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Introduction to the Innovability Index: Beyond the fusion of innovation and sustainability

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Abstract

The integration of innovation and sustainability, conceptualized as innovability, represents a strategic construct for addressing global challenges such as climate change, resource constraints, and social inequality. The conceptual understanding of innovability has advanced, but its empirical measurement and operationalization remain underdeveloped. This conceptual paper introduces the Innovability Index, designed to evaluate the extent to which countries, regions, or organizations embed sustainability principles. The index encompasses four dimensions: technological innovation for sustainability, environmental sustainability, social inclusiveness, and sustainable business practices. Each dimension is assessed through a set of indicators normalized, weighted, and aggregated to generate a composite performance score. The Innovability Index provides a structured approach for benchmarking sustainable innovation capabilities. It is a practical tool for policymakers, firms, and researchers to align innovation ecosystems with sustainability imperatives and the Sustainable Development Goals (SDGs). This conceptual paper opens the thematic issue of innovability and sustainable innovation, as well as addresses a gap in the literature by introducing the initial attempt to measure innovability.

Keywords: *Innovability, Innovability Index, sustainable development, ESG, sustainability, sustainable innovation, technological innovation, environmental sustainability, social inclusiveness, sustainable business practices,*

INTRODUCTION

The intersection of innovation and sustainability has emerged as a focal point in contemporary research, reflecting the growing recognition that long-term economic growth must be balanced with environmental stewardship and social equity (e.g., Xetor & Mensah, 2025). Innovation, often framed as the engine of economic progress, has traditionally been studied in isolation from sustainability focused on preserving resources and ensuring equity development. However, the increasing urgency of global challenges, such as climate change, resource depletion, and social inequality, necessitates an integrated approach that aligns innovation with sustainability objectives.

The concept of innovability, which synthesizes innovation and sustainability, builds on this imperative by emphasizing the creation of innovative solutions that drive economic value while addressing environmental and societal needs. Despite its conceptual richness, the operationalization and measurement of innovability remain underexplored. Existing frameworks, such as the Global Innovation Index (GII) (Huang et al., 2024; Nasir & Zhang, 2024) and the Sustainable Development Goals Index (SDG Index) (Anselmi et al., 2024), partially address these domains, however without showing

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their convergence. The GII, for instance, evaluates countries' innovation capabilities and outputs but does not explicitly focus on environmental and social dimensions. Conversely, the SDG Index emphasizes sustainability outcomes but does not systematically assess the role of innovation in achieving these goals.

Several studies have sought to integrate elements of innovation and sustainability. Research on sustainability-oriented innovation (SOI) (Fiandrino et al., 2025) highlights how firms develop environmentally and socially responsible products and processes. Similarly, investigations into green innovation (Zhan et al., 2025) mainly focus on technological advancements that mitigate environmental impact. These studies often prioritize the innovation process or sustainability outcomes, neglecting the holistic interplay between the two.

Our initial research addresses a literature gap by proposing and evaluating the Innovability Index, a composite measure that can quantify the capacity of countries, regions, or organizations to innovate sustainably. Unlike prior frameworks, the Innovability Index integrates technological, environmental, social, and business dimensions, comprehensively assessing how innovation and sustainability interact. By doing so, we offer a tool for benchmarking performance, guiding policy, and fostering cross-sectoral collaboration. Thus, the primary research question (RQ) is as follows:

RQ: How can the Innovability Index be utilized to evaluate and enhance the sustainable innovation performance of countries, regions, or organizations?

This question aims to explore not only the measurement of innovability but also its implications for policy and strategy. Thus, our conceptual considerations seek to provide an understanding of how entities can leverage the Innovability Index to identify strengths, address weaknesses, and align their innovation ecosystems with sustainability goals. This approach contributes to the broader discourse on sustainable development and aligns innovation with ecological and societal imperatives.

Our conceptual paper was developed as part of the outcomes of the 22nd International Conference on Economics, Finance, and Management (ICEFM 2024), held on May 30–31, 2024, in Lima, Peru. The conference, organized under the patronage of the Embassy of Poland in Lima and the Embassy of Peru in Warsaw, was dedicated to the theme "Balancing Contemporary Challenges With Innovability." This thematic issue on current innovability and sustainable innovation trends includes six articles in the Contributors section.

