Nexus of Green Innovation and Sustainable Development: A Systematic Review of Literature

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ABSTRACT

Climate change has prompted scholars to seek solutions, with many proposing that green innovation can drive sustainable development. This study examines the relationship between green innovation and sustainable development through a systematic review of existing literature. The review is framed by three key theories: Diffusion of Innovation Theory, Institutional Theory, and Triple Bottom Line Theory. A systematic review methodology was employed, involving a thorough search of scholarly databases to identify relevant articles, reports, and book chapters. These studies were critically appraised and synthesized to highlight key themes, theoretical frameworks, methodologies, and findings related to the green innovation-sustainable development nexus. The review reveals a complex, multidimensional relationship between green innovation and sustainable development. Green innovation positively impacts sustainable development, particularly in enhancing environmental and social sustainability. While numerous benefits are identified, significant challenges remain, including the lack of policies, regulations, and frameworks to effectively implement green innovations across various sectors. The study concludes that green innovation has a positive and significant influence on sustainable development. It recommends enhancing collaboration among governments, businesses, academia, and civil society to promote knowledge sharing, joint research, climate finance, policy frameworks, and innovative solutions for addressing climate change.

Keywords: Diffusion of Innovation Theory, Green Innovation, Institutional Theory, Sustainable Development, Systematic Review, Triple Bottom Line Theory.

INTRODUCTION

In the 21st century, there has been a growing trend in green growth innovation as a key measure to mitigate climate and environmental changes affecting the world. This shift can be traced back to the industrial revolution, during which natural resources were heavily exploited for economic purposes, leading to global warming (Alkaraan, Albitar, Hussainey, & Venkatesh, 2022). The transition to clean energy and green innovations is aimed at reducing environmental impacts that could threaten future generations (Abbas & Dogan, 2022). Green innovation is closely aligned with the Sustainable Development Goals (SDGs), which seek to ensure long-term, sustainable development worldwide.

The SDGs focus on reducing resource consumption, controlling waste, promoting recycling, and minimizing pollution (UNDP, 2021). Through advancements in environmental science and technology, green innovation can enhance or create new products and processes (Lv, Shao, & Lee, 2021). Incorporating green technologies can significantly contribute to reducing global warming while also minimizing the environmental impact of organizational operations (Rehman et al., 2021).

Numerous developing countries have intensified their efforts to promote green growth initiatives to meet the SDGs. Initiatives such as the Green Growth Action Alliance, involving the Group of Twenty (G-20) and the ESG Africa Conference, are actively seeking solutions to eradicate global warming (Kocharekar, 2023).

These efforts aim to promote free trade in green goods and services, establish effective carbon pricing, end inefficient subsidies for fossil fuels, accelerate low-carbon innovation, and increase public funding to leverage private investment.

Despite various climate change conferences, global warming remains a pressing challenge for many nations. Obstacles such as systemic issues, financial constraints, lack of international commitment, poor private sector involvement, and inadequate regulations and frameworks continue to hinder progress (Jaiwant & Kureethara, 2023). This raises crucial questions about the nexus between green innovation and sustainable development.

Research Question

The study research questions, "What are the key theories, methodologies, findings, and implications related to the nexus of green innovation and sustainable development?"

LITERATURE REVIEW

This section explores both theoretical and empirical literature to provide a comprehensive understanding of existing knowledge on green innovation strategies and sustainable performance. The empirical studies from various scholars are thematically synthesized to highlight the nexus between green innovation strategies and sustainable development.

Theoretical Review

The relationship between green innovation and sustainable development is multifaceted, drawing from several theoretical perspectives. This review focuses on three key theories that provide insights into the dynamics of this relationship: Diffusion of Innovation Theory, Institutional Theory, and Triple Bottom Line Theory.

Diffusion of Innovation Theory

Everett Rogers introduced the Diffusion of Innovations Theory in 1962. The theory suggests that innovations spread through populations in a predictable manner, with different types of adopters: innovators, early adopters, early majority, late majority, and laggards (Godin, 2019). The theory highlights the importance of communication channels, social systems, and the perceived attributes of innovations in the adoption process. In the context of green innovation, this theory underscores the role of technological advancements in addressing environmental challenges and achieving sustainable development goals (Huang et al., 2022). Green innovation, which includes developing sustainable technologies and practices, aligns with this framework.

