Jurnal Maksipreneur:
Manajemen, Koperasi, dan Entrepreneurship Vol. 15 No. 1 December 2025 p. 317 – 343

Green Entrepreneurial Marketing Orientation and Sustainable Performance in SMEs: A Systematic and Bibliometric Synthesis of Emerging Trends and Research Opportunities

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Abstract. This study systematically examines the evolution and integration of the Entrepreneurial Marketing Orientation (EMO) concept into the Green Entrepreneurial Marketing Orientation (GEMO) framework, as well as its role in enhancing sustainable performance within the small and medium-sized enterprise (SME) sector. Employing a Systematic Literature Review (SLR) and bibliometric analysis using VOSviewer, this research maps the intellectual structure and emerging trends in GEMO studies during the 2020-2025 period. The findings reveal that GEMO represents an integrated capability rooted in Entrepreneurial Marketing Orientation, grounded in the Resource-Based View (RBV) and Dynamic Capabilities View (DCV) frameworks, where resilience and sustainability serve as the foundations of long-term competitive advantage. The integration of Green Entrepreneurial Orientation (GEO), Green Marketing Orientation (GMO), and Green Innovation (GI) creates an adaptive system that enhances organizational resilience against environmental, digital, and regulatory pressures. Furthermore, this study recommends the development of the Green Digital Entrepreneurial Marketing Orientation (GDEMO) concept to strengthen green innovation and organizational resilience in the era of Green Economy 5.0.

Keywords: GEMO; GEO; GMO; Green Innovation; Organizational Resilience; Sustainable Performance

Abstrak. *Penelitian ini secara sistematis mengkaji evolusi dan integrasi konsep* Entrepreneurial Marketing Orientation (EMO) *ke dalam kerangka* Green Entrepreneurial Marketing Orientation (GEMO), *serta perannya dalam meningkatkan kinerja berkelanjutan pada sektor usaha kecil dan menengah (UKM). Dengan menggunakan pendekatan* Systematic Literature Review (SLR) *dan analisis bibliometrik berbasis* VOSviewer, *penelitian ini memetakan struktur intelektual dan tren yang berkembang dalam studi GEMO selama periode 2020–2025. Hasil penelitian menunjukkan bahwa GEMO meru-*

pakan kapabilitas terintegrasi yang berakar pada Entrepreneurial Marketing Orientation*, berlandaskan kerangka* Resource-Based View (RBV) *dan* Dynamic Capabilities View (DCV)*, yaitu resiliensi dan keberlanjutan menjadi fondasi keunggulan kompetitif jangka panjang. Integrasi* Green Entrepreneurial Orientation (GEO)*,* Green Marketing Orientation (GMO)*, dan* Green Innovation (GI) *membentuk suatu sistem adaptif yang dapat meningkatkan ketahanan organisasi terhadap tekanan lingkungan, digital, dan regulasi. Lebih lanjut, penelitian ini merekomendasikan pengembangan konsep* Green Digital Entrepreneurial Marketing Orientation (GDEMO) *untuk memperkuat inovasi hijau dan resiliensi organisasi dalam era* Green Economy 5.0*.*

***Kata kunci**: GEMO; GEO; GMO; Inovasi Hijau;* Organizational Resilience*; Kinerja Berkelanjutan.*

Article Info:
Received: December 11, 2025 Accepted: January 5, 2026 Available online: January 7, 2026
DOI: http://dx.doi.org/10.30588/jmp.v15i1.2523

BACKGROUND

Sustainability has become a central pillar of global business transformation. Heightened environmental regulations, growing social expectations, and increasing consumer awareness of eco-friendly products compel firms including small and medium-sized enterprises (SMEs) to embed the principles of the triple bottom line (economic, social, and environmental) into their strategic core (Ameer & Khan, 2023; Coelho et al., 2024; Afum et al., 2023). In this landscape, sustainability-driven strategies have emerged as essential foundations for securing enduring competitive advantage.

