

Factors Affecting Growth and Success of Green and Sustainable Entrepreneurship: An Empirical Study of Indian Startups

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Abstract

Green entrepreneurship is about building businesses that balance environmental care with profit-making. In India, many start-ups are leading projects in areas like clean energy, waste management, and sustainable agriculture. These businesses are growing in response to rising environmental awareness and changing consumer preferences. Green entrepreneurs thus play an important role in reducing pollution, creating jobs, and promoting sustainable lifestyles. Their work encourages eco-friendly habits and reshapes supply chains to minimize environmental harm. As they drive both social and economic value, green start-ups contribute to building a more sustainable future for India. This study examines the factors that influence the growth and success of green entrepreneurship in India. The study will look at what is needed by these initiatives to thrive and succeed. This will help policymakers and other organizations to take the necessary steps. A sample of 223 people involved in Indian start-ups were surveyed to explore the factors that affects the growth and success of green and sustainable entrepreneurship and found that Consumer Demand, Competitive advantage, Collaboration and Networks and Corporate and Social Responsibility (CSR) are the factors that affects the growth and success of green and sustainable entrepreneurship

Keywords: Green Entrepreneurship, Sustainable Startups, Environmental Innovation, Indian Startups

Introduction

The global economy is taking a significant step towards sustainability, driven by all the growing concerns about climate change, environmental degradation, and the need for more responsible business practices. For the same reason, in recent years, green entrepreneurship has become a common approach to balancing economic growth with environmental protection. Green entrepreneurs focus on creating innovative business solutions that address ecological challenges while promoting sustainable development. They introduce environmentally friendly products and services, and this plays an important role in reshaping consumer behavior, reducing pollution, and developing a greener economy.

Green entrepreneurship brings together environmental, social, and economic goals to drive sustainable innovation and create long-term value. Unlike traditional businesses that primarily aim for profit, green businesses incorporate eco-friendly practices into their operations, ensuring that their impact on the environment remains minimal. This is essential for addressing some of the world's most pressing issues, including resource scarcity, waste management, and carbon emissions. Green entrepreneurs thus contribute to building sustainable economies by shifting societal attitudes toward environmentally conscious consumption and encouraging businesses to adopt greener practices (Kaur & Kaur, 2019).

Now coming to the Indian context, the rise of green entrepreneurship is particularly significant. India is one of the world's fastest-growing economies, and its rapid industrialization has contributed to severe environmental challenges, including air and water pollution, deforestation, and increasing waste. Because of these challenges, both the government and private sector have started to prioritize sustainable development. The Indian start-up ecosystem is increasingly focusing on areas such as renewable energy, waste management, clean transportation, and sustainable agriculture. These sectors have a lot of potential for green entrepreneurship to thrive and contribute to India's sustainability goals. Government programs like "Start-up India" and incentives for clean energy projects also have created a conducive environment for eco-friendly ventures. As a result, green start-ups in India are becoming a major force in addressing the country's ecological challenges while aligning with global sustainability frameworks like the United Nations Sustainable Development Goals (Deepeka et al., 2024).

The move toward green entrepreneurship is not only driven by environmental concerns but also by changing consumer preferences. As consumers become more aware of the impact of their purchasing choices on the planet, there is an increasing demand for eco-friendly products and services. This pattern in behavior has opened up new opportunities for entrepreneurs to create green businesses that cater to the growing market for sustainable solutions. Green entrepreneurs are responding to this demand by introducing innovative products, redesigning supply chains to be more environmentally friendly, and creating green jobs that contribute to both economic and environmental goals. However, the successful adoption of green entrepreneurship needs a supportive ecosystem that adequately addresses challenges such as high initial costs, limited access to technology, and regulatory barriers (Bhandari, 2018).

One of the core components of green entrepreneurship is innovation. Green entrepreneurs are often at the forefront of developing new technologies and business models that reduce environmental impact. For instance, they may create biodegradable packaging, develop renewable energy solutions, or design sustainable agricultural practices. These innovations not only address existing environmental problems but also pave the way for future sustainable growth. As they bring sustainability into their core business strategies, green entrepreneurs actually get a competitive advantage in the market, as more consumers and investors prioritize companies that show environmental responsibility.

Literature Review

Green entrepreneurship has gained attention globally as a way to promote sustainable development while addressing pressing environmental challenges. It focuses on creating businesses that balance profit-making with environmental and social responsibilities. One of the most important factors for green entrepreneurship is having strong internal enablers within organizations. These include practices like "Total Quality Management (TQM), Circular Supply Chain Management (CSCM), and Corporate Social Responsibility (CSR)." These factors help businesses align their operations with sustainability goals and improve competitiveness in the market. Strengthening cross-functional collaboration, process management, and human resource practices is essential for building a circular supply chain that minimizes waste and promotes eco-friendly practices.