In green innovation, early adopters, typically governments or large corporations with a commitment to sustainability, can drive the transition to sustainable practices. Over time, the diffusion curve accelerates as more organizations see the benefits of green innovation, such as regulatory compliance, cost savings, and enhanced public image. Diffusion of Innovation Theory is particularly valuable in identifying the barriers to and enablers of green technology adoption: understanding why some organizations resist or delay green practices (laggards) helps policymakers and sustainability advocates design better strategies to increase adoption rates. The focus on communication channels and social systems in this theory is vital, as successful green innovations often require strong networks and collaboration to diffuse effectively.

Institutional Theory

Meyer and Rowan introduced Institutional Theory in 1977, which posits that organizations adopt certain structures and practices not just for functional efficiency but to align with societal norms and expectations (Aksom & Tymchenko, 2020). According to this theory, organizations institutionalize certain practices to

gain legitimacy, social approval, and stability. In the context of green innovation, Institutional Theory examines how formal and informal institutions, such as government regulations, policies, and norms, influence the adoption and diffusion of green practices (Ebrahimi & Koh, 2021). Supportive policies can encourage investments in green technologies, while outdated frameworks may hinder sustainable innovation.

Institutional Theory highlights the role of regulatory frameworks, government incentives, and corporate social responsibility (CSR) pressures which is necessary in institutionalization of green innovation. Institutional pressures, such as environmental regulations like emissions standards, market competition, and consumer expectations for sustainability, create an environment where green innovation becomes a necessary strategy for long-term survival.

Triple Bottom Line Theory

John Elkington's Triple Bottom Line (TBL) Theory, introduced in 1994, advocates for balancing environmental, social, and economic aspects to achieve sustainability (Zaharia & Zaharia, 2021). This theory emphasizes the interdependence of people, planet, and profit, aligning well with the principles of green innovation, which seeks to address environmental challenges while fostering social and economic progress. The TBL framework calls for simultaneous consideration of ecological integrity, social equity, and economic prosperity in the innovation process.

TBL Theory uniquely contributes by encouraging the integration of sustainability into corporate strategy. The green innovations such as the development of renewable energy technologies or waste reduction initiatives must create economic opportunities (profit), reduce environmental impacts (planet), and provide social benefits (people). This can involve creating jobs in green sectors, improving the well-being of communities through sustainable agriculture or clean energy access, and simultaneously fostering economic resilience by reducing dependency on finite resources.

These three theories offer complementary perspectives on the nexus of green innovation and sustainable development. While Diffusion of Innovation Theory highlights the role of technology, Institutional Theory focuses on the role of institutions, and Triple Bottom Line Theory stresses the need for a balanced approach integrating environmental, social, and economic factors.

Empirical Review

This empirical review synthesizes evidence on the nexus between green innovation and sustainable development, focusing on real-world implications, outcomes, and challenges of green innovation practices.

Ullah, Ahmad, and Rehman (2021) examined the relationship between green innovation and sustainable development goals in 204 Pakistani SMEs, moderated by government incentives. Their findings revealed that green innovation significantly impacted environmental sustainability, with government support enhancing this relationship but not moderating the link between green innovation and community development.

Wang, Abbas, Sial, and Alvarez-Otero (2022) explored the moderating role of organizational green culture on the relationship between green knowledge management and sustainable development goals. Data from manufacturing and service enterprises indicated that green technological and managerial innovations were positively associated with sustainability, with organizational green culture strengthening this link.

Alyahya, Aliedan, Agag, and Abdelmoety (2022) studied the influence of institutional pressures on green innovation and sustainable development practices in Saudi Arabia. Their quantitative analysis found that competitive, customer, and governance pressures significantly impacted the relationship between green innovation and the economic, environmental, and social dimensions of sustainability.

Jaiwant and Kureethara (2023) conducted a systematic review on the role of green finance in promoting sustainable financial systems. Their study emphasized the potential of green finance as an innovative tool for reducing carbon footprints and fostering environmentally friendly business practices, but also highlighted the lack of support from many nations.

In Malaysia, Asadi et al. (2020) explored the impact of economic and environmental performance on the hotel industry's green innovation adoption, revealing a significant positive effect on the adoption process. Utilizing partial least squares analysis, the study highlights the importance of these performance aspects in supporting hotels' sustainability initiatives.