One strategic lens to navigate these challenges is the Entrepreneurial Marketing Orientation (EMO), which integrates entrepreneurial, market, and innovation orientations as drivers of organizational value creation (Jones & Rowley, 2011). The EMO framework formulated by Jones and Rowley (2011) outlines four interconnected orientations relevant to SMEs. Customer Orientation (CO) focuses on responsiveness to customer needs through communication and value co-creation. Market Orientation (MO) emphasizes proactive market opportunity exploration, intelligence gathering, and competitor responsiveness. Entrepreneurial Orientation (EO) reflects innovation, agility, and calculated risk-taking to address dynamic environments. Innovation Orientation (IO) underscores the systematic generation of new ideas and the development of knowledge infrastructure that sustains innovation. Collectively, these dimensions provide SMEs with a balanced mechanism to integrate entrepreneurial agility and marketing discipline for achieving sustainable outcomes.

The evolution of EMO into Green Entrepreneurial Marketing Orientation (GEMO) represents a strategic response to the growing need for synergy between green entrepreneurship, green marketing, and green innovation. GEMO integrates Green Entrepreneurial Orientation (GEO), Green Marketing Orientation (GMO), and Green Innovation (GI) to reinforce sustainable performance (Coelho et al., 2024; Song & Wang, 2024; Hanaysha et al., 2025). Framed within the Resource-Based View (RBV) and Dynamic Capabilities View (DCV), GEMO operates as both an intangible resource and a dynamic capability that enables organizations to exploit green market opportunities while adapting

to environmental and regulatory shifts (Ameer & Khan, 2023; Alfandi & Bataineh, 2023; Liang et al., 2025).

Recent empirical evidence confirms that these green dimensions positively influence sustainable performance. GEO has been found to enhance innovation and organizational resilience (Adiguzel & Cakir, 2025; Baquero, 2025), while GMO strengthens brand reputation, customer loyalty, and market performance through environmentally driven strategies (Afum et al., 2023; Papadas et al., 2024). Meanwhile, GI contributes directly to resource efficiency and regulatory adaptability (Hanaysha et al., 2025; Issa et al., 2024; Nasir et al., 2024). Collectively, these components establish a coherent conceptual foundation for advancing sustainability through innovation, proactiveness, and cross-functional collaboration.

Nevertheless, most prior studies have treated these orientations as separate constructs rather than as interdependent elements within an integrated framework such as GEMO (Ameer & Khan, 2023; Coelho et al., 2024). This fragmented approach constrains understanding of how interactions among GEO, GMO, and GI jointly enhance resilience and generate sustainable competitive advantage particularly in SMEs that operate under limited resources yet face increasing digital and regulatory pressures (Alwakid & Dahri, 2025; Crespo et al., 2025).

The urgency for synthesis is even greater in the Green Economy 5.0 era, where businesses must simultaneously integrate environmentally conscious entrepreneurship, marketing, and innovation strategies with digital transformation (Hanaysha et al., 2025; Liang et al., 2025). Within this context, GEMO offers a comprehensive framework linking these three orientations to strengthen organizational sustainability.

Accordingly, this study aims to bridge existing fragmentation in the literature and outline future research directions. By employing a Systematic Literature Review (SLR) combined with bibliometric analysis, this research maps the conceptual evolution of GEMO, examines interrelationships among its core dimensions, and identifies emerging opportunities for theoretical and practical development. The findings are expected to reinforce the theoretical foundation of GEMO and provide actionable insights for SMEs seeking to enhance sustainable strategies and long-term resilience through the adoption of Green Entrepreneurial Marketing Orientation.

RESEARCH METHODS

This study utilizes secondary data drawn from highly reputable international journal databases indexed in Q1- Q3 categories, selected for their comprehensive coverage and strong credibility in the domains of management, marketing, and the social sciences. The databases included Elsevier, Web of Science, Emerald Insight, and Taylor & Francis, ensuring both quality and academic integrity.

The literature search employed a systematic strategy using the primary keywords: *"green entrepreneurial marketing orientation," "green entrepreneurial orientation," "green marketing orientation," "green innovation orientation,"* and *"sustainable performance."* These keywords were applied across three bibliographic fields title, abstract, and author keywords to capture the most relevant and representative studies within the research scope.