LITERATURE BACKGROUND

The term "innovability," a conceptual fusion of innovation and sustainability, was initially introduced by Mi Dahlgaard-Park and Dahlgaard (2010), who defined innovability as an organizational capability that enhances innovation and learnability to support continuous improvement. This framing positioned innovability within the discourse of total quality management and emphasized its role in fostering long-term adaptability and organizational learning. Building upon this foundation, Dervitsiotis (2010) expanded the concept by explicitly integrating sustainability considerations into innovability. He articulated innovability as a strategic capability that brings into line continuous innovation with sustainability principles to ensure competitiveness while responding to broader ecological and societal challenges.

In the corporate sector, Enel, a leading multinational energy company, operationalized innovability through its "Open Innovability" strategy, combining open innovation platforms with sustainability objectives. Under its leadership, Enel institutionalized innovability through the creation of dedicated innovation hubs and multi-sectoral collaborations aimed at co-developing solutions aligned with the United Nations Sustainable Development Goals (Monteiro & Garcia, 2019; Visnjic & Malizou, 2022). These efforts translated the abstract concept of innovability into governance and implementation, illustrating its potential to drive organizational strategic transformation (Lippolis et al., 2023).

In academia, De la Vega Hernández and Barcellos de Paula (2021) conducted a bibliometric analysis of literature from 1990 to 2018, mapping the convergence of innovation and sustainability. They identified a sustained increase in scholarly output linking these domains and proposed *innovability* as a management strategy defined by "innovation capability in a sustainable way." Their study positioned innovability as a theoretically grounded and practically oriented construct, underlying its potential for innovation systems with sustainability imperatives.

Innovability can be investigated at the intersection of innovation management theories and sustainability science. From the innovation side, it is rooted in the dynamic capabilities perspective (Teece et al., 1997), which posits that organizations must continuously reconfigure resources to remain competitive in evolving environments. From the

sustainability perspective, it resonates with the triple bottom line approach, which advocates balancing economic, environmental, and social performance to achieve long-term viability and corporate responsibility (Elkington, 1997). Innovability also aligns with organizational ambidexterity, as detailed by O'Reilly and Tushman (2008), underscoring the necessity of balancing explorative innovation (developing novel opportunities) with exploitative refinement of sustainable practices (optimizing existing processes) to simultaneously advance innovation and sustainability goals. This dual focus means that innovation efforts are inherently sustainable, just as sustainability initiatives are inherently innovative – an inseparability that characterizes innovability's strategic orientation.

Innovability shares conceptual terrain with sustainability-oriented innovation (SOI) and green innovation (GI). On one hand, SOI typically refers to innovation activities explicitly addressing sustainability goals, often through targeted product, process, or business model innovations (Adams et al., 2016; Fiandrino et al., 2025). On the other hand, GI focuses on minimizing environmental harm and frequently treats sustainability as a functional add-on to traditional innovation processes, treating it not as an outcome but as an intrinsic design principle (Ibarra-Cisneros et al., 2024; Zhan et al., 2025).

Building upon the existing literature, innovability can be delineated into four interrelated dimensions: 1) Technological Innovation for Sustainability, 2) Environmental Sustainability, 3) Social Inclusiveness, and 3) Sustainable Business Practices.