El-Kassar and Singh (2017) addressed the growing need for companies to integrate environmentally conscious strategies to maintain competitive advantages. Their study outlines green innovation strategies, such as reducing emissions, recycling, and creating sustainable products, as key factors. Despite extensive research, they emphasized the need for additional studies on the role of corporate ethics, stakeholder perceptions, and big data in overcoming technological barriers. Their work also proposed a framework that includes managerial and HR contributions in enhancing green innovation, which showed positive effects on both performance and competitive advantage among MENA and GCC firms.

Focusing on SMEs, Nuryakin and Maryati (2022) investigated green marketing orientation's effectiveness within Indonesian SMEs and found that green innovation and competitive advantage moderate the success of green marketing initiatives. The study used purposive sampling and collected data from 223 SMEs in Yogyakarta, showing that a green marketing focus positively impacts both green innovation and competitive advantage. However, the educational background of managers or owners did not significantly affect the relationship between green marketing effectiveness and green innovation, indicating that competitive advantage is a more significant mediator.

In another study, Soewarno et al. (2018) examined whether a green innovation strategy promotes green innovation within Indonesian manufacturing firms. They found that green organizational legitimacy and identity positively influence green innovation outcomes, reinforcing the importance of aligning corporate identity with sustainability. Using structural equation modeling, the study suggests that companies enhance green innovation by developing an organizational identity that supports environmental values.

Mustaq et al. (2019) assessed the mediating role of environmental commitment in the relationship between green organizational identity and innovation performance. Their study found that firms that incorporate environmental goals into their missions improve their reputation and achieve a first-mover advantage. By employing structural equation modeling with data from WWF Green Office Project participants, they demonstrated that environmental commitment partially mediates green identity and innovation performance, underlining its importance in bolstering corporate sustainability goals.

In Kenya, Nzomo et al. (2023) examined the connection between green innovation strategies and performance sustainability within ISO 14001-certified manufacturing firms. Guided by the resource-based view and triple bottom line theory, they employed regression analysis and found that adopting green innovations significantly supports sustainable performance. Their findings recommend that manufacturing firms automate processes, establish green departments, and provide staff training to maximize the benefits of green innovation.

Summary of Literature Review

The reviewed empirical studies offer valuable insights into the nexus between green innovation and sustainable development. They demonstrate that green innovation contributes to positive environmental, social, and economic outcomes, such as reduced resource consumption and improved social well-being. However, the studies also point to challenges, including regulatory barriers, financial limitations, and limited

awareness. These findings underscore the importance of supportive policies, collaboration, and knowledge-sharing mechanisms to integrate green innovation into sustainable development agendas effectively.

METHODOLOGY

This study employed a systematic review approach to examine the nexus between green innovation and sustainable development, ensuring adherence to scientific procedures throughout the process.

Formulating the Research Question

The study began by defining a clear research question focused on understanding the relationship between green innovation and sustainable development. The central research question was: "What are the key theories, methodologies, findings, and implications related to the nexus of green innovation and sustainable development?" This helped establish the scope, context, and key concepts to be explored.

Defining Inclusion and Exclusion Criteria

To ensure relevance and rigor, the study defined specific inclusion and exclusion criteria. Only scholarly articles, reports, and book chapters published within the last five years were considered. The selected literature had to explicitly address both green innovation and sustainable development to be included in the review.

Developing a Search Strategy

A comprehensive search strategy was developed to identify relevant literature. Appropriate keywords and search terms related to green innovation, sustainable development, and related concepts were employed. The search covered academic databases and grey literature repositories, including institutional websites and conference proceedings.

Screening and Selection

The retrieved articles were screened based on their titles and abstracts to identify potentially relevant studies. The predefined inclusion and exclusion criteria were applied to select studies that addressed both green innovation and sustainable development, ensuring that only relevant literature was included.

Critical Appraisal

The selected studies were critically appraised to evaluate their quality and relevance. This step was essential to ensure the reliability and validity of the evidence being synthesized, thus enhancing the robustness of the findings.

Data Extraction and Synthesis

Key data were extracted from the selected studies, including study characteristics, research designs, sample sizes, variables assessed, and findings related to the nexus of green innovation and sustainable development. The extracted data were systematically organized and summarized for analysis and interpretation.