To guarantee both rigor and relevance, the selection process was refined through several filters: document type limited to peer-reviewed journal articles, publication language restricted to English, publication period between 2020 and 2025, and inclusion of only the Business, Management and Accounting, Social Sciences, and Environmental Science subject areas. This procedure ensured that all included literature was contemporary, credible, and aligned with the study's analytical framework.

The overall screening adhered strictly to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, which provides a transparent, replicable, and methodologically robust foundation for systematic reviews. The inclusion criteria encompassed both empirical and conceptual studies that explicitly examined Entrepreneurial Marketing Orientation (EMO), Green Entrepreneurial Marketing Orientation (GEMO), or related green marketing constructs addressing innovation, market orientation, and sustainable performance. Only articles published in Scopus-indexed Q1-Q3 journals were retained for analysis. In contrast, the exclusion criteria eliminated conference papers, editorials, book reviews, working papers, incomplete texts, and publications deemed irrelevant to the research objectives.

From the initial dataset of 927 identified studies, duplicates were removed prior to detailed screening based on titles and abstracts, followed by a comprehensive full-text evaluation. After applying all inclusion and exclusion parameters, a total of 63 qualified articles were selected for in-depth analysis. The complete selection process is visually summarized in the PRISMA flow diagram presented in this study:

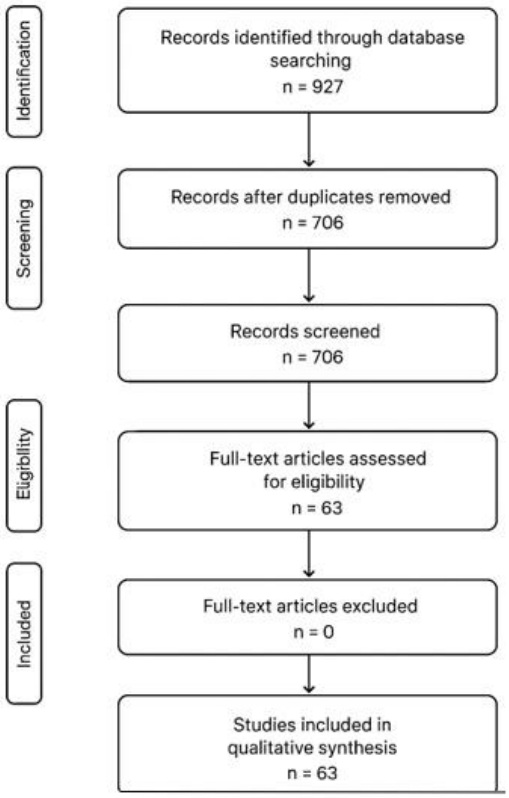

Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses)

To deepen the analytical rigor, this Systematic Literature Review (SLR) integrated thematic content analysis aimed at identifying the research objectives, methodologies, core variables, and theoretical contributions of each selected article. The reviewed studies were systematically categorized into four primary thematic clusters: green entrepreneurial orientation, green marketing orientation, green innovation, and sustainable performance. Synthesizing these clusters enabled the identification of prevailing conceptual patterns and methodological developments within the broader green marketing scholarship. This analytical approach is consistent with contemporary bibliometric studies in sustainable marketing, which emphasize mapping dominant research themes and their evolution over time (Trang et al., 2023; Persakis et al., 2025).The bibliometric analysis was carried out using VOSviewer software (version 1.6.20) and comprised three core analytical procedures:

1. Co-occurrence analysis, used to detect dominant keywords and thematic linkages;
2. Co-citation analysis, employed to identify the most influential authors, documents, and sources within the citation network; and
3. Bibliographic coupling, applied to reveal intellectual connections among articles through shared references.

Analytical parameters were established using a minimum keyword occurrence threshold of five, with LinLog/modularity normalization techniques adopted for clustering. The analysis produced network, overlay, and density visualization maps to represent thematic structures and relationships, in accordance with recognized bibliometric mapping standards in sustainable marketing research (Trang et al., 2023).