1) Technological innovation for sustainability: This dimension reflects the extent to which technological advancements are strategically directed toward sustainable development (Secundo et al., 2020). Recent research has demonstrated that eco-innovation (Chien et al., 2023; Triguero et al., 2022), including clean technologies (Xie et al., 2024), energy efficiency systems (Olabi et al., 2023), and digital tools for sustainability (Javeed et al., 2025), can deliver both economic and environmental benefits. Empirical studies confirm that targeted R&D investment and technological output in sectors such as renewable energy, waste reduction, and circular economy models serve as key indicators of an economy's or organization's commitment to sustainability-oriented innovation (Montresor & and Vezzani, 2023).
2) Environmental sustainability: This dimension addresses the ecological outcomes of innovation and emphasizes the importance of minimizing environmental degradation through innovation strategies. Empirical evidence from firm-level studies demonstrates that organizations adopting carbon reduction initiatives, life-cycle assessment practices, and circular business models improve environmental performance and achieve regulatory compliance and operational efficiency (Saba et al., 2023; Sharma et al., 2021; Singh et al., 2020). These findings support the integration of environmental performance metrics as a core component of sustainable innovation evaluation.
3) Social Inclusiveness: This dimension evaluates how innovation practices promote equity and inclusion. The social dimension is recognized as essential for ensuring broad access to innovation's benefits. The integration of social factors into economic decisions is increasingly seen as essential for long-term stability, as societies marked by inequality are more prone to unrest and instability (Mdingi & Ho, 2021). Studies show that initiatives involving marginalized stakeholders, such as community-based co-creation and inclusive technology diffusion, contribute to social cohesion and innovation effectiveness, particularly in emerging markets (De Tommaso & Pinsky, 2022).
4) Sustainable Business Practices: This dimension examines how sustainability principles are embedded within business operations and governance structures. Corporate sustainability extends CSR by focusing on long-term value creation through sustainable business practices. Firms adopt sustainability strategies by improving resource efficiency (Sun et al., 2023), reducing carbon footprints (Carvalho et al., 2016), embracing renewable energy (Zhang & Kong, 2022), and adopting circular economy principles (Arshi & Wallis, 2024; Stewart & Niero, 2018). Practices such as sustainable supply chain management (Alam et al., 2025; Jabber et al., 2024) and ESG reporting have been associated with sustainable business practices (Mohamed Riyath & Inun Jariya, 2024; Yadav et al., 2024).

Despite these conceptual advancements, no universally accepted framework exists to comprehensively and quantitatively measure innovability. Some companies like Enel have developed internal frameworks and proprietary indicators to evaluate innovability. These remain context-specific and are not openly accessible for scholarly validation (Monteiro & Garcia, 2019). Existing empirical studies, such as the Suzano case (De Tommaso & Pinsky, 2022), is limited in its sectoral applicability and does not provide a generalizable quantitative assessment. The need for a validated, scalable measurement instrument that encompasses the multidimensional nature of innovability remains pressing. The Innovability Index introduced in this paper addresses this gap by presenting the four aforementioned dimensions to assess and enhance innovability across diverse settings.

INTRODUCING THE INNOVABILITY INDEX

The Innovability Index is a proposed composite measure designed to evaluate the ability of countries, regions, or organizations to simultaneously foster innovation and sustainability. The concept of innovability, as presented above, emphasizes the development of new technologies, processes, and business models that generate economic, social, and environmental value. The Innovability Index aims to comprehensively assess how well entities integrate sustainability into their innovation ecosystems, ensuring that innovation does not come at the expense of environmental degradation or social inequity. This index seems promising for policymakers, corporations, and researchers seeking to measure progress in achieving sustainable innovation.

The Innovability Index is grounded in two main theoretical pillars: innovation theory and sustainability science. As noted, innovation theory highlights the role of technological change and entrepreneurship in economic growth and industrial transformation, while sustainability science emphasizes long-term environmental health, social equity, and resource preservation. By merging these two disciplines, the Innovability Index seeks to quantify how well an economy or organization innovates in ways that support sustainable development goals (SDGs). The index integrates multiple dimensions into a composite score. These dimensions are selected based on their relevance to the twin objectives of promoting innovation and ensuring sustainability. The index uses a set of key indicators to measure each dimension, enabling cross-country or cross-organizational comparisons of innovability performance.