Analysis and Interpretation

The synthesized data were analyzed to identify common themes, patterns, and relationships across the studies. Qualitative techniques were employed to explore these themes and patterns, providing a basis for concrete evidence. The findings were interpreted in relation to the research question, theoretical frameworks, and existing knowledge on green innovation and sustainable development.

Reporting and Dissemination

A comprehensive report of the systematic review was prepared in accordance with established reporting guidelines, such as PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). The findings, conclusions, and recommendations were presented transparently, ensuring replicability and reliability. The results provide valuable insights for informing policy, practice, and future research in the field of green innovation and sustainable development.

RESULTS AND DISCUSSION

Findings

The findings from the systematic review of literature on the nexus between green innovation and sustainable development reveal key themes, trends, and insights. This section summarizes the prominent findings and discusses their implications.

Positive Environmental Impacts

Green innovation has demonstrated substantial environmental benefits, particularly in reducing resource consumption, minimizing waste, and decreasing greenhouse gas emissions. Ullah, Ahmad, and Rehman (2021) found that Pakistani SMEs adopting green innovation experienced significant improvements in environmental sustainability. This impact was enhanced by government incentives, although government support did not directly contribute to community development aspects. Similarly, Wang et al. (2022) showed that green knowledge management positively influenced environmental outcomes in both manufacturing and service sectors, with an organization's green culture significantly enhancing this effect. The practical implications of these findings suggest that firms adopting green innovations like renewable energy technologies and eco-efficient manufacturing can meaningfully address environmental challenges while advancing toward sustainable development goals. However, challenges such as technological limitations in renewable energy deployment and cultural resistance to organizational change highlight the need for targeted support and continuous knowledge-sharing initiatives.

Resource Efficiency and Circular Economy

The transition to a circular economy is strongly supported by green innovation, which promotes resource efficiency through eco-design, waste reduction, and recycling technologies. Alyahya et al. (2022) demonstrated that institutional pressures, including those from competitors and customers, drive economic sustainability and stimulate green innovation within Saudi organizations. In practical terms, these pressures encourage businesses to adopt circular economy principles such as product lifecycle extension and resource recovery, which align with sustainable development efforts by reducing resource consumption and environmental impact. However, financial limitations and technological barriers often impede these transitions, especially in resource-intensive sectors. Overcoming these challenges will require stronger financial incentives and public-private partnerships to invest in the necessary infrastructure for circular economy practices.

Social Benefits and Equity

Green innovation contributes significantly to social equity and well-being, addressing critical social and economic needs. Ullah, Ahmad, and Rehman (2021) found positive impacts on social benefits within Pakistani SMEs, despite government incentives not moderating these social outcomes. Likewise, Alyahya et al. (2022) identified that institutional pressures positively influenced social sustainability by fostering green innovation. Practically, green innovations like renewable energy and sustainable agriculture generate employment opportunities, drive economic inclusivity, and improve quality of life. However, social acceptance and awareness remain substantial obstacles, especially in developing regions where immediate

economic needs often outweigh environmental considerations. Policymakers and businesses must thus prioritize educational programs and community engagement initiatives to integrate green practices with tangible social benefits effectively**.**

Policy and Institutional Support

Institutional and regulatory support has proven essential in fostering green innovation. Alyahya et al. (2022) highlighted that government regulations and market competition significantly promote sustainable development practices by pressuring organizations toward green innovation. This is further supported by findings from El-Kassar and Singh (2017), who suggested that government incentives, financial assistance, and capacity-building programs are essential for organizations to overcome green innovation challenges. Practically, coherent policies, financial subsidies, and industry-specific incentives are crucial to facilitate green innovation adoption. However, inconsistent policy enforcement, regulatory constraints, and limited funding can pose challenges. Collaborative efforts between governments, industries, and international bodies can create an enabling environment that bridges these gaps, promoting green innovation and sustainable development more effectively.