To strengthen reliability and validity, all selection, screening, and evaluation processes were conducted independently by four researchers. All differences in judgment were systematically reviewed and harmonized through consensus-based deliberation.. Every bibliometric procedure was meticulously documented to ensure methodological transparency, replicability, and the overall robustness of the analytical process for future scholarly reference.

RESULTS AND DISCUSSIONS

Results

The bibliometric analysis conducted through VOSviewer software uncovers a well-defined conceptual landscape within the field of Green Entrepreneurial Marketing Orientation (GEMO) research. The resulting network visualization demonstrates that the term “sustainability” serves as the central node, interlinking major areas such as economic performance, social performance, environmental performance, and overall sustainable performance. This structural pattern indicates that recent scholarly efforts have predominantly concentrated on exploring how entrepreneurial orientation, green marketing, and innovation collectively drive the realization of organizational sustainability.

The network visualization in Figure 2 reveals that the most prominent primary cluster centers on the strong relationship between green innovation and sustainability. This finding underscores that green innovation acts as a key driver of sustainable performance across economic, social, and environmental dimensions. The close interconnection between green innovation and sustainability suggests that firms capable of embedding

environmentally oriented innovation within their operations are better positioned to achieve long-term competitive advantage. These insights align closely with the theoretical underpinnings of the Resource-Based View (RBV) and the Dynamic Capabilities View (DCV), both of which emphasize an organization's ability to transform unique resources into enduring sources of sustainable competitiveness.

The second cluster illustrates a strong nexus between entrepreneurial orientation, green entrepreneurial orientation, and the entrepreneurial ecosystem. This cluster reflects the transformation of traditional entrepreneurial orientation into a greener, more inclusive paradigm that adapts to the imperatives of sustainability. Its connection with concepts such as social entrepreneurship, intrapreneurship, and women entrepreneurship indicates an expanding research domain emphasizing social participation and the empowerment of diverse groups within the green innovation landscape. Consequently, this cluster enriches the classical Entrepreneurial Marketing Orientation (EMO) framework by incorporating sustainability, social responsibility, and environmental consciousness as integral dimensions.