We propose that the Innovability Index comprises four main dimensions listed above, each capturing a critical aspect of innovability. They include: 1) Technological Innovation for Sustainability, 2) Environmental Sustainability, 3) Social Inclusiveness, and 4) Sustainable Business Practices (Table 1). Technological Innovation for Sustainability assesses how economies or organizations can develop and adopt technologies that contribute to sustainability. It focuses on the generation of new products, processes, or services that minimize environmental impacts, enhance resource efficiency, or promote the transition to a green economy. Environmental Sustainability evaluates the environmental outcomes of innovation and assesses whether technological advancements are being leveraged to reduce environmental degradation and promote the sustainable use of resources. It emphasizes the extent to which innovation contributes to improving environmental health and reducing ecological footprints. Social Inclusiveness focuses on the social impact of innovation, ensuring that technological advancements reduce inequality and promote social inclusion. Social inclusiveness in innovability is critical for ensuring that innovation benefits are distributed equitably and disadvantaged groups are not excluded from participating in and benefiting from innovative activities. Finally, the Sustainable Business Practices dimension assesses how businesses and industries adopt sustainable practices and embed sustainability into their innovation strategies. It measures how firms are transitioning towards sustainable business models and the degree to which they are responsible for their environmental and social impacts.

Table 1. The Innovability Index dimensions and indicators

Dimensions	Key indicators	Definition
1. Technological Innovation for Sustainability	R&D expenditure on green technologies	The percentage of total research and development (R&D) expenditure devoted to environmentally friendly technologies (e.g., renewable energy, energy efficiency, waste reduction).
	Number of clean technology patents	A measure of the inventive output in the clean technology sector, including renewable energy, pollution control, and sustainable agriculture.
	Innovation output in sustainable sectors	A measure of the share of innovation outputs (products, processes, services) in sectors that contribute to sustainability, such as renewable energy, water management, and sustainable construction.
2. Environmental Sustainability	Carbon intensity of innovation	Greenhouse gas emissions per unit of innovative output (e.g., per patent or per R&D expenditure).
	Resource efficiency	The ratio of economic output (e.g., GDP) to resource input (e.g., energy, water, and material use), measuring the extent to which innovation enhances resource efficiency.
	Reduction in environmental externalities	A composite indicator measuring reductions in pollution, waste, and ecosystem degradation due to innovation efforts.

Dimensions	Key indicators	Definition
3. Social Inclusiveness	Access to innovative technologies	The percentage of the population with access to sustainable innovations (e.g., renewable energy, clean water technologies, and digital tools for social inclusion).
	Employment in sustainable sectors	The share of total employment in industries or sectors focused on sustainability and low-carbon economic activities.
	Social impact of innovation	A measure of how innovations address social challenges, such as poverty reduction, gender equality, and access to education or healthcare, in line with the Sustainable Development Goals (SDGs).
4. Sustainable Business Practices	Sustainable supply chain integration	The percentage of businesses that have integrated sustainability into their supply chains, ensuring that suppliers adhere to environmental and social standards.
	Circular economy adoption	The extent to which businesses adopt circular economy principles, such as recycling, reuse, and waste minimization, in their operations.
	Corporate sustainability reporting	The percentage of companies publicly report their sustainability performance and have adopted ESG (Environmental, Social, and Governance) standards.

Each dimension is measured through its respective indicators, which are the normalization of raw data, calculation of dimension scores, and aggregation into the final composite index. The following steps outline the calculation method for the Innovability Index:

Step 1) Normalization of indicators

To ensure comparability across indicators with different units and scales, each indicator is normalized on a common scale, typically ranging from 0 to 100. The normalization method (Formula 1) commonly employed is min-max scaling, which transforms the raw indicator values into a dimensionless score. For each indicator X, the normalized value $X_{\text{normalized}}$ is calculated as:

$$X_{normalized} = \frac{X - X_{min}}{X_{max} - X_{min}} x\ 100 \quad (1)$$

Where: X is the raw value of the indicator for the country, organization, or region being evaluated; X_{min} is the minimum value of the indicator across all entities in the dataset; X_{max} is the maximum value of the indicator across all entities; and $X_{\text{normalized}}$ is the normalized score, rescaled between 0 and 100.

Step 2) Dimension scores

The Innovability Index consists of four main dimensions: Technological Innovation for Sustainability, Environmental Sustainability, Social Inclusiveness, and Sustainable Business Practices. Each dimension is measured by a set of indicators, and the score for each dimension is computed by aggregating the normalized indicator scores. The aggregation can be done using a weighted sum of the normalized indicators (Formula 2).