Barriers and Challenges

Despite its benefits, green innovation faces numerous barriers, including technological limitations, regulatory challenges, and financial constraints. Jaiwant and Kureethara (2023) noted a lack of international support for green finance, which underscores the global financial limitations hindering green practices. In developing economies, where funding for sustainable practices is scarce, businesses may face additional challenges in meeting regulatory requirements or accessing advanced green technologies. Cultural resistance within organizations also poses a significant barrier, as green innovations often require shifts in corporate practices and employee behavior, which may be met with resistance. Addressing these issues requires targeted financial support, regulatory reform, and cultural integration initiatives that promote awareness of the long-term benefits of green innovation, as well as training programs that equip employees with the skills needed to implement and sustain these innovations effectively.

Discussion

The findings from the systematic review reveal the significant potential of green innovation to advance sustainable development goals. The positive environmental impacts, resource efficiency improvements, and social benefits underscore the importance of integrating green innovation into sustainability agendas. The role of supportive policies, institutional frameworks, and stakeholder collaboration is essential in fostering the widespread adoption of green innovation practices.

However, the identified barriers these are regulatory challenges, financial constraints, and knowledge gaps highlight the need for targeted efforts to overcome these obstacles. Policymakers should focus on creating an enabling environment for green innovation by developing supportive policies, offering financial incentives, and promoting capacity-building initiatives. Strengthening institutional frameworks and enhancing collaboration between stakeholders will be critical in ensuring the successful integration of green innovation into sustainable development strategies. By addressing these challenges, green innovation can serve as a powerful tool for achieving environmental, social, and economic sustainability.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

In conclusion, the nexus between green innovation and sustainable development presents a critical pathway toward achieving a more sustainable and prosperous future. Green innovation, driven by the urgency to tackle environmental challenges, holds the potential to transform industries, economies, and societies. By

combining technological advancements, scientific research, and sustainable practices, green innovation not only mitigates environmental degradation but also promotes economic growth, social equity, and enhanced quality of life.

Through green innovation, organizations can develop and adopt cleaner and more efficient technologies, renewable energy sources, and sustainable production and consumption practices. This integration of environmental considerations into innovation processes helps minimize resource depletion, reduce pollution and waste, and mitigate the effects of climate change. Moreover, it fosters the creation of new green industries and employment opportunities, contributing to economic resilience and inclusive growth.

The impact of green innovation extends beyond environmental sustainability; it also has significant social implications. By enabling the provision of affordable and clean energy, green innovation ensures communities' access to basic services such as healthcare, education, and clean water. It also fosters social equity by creating employment in green sectors and promoting sustainable livelihoods. Additionally, green innovation enhances resilience to climate-related disasters, protecting vulnerable populations and strengthening social cohesion.

However, realizing the full potential of green innovation for sustainable development requires collaboration across multiple sectors. Governments, businesses, academia, and civil society must work together to create supportive policy frameworks, promote sustainable practices, and ensure fair competition for businesses. Investment in research and development, technological dissemination, and capacity building is essential to drive the widespread adoption of green solutions. Furthermore, education and awareness initiatives are needed to empower individuals and communities to embrace sustainable lifestyles and make informed choices.

Recommendations

Governments, businesses, academia, and civil society should establish structured collaboration platforms to foster knowledge exchange, joint research, and the co-creation of innovative green solutions. For instance, public-private partnerships (PPPs) can be formalized through agreements that link industry with research institutions to develop and scale up green technologies. Governments could establish national Green Innovation Hubs to bring together public, private, and academic sectors, with clear mandates to research and implement sustainable practices. These hubs should focus on strategic areas like renewable energy, resource efficiency, and circular economy models.

Governments should introduce Green R&D Grant Programs that prioritize investments in cutting-edge technologies, such as carbon capture, sustainable agriculture, and energy storage solutions. In addition to tax incentives, a specific Green Innovation Fund could be set up, supported by both public and private contributions, to finance startups and projects that align with sustainability goals. These initiatives should be accompanied by fast-track patent approval processes for green technologies to encourage innovation and commercialization.

Governments should integrate sustainability considerations into every sector by establishing Green Policy Integration Committees within ministries to align industry policies with environmental goals. This can include setting specific, binding targets for emissions reduction and renewable energy adoption across industries. Green Business Certification Programs could also be introduced, providing tax breaks and subsidies to businesses that meet sustainability criteria, such as energy efficiency and low waste production. To discourage unsustainable practices, governments could introduce carbon pricing mechanisms, such as carbon taxes or cap-and-trade systems, ensuring that the environmental cost of production is reflected in market prices.