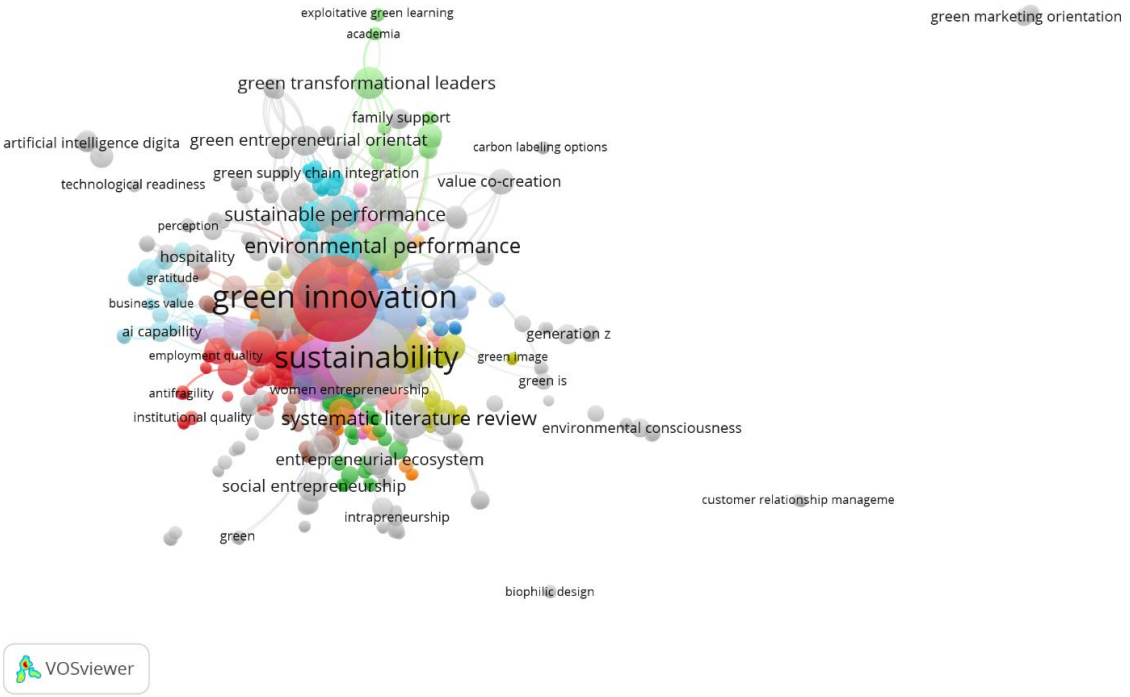

Figure 2. Network Visualization

In contrast, green marketing orientation (GMO) appears as a relatively distinct and isolated cluster within the network, detached from the main intellectual structure. This separation implies that green marketing has frequently been examined independently, with limited integration into green entrepreneurial or innovation frameworks. Such fragmentation reinforces the importance of developing an integrative model specifically, the Green Entrepreneurial Marketing Orientation (GEMO) which unifies entrepreneurial,

marketing, and innovation orientations within a single, cohesive conceptual structure capable of effectively driving sustainable performance.

Another emerging and increasingly relevant cluster encompasses themes such as AI capability, technological readiness, and digital transformation. The presence of these terms reflects a growing convergence between sustainability and digitalization, signaling a shift in scholarly attention toward how artificial intelligence, digital technologies, and data analytics can strengthen green entrepreneurship and accelerate sustainable innovation. This evolution opens new theoretical and practical pathways for advancing the Green Digital Entrepreneurial Marketing Orientation (GDEMO) concept, which integrates technological capability with sustainability values.

Beyond these primary clusters, several supporting themes including green culture, family support, value co-creation, and green supply chain integration highlight the increasing importance of contextual factors that shape the implementation of GEMO. These findings indicate that successful green orientation is not solely dependent on internal organizational strategies but also on the presence of a sustainability-oriented culture, familial and institutional support, and collaborative supply-chain ecosystems. Therefore, GEMO should be conceptualized as a strategic ecosystem that simultaneously encompasses human, social, and institutional dimensions.

The central position of sustainability within the network confirms its conceptual status as the foundation for all GEMO-related research. Each orientation entrepreneurial, marketing, or innovation ultimately converges toward enhancing sustainable performance, consistent with global agendas such as the Sustainable Development Goals (SDGs) and the circular economy framework, both of which advocate for the adoption of green and responsible business practices.

However, the observed conceptual distance between green marketing orientation and the other primary clusters indicates that marketing-focused research remains insufficiently integrated. This highlights a clear opportunity for future scholars to develop a unified GEMO model that explicitly connects green entrepreneurial, marketing, and innovation orientations into a comprehensive strategic system. Such integration will not only enhance theoretical rigor but also improve the practical applicability of GEMO across different sectors and contexts.

The emergence of terms like Generation Z and environmental consciousness further signifies a shift in research priorities toward consumer behavior and the sustainability preferences of younger generations. This trend presents new opportunities to explore how organizations can refine their communication strategies and design eco-innovative products to engage environmentally conscious consumers more effectively. Additionally, the linkage between social entrepreneurship and employment quality emphasizes that GEMO extends beyond profitability it also contributes to social value creation and employee well-being. This perspective broadens the scope of sustainability to include not only environmental and economic aspects but also social equilibrium as a determinant of long-term organizational success.

The results suggest that GEMO research has entered a stage of conceptual consolidation. The three fundamental dimensions Green Entrepreneurial Orientation (GEO), Green Marketing Orientation (GMO), and Green Innovation (GI) have established a robust theoretical foundation, though further synthesis is required to develop a fully holistic model. Future research should prioritize the construction of dynamic capability–

based theoretical frameworks that link green marketing and entrepreneurship with organizational resilience and policy mechanisms supporting sustainability.