For each dimension d, the score $S_{dimension,i}$ is calculated as the weighted sum of its n_d normalized indicators:

$$S_{dimension,d} = \sum_{i=1}^{n_d} \omega_i \cdot X_{normalized,i} \quad (2)$$

Where: ω_i is the weight assigned to indicator i within dimension d; $X_{normalized,i}$ is the normalized value of indicator i; n_d is the number of indicators in dimension d; and $S_{dimension,d}$ is the overall score for dimension d.

Weights ω_i can be assigned equally if no particular priority is given to any indicator, or they can be customized based on expert judgment or empirical significance.

Step 3) Overall Innovability Index Score

The final Innovability Index score $S_{Innovability}$ is calculated by aggregating the scores from the four main dimensions. This aggregation is typically performed using a weighted sum of the dimension scores, where weights reflect the relative importance of each dimension (Formula 3):

$$S_{Innovability} = \omega_{Tech} \cdot S_{Innovability,Tech} + \omega_{Env} \cdot S_{Innovability,Env} + \omega_{Social} \cdot S_{Innovability,Social} + \omega_{Business} \cdot S_{Innovability,Business} \quad (3)$$

Where: $S_{Innovability,Tech}$ is the score for Technological Innovation for Sustainability; $S_{Innovability,Env}$ is the score for Environmental Sustainability; $S_{Innovability,Social}$ is the score for Social Inclusiveness; $S_{Innovability,Business}$ is the score for Sustainable Business Practices; $\omega_{Tech}, \omega_{Env}, \omega_{Social}, \omega_{Business}$ are the weights assigned to each dimension, reflecting their relative importance. These weights are typically chosen based on expert input or strategic priorities and should sum to 1: $\omega_{Tech} + \omega_{Env} + \omega_{Social} + \omega_{Business} = 1$. In some cases, these weights may be equally distributed (i.e., ω=0.25) if all dimensions are considered equally important.

The final Innovability Index score $S_{Innovability}$ is a number between 0 and 100, with 100 representing the optimal performance in terms of integrating innovation and sustainability. Higher scores indicate a stronger capacity to innovate sustainably, while lower scores suggest potential weaknesses in either innovation or sustainability practices, or both.

The Innovability Index assesses the ability of economies, organizations, or regions to innovate in ways that are environmentally sustainable and socially inclusive. The Index relies on normalized indicators, dimension score calculations, and weighted aggregation of these scores into a single composite measure. It is a data-driven tool for benchmarking and comparing "innovability" performance, guiding efforts to foster sustainable innovation in pursuit of long-term economic, social, and environmental goals. A higher Innovability Index score signifies a robust ability to generate innovations that contribute positively to sustainability objectives, whereas a lower score highlights gaps where innovation systems may not be fully aligned with sustainability imperatives. This index can thus inform policymakers in identifying areas where public intervention (such as R&D incentives for green tech or support for inclusive innovation programs) is needed. It can likewise help business leaders and investors benchmark corporate performance in innovability, drive investment towards high-innovability ventures, and develop strategies for integrating sustainability more deeply into innovation processes. For researchers and academics, the index offers a novel metric for analyzing the relationship between innovation and sustainability across different contexts and for studying which factors most significantly contribute to higher innovability. Ultimately, the Innovability Index is proposed as a comprehensive, multidimensional measure of the capacity to innovate sustainably. By combining indicators of technological innovation, environmental sustainability, social inclusion, and responsible business practices, the index captures the complex interplay between innovation and sustainability. Importantly, the index enables cross-country, cross-sectoral, and organizational comparisons, thereby promoting accountability and encouraging the diffusion of sustainable innovations globally.

The Innovability Index is probably the first attempt to measure the intersection of innovation and sustainability. It provides a composite score that reflects how well an entity (such as a country, region, or organization) integrates sustainable practices into its innovation ecosystem. The index might track progress towards sustainable development goals (SDGs), foster a green economy, and promote socially inclusive innovation. However, like any composite index, the Innovability Index has strengths and limitations that warrant critical discussion.

