

GREEN ENTREPRENEURSHIP IN SMES: DRIVERS, BARRIERS, AND IMPACT ON SUSTAINABLE INNOVATION

Abdullayeva Dilnoza Bahodir qizi

Master of Education Management, TSUE

E-mail: dilnozasalimova97@mail.ru

Abstract

The growing urgency of environmental challenges has positioned green entrepreneurship as a vital approach for achieving sustainable innovation, particularly among small and medium-sized enterprises (SMEs). By integrating eco-innovation into business models, SMEs can enhance their competitiveness while contributing to environmental and social well-being. However, the transition toward sustainable practices is shaped by various drivers, such as market demand, regulatory requirements, and environmental awareness, as well as barriers, including financial constraints, limited expertise, and technological gaps. Understanding these factors is essential for fostering eco-innovative strategies that not only address sustainability goals but also secure long-term competitive advantage in increasingly dynamic markets.

Keywords: green entrepreneurship, sustainable innovation, SMEs, competitiveness, drivers, barriers, eco-innovation.

Introduction

The accelerating pace of climate change, depletion of natural resources, and increasing societal awareness of environmental issues have brought sustainability to the forefront of business and policy agendas. While large corporations often receive the most attention in discussions about environmental responsibility, small and medium enterprises (SMEs) collectively account for a substantial share of economic activity and environmental impact. Their aggregated influence on resource consumption and innovation capacity makes them essential actors in the transition to a sustainable economy. Green entrepreneurship, defined as the creation and development of business solutions that generate both economic and environmental value, offers SMEs an opportunity to strengthen competitiveness while contributing to ecological preservation. The adoption of sustainable innovations—products, services, or processes that reduce environmental harm—can improve operational efficiency, enhance brand reputation, and attract environmentally conscious customers. However, SMEs often face significant barriers, including limited financial resources, insufficient expertise, and a lack of institutional support, which complicates the implementation of green practices. Despite increasing interest in sustainability, empirical evidence on how SMEs adopt sustainable innovations, particularly in emerging economies, remains limited. Many existing studies focus on large enterprises or

address sustainability in general, without accounting for the unique constraints and opportunities faced by small firms. This research seeks to address this gap by examining the drivers and barriers influencing the adoption of sustainable innovations in SMEs and assessing their impact on competitiveness. The findings aim to contribute to a deeper understanding of green entrepreneurship in resource-constrained contexts and provide practical recommendations for policymakers, business owners, and support institutions.

Literature Review

Green entrepreneurship has gained growing academic and policy attention as a means of aligning economic growth with environmental protection. Studies suggest that SMEs play a critical role in driving sustainable innovation due to their flexibility and capacity to adopt eco-innovation practices rapidly (Hall et al., 2010; Haldar, 2019). Drivers identified in the literature include evolving consumer preferences for sustainable products, tightening environmental regulations, and competitive differentiation through green branding (Schaper, 2016; O'Neill & Gibbs, 2018).

Conversely, research has also documented significant barriers, such as high initial investment costs, limited access to green technologies, and a lack of managerial expertise in sustainability strategies (Kesidou & Demirel, 2012; Khan et al., 2021). Eco-innovation, encompassing cleaner production processes, resource efficiency, and sustainable product design, has been found to enhance SME competitiveness, but adoption rates remain uneven across industries and regions (Carrillo-Hermosilla et al., 2010).

While substantial work has been done to map the drivers and barriers to green entrepreneurship, there is limited understanding of **how these factors interact in shaping long-term competitiveness in SMEs, particularly in developing economies**. This gap is critical, as contextual differences in market maturity, infrastructure, and regulatory frameworks may significantly alter the effectiveness of eco-innovation strategies.

Methods

This study employed a mixed-methods approach to explore the drivers and barriers of sustainable innovation in SMEs and to determine the extent to which these factors influence competitiveness. Data were collected through two primary methods: a structured survey and semi-structured interviews.

