



A Study Of Green Entrepreneurship In India: Opportunities And Challenges

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Abstract

Green entrepreneurship has emerged as a significant driver of sustainable economic development in India. With increasing environmental concerns, climate change risks, and the need for sustainable resource utilisation, entrepreneurs are integrating ecological principles into business models. Green entrepreneurship refers to business initiatives that focus on environmental sustainability while generating economic value and social impact. This conceptual study examines the opportunities and challenges of green entrepreneurship in India. The paper discusses policy support, renewable energy expansion, sustainable consumption trends, technological innovation, and ESG investment as growth drivers. It also highlights barriers such as financial constraints, regulatory complexity, lack of awareness, and market uncertainty. The study proposes a conceptual framework linking green entrepreneurial orientation with sustainable performance outcomes. The paper contributes by offering a structured understanding of the Indian green business ecosystem and providing directions for policymakers and researchers.

Keywords: Green Entrepreneurship, Sustainable Development, ESG, Renewable Energy, Sustainable Business, India

Introduction

Issues involving climate change and its environmental impact are at the centre of policy making future planning. Even the business are adopting models which are ecologically sustainable. India, as one of the fastest-growing economies in the world, also faces the dual challenges of economic growth and environmental sustainability. Here comes the concept of Green Entrepreneurship; it has emerged as a solution that has the potential to integrate profits making objective of business with the ecological responsibility of a human being.

The government has taken many initiatives, such as NAPCC and renewable energy expansion policies which aim to promote sustainable ventures. Many institutions, like Niti Aayog, support startups working in areas like renewable energy, waste management, and sustainable agriculture. This study conceptually explores the term green entrepreneurship, its opportunities, challenges and policy implications in India.

Literature Review

Sharma (2024) examined students' and entrepreneurs' awareness of green practices in India. The study found that although environmental concerns are increasing, awareness and knowledge about green entrepreneurship remain limited. The research emphasised the need for education, policy support, and training programs to promote environmentally sustainable entrepreneurial activities.

Nafeesa and Joe (2024) investigated the effectiveness of green entrepreneurship practices in the growth of small and medium enterprises. Their study revealed that adopting eco-friendly production processes and sustainable business strategies improves business performance and environmental sustainability. The findings highlight that green entrepreneurship can enhance the competitiveness and long-term sustainability of SMEs.

Rosário and Raimundo (2024) conducted a bibliometric review on sustainable entrepreneurship education and found that entrepreneurs play a significant role in addressing environmental challenges through innovation and sustainable business models. The study emphasised that entrepreneurial capabilities and sustainability-oriented education are crucial for developing green enterprises.

Nadhifa et al. (2024) reviewed research on green entrepreneurial behaviour and found that environmental awareness, institutional support, and entrepreneurial intentions strongly influence the adoption of sustainable business practices. Their review suggested that future research should focus on integrating sustainability with entrepreneurial innovation and policy frameworks.

Tuncer and Korchagina (2024) explored the concept of green entrepreneurial orientation and highlighted that organisations that adopt environmentally sustainable values and strategies are more likely to achieve long-term competitive advantages. The study emphasised the importance of integrating environmental responsibility into business decision-making.

Anant et al. (2025) analysed factors influencing the growth of green and sustainable entrepreneurship in India. The study found that consumer demand for eco-friendly products, collaboration networks, corporate social responsibility, and competitive advantages are key drivers of green entrepreneurial success.

Andriyani et al. (2025) examined the role of green finance initiatives in supporting sustainable enterprises. Their review concluded that financial support, government incentives, and access to green investment significantly influence the development of sustainable businesses and entrepreneurial activities.

Khaq et al. (2025) highlighted the relationship between green innovation and firm performance. The study showed that environmentally oriented innovations improve organizational performance, strengthen sustainability practices, and support long-term business growth.

Schaltegger and Wagner (2011) examined the concept of sustainable entrepreneurship and emphasized that entrepreneurs play a crucial role in developing innovative solutions that address environmental and social challenges. The study highlighted that sustainable entrepreneurs integrate ecological concerns into their business strategies to achieve long-term sustainability.

Shepherd and Patzelt (2011) introduced the concept of sustainable entrepreneurship and explained how entrepreneurs can simultaneously pursue economic opportunities and environmental protection. Their work suggested that entrepreneurial actions can significantly reduce environmental degradation while generating economic value.