Knowledge sharing and strategic planning also play a big role in supporting these initiatives. Businesses that focus on these internal enablers are better prepared to handle environmental pressures while staying competitive (Soleimani et al., 2023).

Start-ups differ from large companies when it comes to Corporate Social Responsibility. Their approach to CSR is often more personal and less structured. Many start-ups treat CSR as an investment decision, balancing financial returns with social and environmental goals. They often face challenges like high costs and limited access to funding and technologies, which makes it harder to implement sustainable practices. Start-ups can improve their CSR efforts by conducting audits, aligning their initiatives with core business objectives, and adopting international CSR standards such as ISO guidelines. These steps can give them better visibility, attract investors, and improve their competitive edge. Governments and policymakers need to recognize the role of start-ups in addressing social and environmental issues and provide support through policies and financial incentives (Voinea et al., 2019).

Consumer behavior is important for green entrepreneurship. Lately, consumers have preferred eco-friendly products, and this has encouraged many entrepreneurs to explore green business opportunities. Consumers today are more aware of their environmental impact and are willing to pay a premium for products that align with their values. This change in behavior has created new opportunities for green entrepreneurs to introduce innovative solutions that cater to sustainable consumption.

Green marketing is essential in raising consumer awareness about the benefits of sustainable products. However, one of the challenges green entrepreneurs face is consumer skepticism. Some consumers doubt the effectiveness of green products, especially when companies make exaggerated claims about their environmental impact. Entrepreneurs need to ensure transparency in their marketing efforts to build trust with consumers. Making sustainable choices convenient for consumers can also help increase adoption. For instance, start-ups that make it easy for people to switch to eco-friendly products by providing seamless customer experiences are more likely to succeed (Christodoulou et al., 2024).

In India, the demand for green products has grown significantly, particularly in areas like “renewable energy, waste management, and clean transportation.” Green entrepreneurs are creating jobs and promoting economic growth in rural areas by addressing environmental issues. However, many green businesses face challenges due to limited support from financial institutions and government policies that favor large corporations. To address these issues, more awareness programs and financial assistance are needed to encourage green investments and promote sustainable entrepreneurship (Halдар, 2019).

Financial support is critical for the success of green start-ups. Green finance refers to financial products and services that support sustainable projects, such as renewable energy, energy efficiency, and waste reduction. It plays a key role in helping green businesses scale their operations and contribute to achieving sustainability goals. In the case of India, green finance has been growing steadily, with government-backed initiatives promoting carbon-neutral projects. Green bonds and ESG funds have attracted billions in investments, making it easier for start-ups to secure funding for their eco-friendly ventures. But at the same time, the global green finance sector is still in its early stages. Many countries, including India, require further support from developed nations to achieve their sustainability targets. Businesses must adapt their strategies to meet the growing demand for green financial products, as investors increasingly prioritize companies that show strong environmental and social performance (Bhatnagar et al., 2022). Start-ups engaged in green entrepreneurship often face financial barriers, including high initial investment costs and limited access to capital. There is a need for financial institutions and

government agencies to create tailored funding solutions that meet the needs of green businesses. These solutions could include flexible loans, grants, and tax incentives for companies that adopt sustainable practices. Collaboration between the public and private sectors can also create a supportive financial ecosystem for green entrepreneurship (Nafeesa & Joe, 2024). Policies like tax rebates, subsidies, and infrastructure assistance can encourage entrepreneurs to adopt sustainable practices. In India, government programs like “Start-up India” and relaxed regulations for green businesses have helped create a favorable environment for green entrepreneurs. These initiatives have made it easier for start-ups to access funding, attract investors, and grow their businesses (Kushwaha & Kumar, 2017).

Despite these efforts, many entrepreneurs remain unaware of the government incentives available to them. Awareness campaigns and information-sharing platforms can help bridge this gap by informing entrepreneurs about the support mechanisms in place. Governments can also collaborate with educational institutions and industry associations to develop training programs that equip entrepreneurs with the skills needed to run sustainable businesses (Sharma & Singh, 2023). Institutional support, such as mentorship programs, knowledge-sharing networks, and technical assistance, is needed for green start-ups to overcome challenges and achieve long-term success. Public-private partnerships can enhance the growth of green businesses by providing them with the necessary resources and expertise to innovate and scale their operations (Kumar & Veena, 2020).