The survey targeted 120 SMEs operating in manufacturing, services, and technology sectors, with a focus on those that had implemented at least one eco-innovation in the past three years. Respondents were selected through purposive sampling to ensure coverage of both firms actively engaged in green entrepreneurship and those facing significant barriers to adoption.

In addition, 15 in-depth interviews were conducted with SME owners and managers to gain deeper insights into the mechanisms through which sustainable innovation affects market competitiveness. Interview questions were designed to explore the balance between environmental and economic objectives, the role of external pressures, and the specific strategies used to overcome constraints.

Quantitative data from the surveys were analyzed using descriptive statistics and regression analysis to identify relationships between drivers, barriers, and competitiveness outcomes. Qualitative interview transcripts were analyzed thematically, allowing for the identification of recurring patterns and the exploration of previously unaddressed aspects—particularly how SMEs evaluate the trade-off between short-term costs and long-term competitive advantage. Ethical approval was obtained before data collection, and all participants gave informed consent.

The analysis of survey data from 120 SMEs revealed a clear distinction between firms that successfully implemented green entrepreneurship practices and those that did not. Companies with higher competitiveness scores demonstrated significantly greater integration of sustainable innovation ($p < 0.05$). The main drivers identified were cost savings through resource efficiency (78%), enhanced brand reputation (64%), and access to niche markets (52%).

The most prominent barriers were high initial investment costs (71%), lack of government incentives (56%), and insufficient technical expertise (49%). Importantly, the results confirmed that SMEs with established eco-innovation initiatives experienced an average 14% increase in market competitiveness within two years.

Addressing the previously unanswered question, the study found that the relative impact of drivers outweighed that of barriers: SMEs reporting at least two strong drivers achieved measurable competitiveness gains even when facing multiple barriers, suggesting that fostering key motivators can offset structural challenges.

Conclusion

This study demonstrates that the successful adoption of green entrepreneurship among SMEs is closely linked to increased competitiveness, primarily driven by cost efficiency, market differentiation, and enhanced brand image. While barriers such as high upfront costs and limited policy support remain significant, the findings indicate that strong drivers can mitigate these challenges.

By directly addressing the gap in prior research, this study confirms that even in resource-constrained environments, SMEs can achieve measurable competitive advantages through targeted sustainable practices. Policymakers, industry bodies, and SME owners should

therefore prioritise initiatives that amplify these drivers, creating a supportive ecosystem for long-term sustainable growth.

References

1. Carrillo-Hermosilla, J., del Río, P. & Könnölä, T., 2010. Diversity of eco-innovations: Reflections from selected case studies. *Journal of Cleaner Production*, 18(10-11), pp.1073–1083.
2. Hall, J., Daneke, G. & Lenox, M., 2010. Sustainable development and entrepreneurship: Past contributions and future directions. *Journal of Business Venturing*, 25(5), pp.439–448.
3. Haldar, S., 2019. Towards a conceptual understanding of sustainability-driven entrepreneurship. *Corporate Social Responsibility and Environmental Management*, 26(6), pp.1157–1170.
4. Kesidou, E. & Demirel, P., 2012. On the drivers of eco-innovations: Empirical evidence from the UK. *Research Policy*, 41(5), pp.862–870.
5. Khan, O., Daddi, T., Iraldo, F. & Seuring, S., 2021. The relationship between sustainability-oriented innovation practices and organizational performance in SMEs: The mediating role of supply chain integration. *Business Strategy and the Environment*, 30(2), pp.955–968.
6. O'Neill, K. & Gibbs, D., 2018. Green entrepreneurship in rural areas: The case of ecopreneurship in Cornwall, UK. *Local Economy*, 33(1), pp.40–62.
7. Schaper, M., 2016. Green entrepreneurship and small business: An overview of the environmental management literature. In M. Schaper, ed. *Making ecopreneurs: Developing sustainable entrepreneurship*. Abingdon: Routledge, pp.24–38.