Hockerts and Wüstenhagen (2010) explored the role of new ventures and large companies in promoting sustainability. The authors argued that innovative small firms often act as pioneers in developing green technologies and environmentally friendly business models.

Cohen and Winn (2007) discussed how market imperfections create opportunities for sustainable entrepreneurship. The study suggested that environmental challenges such as pollution and resource scarcity encourage entrepreneurs to develop innovative green solutions.

Hall, Daneke, and Lenox (2010) examined the relationship between sustainable development and entrepreneurship. Their research highlighted that sustainable entrepreneurs contribute to economic development by introducing environmentally responsible innovations and business practices.

Kuckertz and Wagner (2010) investigated the relationship between sustainability orientation and entrepreneurial intention. The study found that individuals with strong environmental values are more likely to start green businesses and adopt sustainable business practices.

Objective

1. To examine the concept & significance of green entrepreneurship in India.
2. To analyse the role of green entrepreneurship practice in promoting environmental sustainability and economic growth.
3. To identify the opportunities and challenges in the development of green entrepreneurship in India.
4. To review the theoretical perspective such as sustainable development theory, triple bottom line, and Ecological modernization theory, related to green entrepreneurship.

Research methodology

This study adopts a conceptual research design to examine the role and significance of green entrepreneurs in promoting sustainable development and advancing the Innovation Without compromising the future generation of India.

The study is based on secondary data collected from various source as:

Peer-reviewed Journal, Google Scholar, Research Gate, Scopus Journal, Book an article, government report, and reputed online databases.

Thus, the research methodology relies on systematic literature review and conceptual analysis to develop an understanding of green entrepreneurship in the Indian context.

Concept of Green Entrepreneurship

In layman term green entrepreneurship basically refers to business activities that focus on environmental sustainability while earning profits. A green entrepreneur is involved in the development of products, services, or technologies that reduce pollution, protect natural resources and promote sustainable development.

Green entrepreneurship means starting and managing business affairs in manners that solves environmental problems through innovation and sustainable solutions.



Example of Green Entrepreneurship

1. Renewable energy startups like solar and wind power.
2. Eco-friendly products like green building, biodegradable plastic and packaging.
3. Sustainable Agriculture.
4. Waste recycling and waste-to-energy business

Theoretical Foundation

Sustainable Development Theory focuses on meeting present needs without compromising future generations by balancing economic growth, social equity and environmental protection. It means that development meets current needs without harming future generations. In the context of Green entrepreneurship, this theory explains how environmentally responsible businesses contribute to sustainable economic development and conservation of future generations and also highlights the importance of balancing the three pillars.

1. Economic Sustainability
2. Environmental Sustainability
3. Social Sustainability

Triple Bottom Line Theory

The triple bottom line theory (TBL) is a sustainability framework urging businesses to measure success not only in profit but also in social and environmental impact. It has three components: people, planet, profit.

Businesses must balance:

1. Economic performance
2. Environmental responsibility
3. Social impact

Ecological Modernisation Theory

This theory posits that environmental degradation can be solved through Innovation, Economic growth and Institutional reform. In the context of green entrepreneurship, ecological modernisation theory explains how entrepreneurs adopt technologies innovation and sustainable production methods to reduce the environmental degradation. They must develop eco-friendly products, renewable energy and sustainable business models to maintain the environment and economic growth. In India, the rise of green entrepreneurship or startups reflects the principle of ecological modernisation.

Overall, this theory provides a strong theoretical foundation for understanding green entrepreneurship. Together, they explain how green startups or entrepreneurship activities can contribute to sustainable development and environmental protection in India.