The integration of “Environmental, Social, and Governance (ESG)” principles has become increasingly important for green entrepreneurs. ESG principles help businesses align their operations with sustainability goals, reduce risks, and improve stakeholder engagement. Among the three components, governance has the strongest impact on shaping the growth strategies of young companies. Strong leadership, ethical practices, and transparent decision-making are essential for building sustainable businesses (Singh & Tarkar, 2024).

Implementing ESG practices can also reduce operational costs by improving energy efficiency and reducing waste. Companies that adopt ESG frameworks are more likely to attract investors, as they are perceived to be more financially sustainable in the long run. ESG integration can also improve a company’s reputation, making it more appealing to customers and stakeholders. Entrepreneurs who prioritize ESG principles can drive both financial success and positive societal impact, making it a critical framework for modern businesses.

Green entrepreneurs face several challenges in starting and sustaining their businesses. High initial costs, limited access to green technologies, and regulatory hurdles are some of the most common barriers. Consumer skepticism toward green products is another challenge. Some consumers are hesitant to adopt eco-friendly products due to concerns about their effectiveness or higher costs (Faisal et al., 2024). Clear, accurate information about the environmental impact of their products can help build trust and encourage consumers to make more sustainable choices. Entrepreneurs should also focus on operational efficiency and innovation to reduce costs and make green products more affordable for consumers. Green start-ups in developing countries, such as Pakistan, face additional challenges due to a lack of infrastructure and support systems. Improving product quality, optimizing production processes, and leveraging modern technologies can help green businesses succeed in these regions. Affordable pricing is also essential to boost sales and make green products more accessible to a broader audience.

Education and awareness play a key role in promoting green entrepreneurship. Educational institutions can create a supportive ecosystem by integrating sustainability concepts into their curricula and offering specialized training programs for entrepreneurs. These programs can help students and aspiring entrepreneurs understand the importance of sustainable business practices

and identify green business opportunities (Annamalaisamy & Manida, 2023). Awareness campaigns can also help consumers understand the benefits of green products, encouraging them to make more sustainable choices. Educational initiatives can inspire future entrepreneurs to consider green ventures as viable career paths, reducing their risk aversion and increasing their willingness to innovate in sustainability-focused industries (Sharma & Singh, 2023).

Objective

To explore the factors that affects the growth and success of green and sustainable entrepreneurship.

Methodology

A sample of 223 people involved in Indian start-ups were surveyed to explore the factors that affects the growth and success of green and sustainable entrepreneurship. This study is based on a survey conducted using a structured questionnaire specifically designed for this research. The primary data was collected using a “random sampling method,” and “Factor Analysis” was employed to derive the results.

Findings

The table below presents the general details of the respondents where male contributes 52.5% to total study survey population and rest 47.5% are female. 35.4% are below 32 years of age, 45.7% are of 32-42 yrs and the remaining 18.8% are above 42 years of age. 22.9% are in lifestyle startups, 26.9% in small business startups, 25.6% in social startups, 17.0% in scalable startups and rest 7.6% in others Indian startups.

“Table 1 Demographic details”

“Variable”	“Respondents”	“Percentage”
Gender		
Male	117	52.5
Female	106	47.5
Age		
Below 32 yrs	79	35.4
32-42	102	45.7
Above 42 yrs	42	18.8
Types of start-ups		
Lifestyle startups	51	22.9
Small business startups	60	26.9
Social startups	57	25.6
Scalable startups	38	17.0
Others	17	7.6
Total	223	100

“Table 2 KMO and Bartlett's Test”

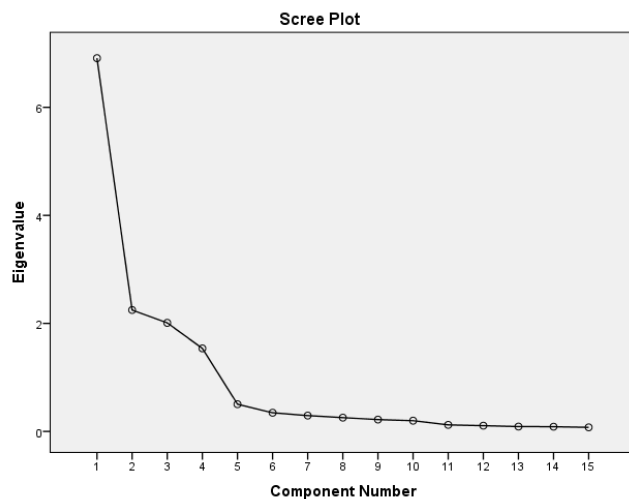
“Kaiser-Meyer-Olkin Measure of Sampling Adequacy”		.843
“Bartlett's Test of Sphericity”	“Approx. Chi-Square”	3324.968
	“df”	105
	“Sig.”	.000

KMO value is 0.843 and the “Barlett’s Test of Sphericity” is significant.