On the strengths side, the Innovability Index's multi-dimensional structure, which combines Technological Innovation for Sustainability, Environmental Sustainability, Social Inclusiveness, and Sustainable Business Practices into a single score, captures the complexity and interdependence of innovation and sustainability. This multidimensional approach is essential because sustainable development requires balancing economic, environmental, and social priorities. By including diverse indicators across these domains, the index reflects a holistic view of sustainable innovation performance, which is critical for policy and strategic decision-making. Moreover, the index is designed to be adaptable to various contexts (national, regional, corporate), increasing its utility across sectors and geographic regions. The weighting of indicators and dimensions can be adjusted based on specific priorities or policy objectives, allowing for a tailored assessment of innovability in different settings. This flexibility is advantageous for policymakers and business leaders who may wish to emphasize certain aspects of sustainability or innovation according to their unique circumstances. The Innovability Index can also benchmark performance over time and identify areas where improvements are needed. Policymakers might leverage the index to design and implement interventions that enhance the sustainability of innovation systems. For example, if a country scores relatively low on the Environmental Sustainability dimension, governments could introduce

more substantial incentives for green technologies or stricter regulations on carbon emissions. Similarly, businesses can utilize the index to evaluate their progress toward corporate sustainability goals and enhance their innovation strategies (for instance, a low score in Social Inclusiveness might prompt a company to invest in more community-focused innovation programs or diversity initiatives in R&D teams).

One of the significant challenges in constructing and applying the Innovability Index is the availability and quality of data across all dimensions. Indicators such as clean technology patents or R&D expenditure on green technologies may be readily available for developed countries or large organizations, but harder to obtain for developing nations or smaller firms. Incomplete or inconsistent data can affect the reliability and comparability of the index, leading to biased assessments. The assignment of weights to different dimensions and indicators can be subjective, as it may depend on expert judgment or stakeholder priorities. Different stakeholders may value dimensions differently, for example, some may prioritize Technological Innovation for Sustainability, while others may emphasize Social Inclusiveness. This subjectivity can introduce variability in the index, potentially leading to debates about the validity of the overall score. On one hand, flexibility in weighting is a strength, on the other, it also complicates cross-country or cross-organizational comparisons, as different weighting schemes could yield different rankings.

As with any composite index, the Innovability Index entails an inherent risk of oversimplification. By aggregating multiple indicators into a single score, information about specific strengths and weaknesses within each dimension may be lost. For example, a high overall innovability score may mask poor performance in certain sub-indicators, such as resource efficiency or social inclusiveness. This simplification may lead to misinterpretations if users focus solely on the composite score without exploring into the underlying data. The assumption that innovation and sustainability are mutually reinforcing may not always hold true in practice. In some cases, there may be trade-offs between different index dimensions. Innovations that are environmentally sustainable may not be immediately profitable (Doś & Pattarin, 2024) or could require significant social adjustments, such as retraining workers from declining industries. Similarly, pursuing rapid technological innovation might lead to social inequality if access to new technologies is uneven. The Innovability Index may not fully capture such trade-offs, potentially giving a misleading impression of overall progress.

A real-world application of the index would demonstrate the utility but also reveal the practical challenges in accurately capturing the dynamic interplay between innovation and sustainability. The index must be applied carefully and interpreted in conjunction with qualitative methods to enhance its effectiveness and credibility. Future research should focus on pilot testing the Innovability Index across different contexts, refining the indicators and weighting schemes, statistical validation, as well as validating the index against external benchmarks (such as actual sustainability outcomes) to ensure its robustness. Through such continued refinement and validation, the Innovability Index can be developed into a rigorous tool that measures performance and stimulates improvement in the pursuit of sustainable innovation. Moreover, future research could revise this proposition through a much more advanced analysis of existing theories and methodologies, as well as innovation and sustainability indices, looking for possible synergies with an innovability index.

CONTRIBUTORS

The thematic issue "Current Trends on Innovability and Sustainable Innovation" assembles a collection of articles selected through a rigorous peer-review process that converge on the imperative of integrating innovation with sustainability, yet each contributes uniquely to the discourse through its empirical, conceptual, or methodological lens.