By integrating bibliometric evidence with the RBV and DCV perspectives, GEMO research demonstrates significant potential to advance sustainable strategic management theory. GEMO transcends the boundaries of traditional green marketing it represents a paradigm shift in managerial thinking that positions sustainability at the core of entrepreneurship, innovation, and marketing strategy. Thus, this analysis not only delineates the intellectual structure of GEMO but also strengthens its conceptual trajectory toward achieving sustainable organizational performance in the contemporary business environment.

The overlay visualization generated from the VOSviewer bibliometric analysis illustrates the temporal evolution and developmental trajectory of research within the field of Green Entrepreneurial Marketing Orientation (GEMO) over the 2020–2025 period. The color gradient on the visualization map signifies the chronological emergence of research themes: blue represents the earliest topics (circa 2022), green marks the transition period (2023–2024), and yellow highlights the most recent and rapidly developing themes (2024–2025). Collectively, the overlay map not only visualizes the conceptual interrelations among research themes but also traces the intellectual progression and emerging directions of scholarly inquiry in this domain.

As illustrated in Figure 3, the initial phase of research (around 2022) predominantly concentrated on foundational topics such as sustainability, green innovation, environmental performance, and sustainable performance. The prevalence of dark blue areas indicates that early studies primarily aimed to establish a conceptual understanding of how green innovation contributes to organizational sustainability. During this formative stage, most research adopted the Resource-Based View (RBV) and Dynamic Capabilities View (DCV) frameworks to elucidate how firms mobilize and reconfigure their resources and innovation capabilities to attain sustainable performance. The focus at this point remained largely theoretical and unidimensional, emphasizing the direct linkages among key variables while paying limited attention to broader contextual, institutional, or social dimensions.

