. S., & Mendez-Picazo, M. T. (2020). The relationship between green innovation, social entrepreneurship, and sustainable development. Sustainability, 12(11), Article 4467. https://doi.org/10.3390/su12114467

Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The circular economy: A new sustainability paradigm? Journal of Cleaner Production, 143, 757-768. https://doi.org/10.1016/j.jclepro.2016.12.048

Global Entrepreneurship Monitor. (2026). GEM 2025/2026 global report: From uncertainty to opportunity. Global Entrepreneurship Research Association.

Government of India, Department of Industrial Policy and Promotion. (2016). Startup India action plan. Government of India.

Hockerts, K., & Wüstenhagen, R. (2010). Greening Goliaths versus emerging Davids: Theorizing about the role of incumbents and new entrants in sustainable entrepreneurship. Journal of Business Venturing, 25(5), 481-492. https://doi.org/10.1016/j.jbusvent.2009.07.005

International Finance Corporation. (2023). Sustainable MSME finance reference guide. World Bank Group.

Kraus, S., Burtscher, J., Vallaster, C., & Angerer, M. (2018). Sustainable entrepreneurship orientation: A reflection on status-quo research on factors facilitating responsible managerial practices. Sustainability, 10(2), Article 444. https://doi.org/10.3390/su10020444

Makki, A. A., Alidrisi, H., Iqbal, A., & Al-Sasi, B. O. (2020). Barriers to green entrepreneurship: An ISM-based investigation. Journal of Risk and Financial Management, 13(11), Article 249. https://doi.org/10.3390/jrfm13110249

Ministry of Micro, Small and Medium Enterprises. (2025). Annual report 2024-25. Government of India.

Mrkajic, B., Murtinu, S., & Scalera, V. G. (2019). Is green the new gold? Venture capital and green entrepreneurship. Small Business Economics, 52(4), 929-950. https://doi.org/10.1007/s11187-017-9943-x

Muñoz, P., & Cohen, B. (2018). Sustainable entrepreneurship research: Taking stock and looking ahead. Business Strategy and the Environment, 27(3), 300-322. https://doi.org/10.1002/bse.2000

NITI Aayog. (2026). Roadmap for green transition of MSMEs. Government of India.

Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric theory (3rd ed.). McGraw-Hill.

OECD. (2022a). Financing SMEs for sustainability: Drivers, constraints and policies. OECD SME and Entrepreneurship Papers, No. 35. OECD Publishing. https://doi.org/10.1787/a5e94d92-en

OECD. (2022b). Policies to support green entrepreneurship. OECD Publishing.

Porter, M. E., & van der Linde, C. (1995). Toward a new conception of the environment-competitiveness relationship. Journal of Economic Perspectives, 9(4), 97-118. https://doi.org/10.1257/jep.9.4.97

Potluri, S., & Phani, B. V. (2020). Incentivizing green entrepreneurship: A proposed policy prescription. Journal of Cleaner Production, 259, Article 120843. https://doi.org/10.1016/j.jclepro.2020.120843

Rosário, A. T., Raimundo, R. J., & Cruz, S. P. (2022). Sustainable entrepreneurship: A literature review. Sustainability, 14(9), Article 5556. https://doi.org/10.3390/su14095556

Schaltegger, S., & Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: Categories and interactions. Business Strategy and the Environment, 20(4), 222-237. https://doi.org/10.1002/bse.682

Soomro, B. A., Moawad, A. M. K., Saraih, U. N., Abedelwahed, N. A. A., & Shah, N. (2024). Going green with the green market and green innovation: Building the connection between green entrepreneurship and sustainable development. Kybernetes, 53(4), 1484-1504. https://doi.org/10.1108/K-09-2022-1353

World Bank. (n.d.). SME finance. World Bank Group. Retrieved June 19, 2026, from https://www.worldbank.org/en/topic/smefinance