Portuguez-Castro et al. (2025) employ a systematic literature review to delineate leadership competencies essential for innovability within higher education institutions and the business sector. The authors identify five thematic competency clusters, including strategic vision, collaboration, commitment to sustainability, lifelong learning, and responsiveness to global megatrends. However, it also exposes the absence of standardized methodologies for measuring or implementing these competencies. The study's novelty resides in its explicit articulation of innovability leadership as a distinct paradigm and its call for educational institutions to bridge the competency gap for future sustainability-oriented leadership.

Najda-Janoszka et al. (2025) operationalize innovability through the integration of Science, Technology, and Innovation (STI) with Doing, Using, and Interacting (DUI) modes within a Living Lab framework. Through an in-depth case study on urban biodiversity management, they show that such integration enables co-created, context-sensitive innovations that balance ecological objectives with stakeholder needs. The methodological value of the study is found in its use of participatory action research; its conceptual contribution lies in extending innovability to encompass not just technological advancement but also socially inclusive and ecologically grounded practices.

Aqmala et al. (2025) empirically explore the mediating role of the Green Blue Ocean Strategy (GBOS) in enhancing frugal innovation via IoT and AI in resource-constrained entrepreneurial environments. Drawing on the resource-based view, the study reveals that IoT alone does not significantly affect frugal innovation, AI does, and GBOS serves as an effective strategic mediator. The originality of this study lies in the conceptualization and empirical validation of GBOS, a novel hybrid framework combining blue ocean strategy and green innovation, to foster sustainable competitiveness through digital technologies.

Kasztelan et al. (2025) quantify the relationship between eco-innovation, proxied by patent activity in recycling and secondary raw materials, and circular material use across EU countries. Utilizing panel data from 2010–2019, the study finds that higher eco-innovation intensity positively correlates with material circularity, although substantial intra-EU disparities persist. The value of this study lies in its methodological rigor and in addressing an empirical void regarding the material impacts of patent-driven eco-innovation on circular economy outcomes.

MacGregor Pelikánová et al. (2025), focused on the Unitary Patent System (UPS), investigates the correlation between innovation, economic resources, and patenting dynamics in the European Union. They demonstrate that the UPS fosters a unified legal framework for innovation protection, and its impact varies significantly across member states due to divergent levels of GDP per capita and gross domestic expenditure on R&D (GERD). The originality lies in its early empirical assessment of the UPS, revealing that economic capacity is a prerequisite but not a determinant of patenting efficiency, thus magnifying structural disparities within the EU innovation system.

Florek-Paszkowska and Ujwary-Gil (2025) introduce the Digital-Sustainability Ecosystem (DSE), a conceptual framework that elucidates the interplay between digital transformation and sustainable innovation. It systematizes five mechanisms: efficiency gains, dematerialization, circular economy enablement, innovation acceleration, and digital collaboration, and situates them within a multi-theoretical foundation encompassing resource-based, institutional, and stakeholder theories. The originality of this study lies in its holistic and adaptive framing, capturing dynamic feedback loops and systemic interdependencies. It is a theoretical contribution that sets the stage for empirical validation and practical implementation across diverse sectors.

All articles advance the frontier of innovability studies by revealing that sustainable innovation is not merely the outcome of technological progress, but a socio-technical construct requiring aligned governance, stakeholder engagement, and institutional reform.

CONCLUSION

The intention of this conceptual article was to initiate a discussion on the possibilities of measuring innovability through the proposed Innovability Index. Furthermore, to look at two complementary constructs such as innovation and sustainability, in a holistic way through the proposed index and its dimensions. The need to create such an Innovability Index emerged as a commentary voice of one of the authors of this article during the OPENING PANEL SESSION ON INNOVABILITY within the aforementioned ICEFM2024 project. We hope that this thematic issue, with all its valuable contributions referring to innovability and sustainable innovation, will gain the recognition of readers and become a part of the public and academic discourse in the light of existing solutions for measuring the effectiveness of innovation and sustainability.

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Conflicts of interest

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