Opportunities for Green Entrepreneurship in India

1. **Renewable Energy Expansion:** There is a growing demand from sectors like solar, wind and biodiversity, creating opportunities for startups to invest in clean energy production, installation and maintenance. These sectors are termed as 'sunrise industries', hence there is huge growth potential.
2. **Sustainable Agricultural Practice:** With a changing lifestyle, the demand for and food habits of people have changed and shifted towards organic food. This change necessitates investment in eco-friendly farming, bio-fertilisers, and sustainable agricultural practices, expanding the scope for sustainable ventures.
3. **Eco-friendly packaging and Green Product:** With the ban on plastic and increased awareness among consumers about its harmful impact, it opens up scopes for entrepreneurs to produce biodegradable bags, plastics, bamboo products, and sustainable packaging materials.
4. **Energy Efficient Technologies:** The increasing demand for energy-efficient tech develops opportunities for ventures to invest in energy-efficient tools like LED lighting, smart energy systems, and green buildings. Nowadays, product credibility is not only measured by energy capacity, but efficiency also matters.
5. **Government Support and Green Finance:** Government, via its schemes like the National Solar Mission, Startups India, etc., promotes the setting up of sustainable projects and enterprises. The government, via the carbon trading mechanism, also provides green business opportunities to firms.

Challenges of Green Entrepreneurship

1. **Limited Access to Finance:** Smaller startups often face difficulty in accessing loans, funding or investors from financial institutions for their greenery projects, thereby limiting the growth potential.
2. **High initial Cost:** Greener technology, such as setting up a renewable energy system and an eco-friendly production method, requires a higher initial investment and setup cost.
3. **Limited Awareness:** Many consumers are not fully aware of environment-related issues or the benefits arising from green products; as a result, demand for eco-friendly products may be in the market.
4. **Technology Barrier:** Investment in greener technologies often requires technical expertise, which many startups and ventures lack, so technologies also hinder growth.
5. **Regulatory and Policy Concern:** Many times, complex laws, guidance, certification and regulations made by the government demotivate green investment.

Role of Government and Institutions

1. **Formulation of Policy:** The government is responsible for framing environmental policies and regulations that promote sustainable business and eco-friendly measures.
2. **Research and Innovation:** The research institution promotes the development of greener and clearer technologies and supports innovation in finding sustainable environmental solutions.
3. **Skill Development and Training:** Many times, government agencies and education institutions collaborate to provide skill sets related to green tech and sustainable business.
4. **Financial support:** Many institutions and the government provide grants, subsidies and green finance to startups for sustainable projects.
5. **Awareness and promotion:** Government and institutions, via their initiative and campaign, spread awareness about environmental protection and encourage

Proposed Conceptual Framework



Figure 1: Proposed Conceptual Framework of Green Entrepreneurship and Sustainable Development

The proposed conceptual framework explains the factors influencing the growth of green entrepreneurship in India. Factors such as environmental awareness and government support access to finance technology encourage the entrepreneurship to adopt sustainability business practices.

Green Entrepreneurial Orientation → Sustainable Practices → Sustainable Performance

Policy Implications

1. **Supportive regulatory framework:** The government should clear the environmental policies and simplify rules and regulations to promote sustainable business.
2. **Investment in green technologies:** Increasing funding by the government and institutions for greener technology will promote more research and innovation in the field of green and sustainable business practices.
3. **Public awareness:** It promotes awareness among producers as well as consumers about green products and environmental sustainability.
4. **Support for MSMEs and startups:** It even encourages small enterprises to start new ventures through incubation centres, startup support and easier access to finance.
5. **Promote sustainable markets:** The government should promote sustainable markets to increase demand for environmentally friendly products, and policies should also support a sustainable supply chain.

Future Research Directions

1. Empirical testing of the conceptual model
2. Sector-specific green entrepreneurship studies
3. Impact of ESG compliance on MSMEs
4. Regional analysis of green startups in India

Conclusion

Green entrepreneurship has emerged as a possible approach towards sustainable development, balancing both economic growth and environmental protection. In the modern era of climate change, weather-related events occur frequently, and sustainability must be the driver of any approach, without green entrepreneurs seeming to provide Green Entrepreneurship, play a critical role in developing technologies and innovation, which leads to sustainable solutions. It contributes significantly to the green economy by creating opportunity of employment in areas like renewable energy, organic farming, waste management ecofriendly product and sustainability technologies. However, despite its huge potential, Green entrepreneurship possesses many challenges like high initial investment, limited accessibility to finance,

lack of awareness, technology barrier and market competition. Therefore, an effective policy framework, public awareness, strong financial support and ease of doing business We'll overcome this barrier he's got it is an essential tool which can be used to attain sustainability in the long-term course of economic growth, manage sustainability and profitability.

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