“Table 3 Total Variance Explained”

“Component”	“Initial Eigen values”			“Rotation Sums of Squared Loadings”		
	“Total”	“% of Variance”	“Cumulative %”	“Total”	“% of Variance”	“Cumulative %”
1	6.910	46.066	46.066	3.453	23.017	23.017
2	2.247	14.982	61.048	3.318	22.122	45.139
3	2.010	13.402	74.450	3.260	21.731	66.870
4	1.537	10.245	84.695	2.674	17.825	84.695
5	.504	3.357	88.052			
6	.345	2.300	90.353			
7	.293	1.954	92.307			
8	.255	1.703	94.010			
9	.219	1.459	95.469			
10	.199	1.324	96.794			
11	.121	.809	97.603			
12	.107	.711	98.314			
13	.090	.599	98.912			
14	.087	.582	99.494			
15	.076	.506	100.000			

“Principal component analysis” shows fifteen variables from four Factors. The factors explained the variance of 23.017%, 22.122%, 21.731% and 17.825% respectively. The total variance explained is 84.695%.



“Table 4 Rotated Component Matrix”

“S. No.”	“Statements”	“Factor Loading”	“Factor Reliability”
	Consumer Demand		.943
1	Increase in consumer demand for eco-friendly products	.916	
2	Change in consumer’s preferences towards green products and services	.881	
3	Awareness campaigns increase consumer’s demand as they understand the benefits of green products	.875	
4	Consumers are willing to pay good amount for green products	.864	
	Competitive advantage		.929
5	Early adoption of sustainability helps the business to become an industry leader	.893	

6	More consumers and investors prioritize companies that show environmental responsibility	.892	
7	Enhanced brand loyalty through transparency in supply chains	.871	
8	Entrepreneurs leverage sustainability awards and recognitions to get credibility	.837	
	Collaboration and Networks		.925
9	Public-private partnerships to enhance the growth of green businesses	.886	
10	Participating in innovations that address existing environmental problems	.874	
11	Collaboration with academia for sustainable R&D	.856	
12	Promoting knowledge-sharing networks	.801	
	Corporate and Social Responsibility (CSR)		.927
13	Balance financial returns with social and environmental goals	.887	
14	Adopt international CSR standards such as ISO guidelines	.884	
15	Community development projects to improve local ecosystems	.873	

Table 4 shows the factors that affects the growth and success of green and sustainable entrepreneurship. Factor “Consumer Demand” includes the variables like Increase in consumer demand for eco-friendly products, change in consumer’s preferences towards green products and services, Awareness campaigns increase consumer’s demand as they understand the benefits of green products and Consumers are willing to pay good amount for green products. Factor “Competitive advantage” includes the variables like Early adoption of sustainability helps the business to become an industry leader, more consumers and investors prioritize companies that show environmental responsibility, Enhanced brand loyalty through transparency in supply chains and Entrepreneurs leverage sustainability awards and recognitions to get credibility. Factor “Collaboration and Networks” includes the variables like Public-private partnerships to enhance the growth of green businesses, participating in innovations that address existing environmental problems, Collaboration with academia for sustainable R&D and Promoting knowledge-sharing networks. Factor “Corporate and Social Responsibility (CSR)” includes the variables like Balance financial returns with social and environmental goals, adopt “international CSR standards such as ISO guidelines” and Community development projects to improve local ecosystems.

“Table 5 Reliability Statistics”

“Cronbach's Alpha”	“N of Items”
.915	15

Total reliability is 0.915 for four constructs including fifteen variables.

Conclusion

Green entrepreneurship is the way to ensure a more sustainable future. As the world faces increasing environmental challenges, the need for businesses that prioritize eco-friendly practices has never been more important. Green entrepreneurs not only address environmental issues but also create jobs, promote innovation, and drive economic growth. These ventures focus on producing goods and services that reduce environmental harm while meeting consumer needs. In India and other developing countries, green entrepreneurship presents immense opportunities. With growing consumer demand for eco-friendly products and increased government support,

businesses have a chance to make a meaningful impact. Policies that encourage green investments, educational programs that teach sustainable practices, and public awareness campaigns can help create a more supportive environment for eco-friendly businesses.

The study was conducted to explore the factors that affects the growth and success of green and sustainable entrepreneurship and found that Consumer Demand, Competitive advantage, Collaboration and Networks and Corporate and Social Responsibility (CSR) are the factors that affects the growth and success of green and sustainable entrepreneurship.

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