Governments and educational institutions should collaborate to integrate sustainability and green innovation into curricula across all levels of education. Green Innovation Academies can be established in universities

and vocational training institutes to provide specialized training in green sectors such as renewable energy, sustainable construction, and circular economy practices. These programs should include internships and partnerships with green companies to ensure practical, hands-on experience. Additionally, teacher training programs should be developed to equip educators with the knowledge and resources to teach sustainability effectively.

Governments should work with financial institutions to create Green Venture Capital Funds and sustainable loan schemes that provide favorable financing options for small and medium-sized enterprises (SMEs) focused on green innovation. This could include offering low-interest loans, green bonds, and impact investment programs that support environmentally friendly projects. Additionally, governments can establish green business incubators to mentor startups, helping them scale up by providing technical assistance and linking them with investors.

To encourage widespread adoption of sustainable practices, governments and NGOs should develop large-scale public awareness campaigns that highlight the benefits of green innovation and sustainable living. These campaigns should focus on consumer awareness programs that promote eco-friendly products and services and provide practical tips for reducing waste and energy use at home. Governments could also introduce green labeling systems for products that meet sustainability standards, helping consumers make informed choices. Community engagement programs, such as local sustainability workshops, should be organized to promote behavior change at the grassroots level.

Governments should engage in bilateral and multilateral agreements to enhance cooperation on green innovation and sustainable development, particularly with developing countries. International organizations, such as the United Nations Framework Convention on Climate Change (UNFCCC), can play a coordinating role in facilitating technology transfer and capacity-building initiatives. Governments should also push for the creation of an International Green Innovation Knowledge Exchange Platform, where countries can share best practices, case studies, and successful policy frameworks. This can help ensure that green innovations are adapted to different regional contexts and disseminated globally.

Theoretical Implications

The findings on green innovation underscore the multi-theoretical approach to understanding sustainable development. Diffusion of Innovation Theory offers insights into the adoption phases of green practices, identifying early adopters, often large corporations or governments, as critical for the initial spread of sustainable technologies and practices. The focus on social systems and communication channels provides a blueprint for understanding resistance from laggards and highlights the need for strategies that accelerate diffusion, such as showcasing tangible benefits of green innovation. Meanwhile, Institutional Theory emphasizes the influence of formal and informal institutions, including regulatory frameworks and societal expectations, as crucial enablers of green innovation adoption. It highlights that organizations adopt sustainable practices not just for efficiency but also to align with societal norms for legitimacy. The Triple Bottom Line (TBL) Theory integrates economic, social, and environmental dimensions, stressing that sustainable innovation should enhance economic value, social equity, and environmental stewardship concurrently. Together, these theories illuminate the complexities of green innovation and reinforce the need for multidimensional approaches in achieving sustainable development.

Practical Applications

In practical terms, these findings suggest that organizations should strategically leverage early adopters as role models to encourage wider adoption of green practices. Governments, large corporations, and sustainability-driven organizations can drive change by demonstrating the cost-saving, compliance, and reputational benefits of green innovation, accelerating the transition along the diffusion curve. Institutional Theory suggests that policymakers should enhance supportive frameworks such as green incentives, tax credits, and emissions standards to encourage compliance and align with market demands. These

frameworks can help institutionalize green innovation as standard practice, thereby motivating competitive adoption in various sectors. The TBL Theory advocates for businesses to integrate green innovation with a balanced focus on profit, people, and the planet, which means investing in projects that not only reduce environmental impact but also generate economic value and contribute to social well-being. These aligned approaches can create a robust foundation for sustained adoption of green innovations across regions and sectors, ultimately supporting global sustainability goals.

Further Area of Study

In summary, despite significant progress in understanding the nexus between green innovation and sustainable development, key gaps remain in the literature. These include the need for more context-specific analyses of green innovation across different regions and industries, standardized metrics to measure sustainability outcomes, and a greater emphasis on social and organizational innovations alongside technological advances. Additionally, there is a lack of integrated theoretical frameworks, limited focus on the social impacts of green innovation, and insufficient research on the long-term effects of green technologies. Future research should aim to address these gaps by exploring innovative policy models, fostering international cooperation, and adopting a comprehensive, multi-dimensional approach to green innovation. Addressing these gaps will provide a clearer pathway toward achieving sustainable development goals.

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