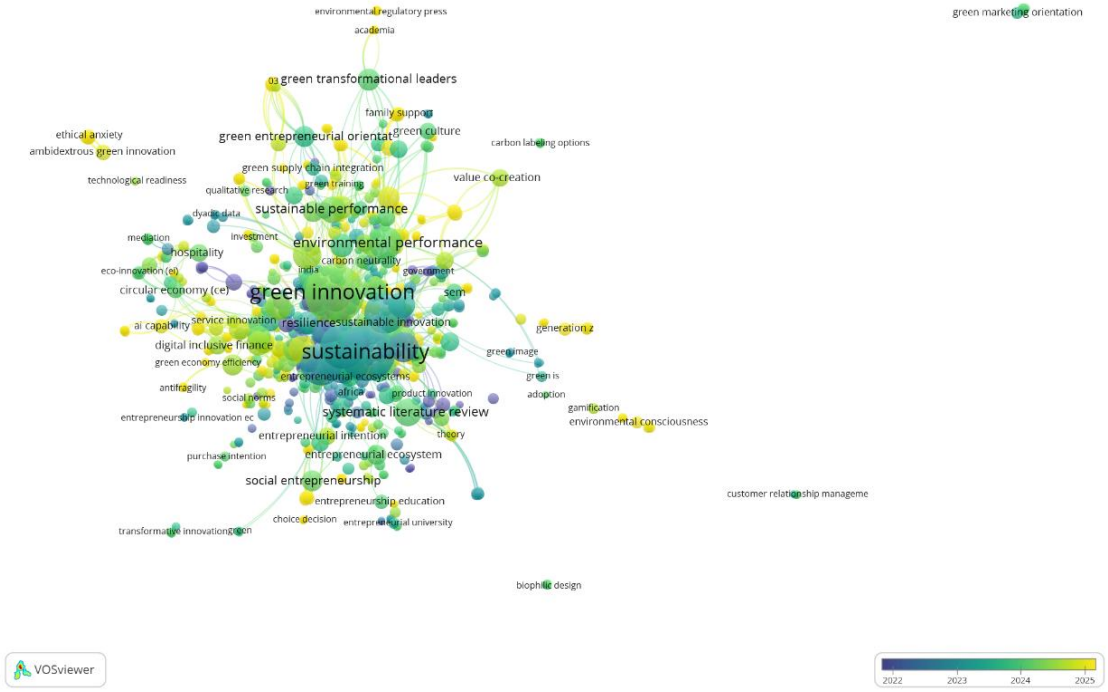

Figure 3. Overlay Visualization

As the 2023–2024 period began, the overlay visualization displayed a clear shift toward green-toned areas, signaling the emergence of new research themes that expanded the conceptual boundaries of GEMO studies. Among the most notable were green entrepreneurial orientation, entrepreneurial ecosystems, green supply chain integration, and social entrepreneurship. This progression demonstrates that scholars increasingly recognize the importance of collaboration among multiple actors and the strengthening of innovative ecosystems as enablers of green entrepreneurship. During this transitional phase, GEMO research evolved from an individual-centric orientation toward a systemic and network-based perspective, framing sustainability as an outcome of dynamic interactions among entrepreneurial orientation, innovation, supply chain relationships, and social contexts.

The subsequent phase (2024–2025) is characterized by the predominance of yellow areas, representing the emergence of the most recent and rapidly advancing topics. Themes such as AI capability, technological readiness, digital transformation, environmental awareness, and Generation Z have become focal points in the current literature. This trend illustrates the growing convergence between sustainability and digital transformation, defining the new research frontier in GEMO. Organizations are no longer confined to conventional green innovation practices; instead, they increasingly leverage digital technologies, artificial intelligence, and data analytics to strengthen their green entrepreneurial orientation and accelerate adaptation to shifting market conditions. This evolution has given rise to the concept of Green Digital Entrepreneurial Marketing

Orientation (GDEMO), which integrates green values with digital competencies as a strategic resource for building organizational competitiveness.

Additionally, emerging themes such as green transformational leadership, family support, and green culture represented by the yellow-colored areas underscore a growing focus on the human and cultural dimensions that sustain green orientation. Contemporary research increasingly acknowledges that the success of GEMO is not determined solely by technological or strategic initiatives, but also by visionary leadership, moral and pro-social commitment, and organizational social support systems.

Simultaneously, yellow regions surrounding concepts like government policy, carbon neutrality, and institutional quality reveal a heightened scholarly interest in the role of public regulation and institutional governance in advancing green business practices. This indicates that modern GEMO research has begun to integrate external contextual factors, emphasizing policy incentives, regulatory frameworks, and institutional pressures as pivotal determinants of GEMO's effectiveness and sustainability impact.

Beyond thematic transitions, the overlay visualization also highlights a methodological shift in GEMO scholarship. An increasing number of recent studies have employed systematic and bibliometric review approaches, as reflected in the appearance of terms such as systematic literature review and bibliometric analysis within the green-to-yellow spectrum. This methodological evolution suggests that GEMO research has entered a stage of knowledge consolidation, wherein scholars are systematically identifying conceptual trends, theoretical gaps, and integrative frameworks to advance the field.

The visualization results reveal that GEMO research has progressively transitioned from a theoretical to a more practical, digital, and interdisciplinary orientation. The evolution from green innovation toward digital sustainability signifies GEMO's emerging role as a conceptual bridge connecting sustainability, technological innovation, and social value creation. This underscores the growing necessity for developing advanced research models that not only analyze relationships among variables but also explicate the organizational adaptation mechanisms essential for navigating the increasing complexity of sustainability-driven business environments.

The density visualization results from the VOSviewer bibliometric analysis offer a more detailed understanding of the research intensity and thematic concentration within the domain of Green Entrepreneurial Marketing Orientation (GEMO). Areas illuminated in bright yellow represent topics that have received the highest levels of scholarly attention and exert the greatest intellectual influence within the research network, whereas regions shaded in green to blue correspond to themes that remain relatively under-explored. This visualization thus serves as an analytical tool to identify core focal areas, dominant themes, and potential research gaps that warrant further investigation in future studies.

As depicted in Figure 4 Density Visualization, the brightest regions of the map reveal that sustainability and green innovation act as the principal centers of gravity across the body of GEMO literature. The dense concentration surrounding these themes confirms that the field continues to focus heavily on exploring the interrelationship between green innovation and organizational sustainability. This relationship indicates that scholars are consistently attempting to address a central research question: how

organizations can leverage environmentally oriented innovation to enhance sustainable performance across economic, social, and ecological dimensions.

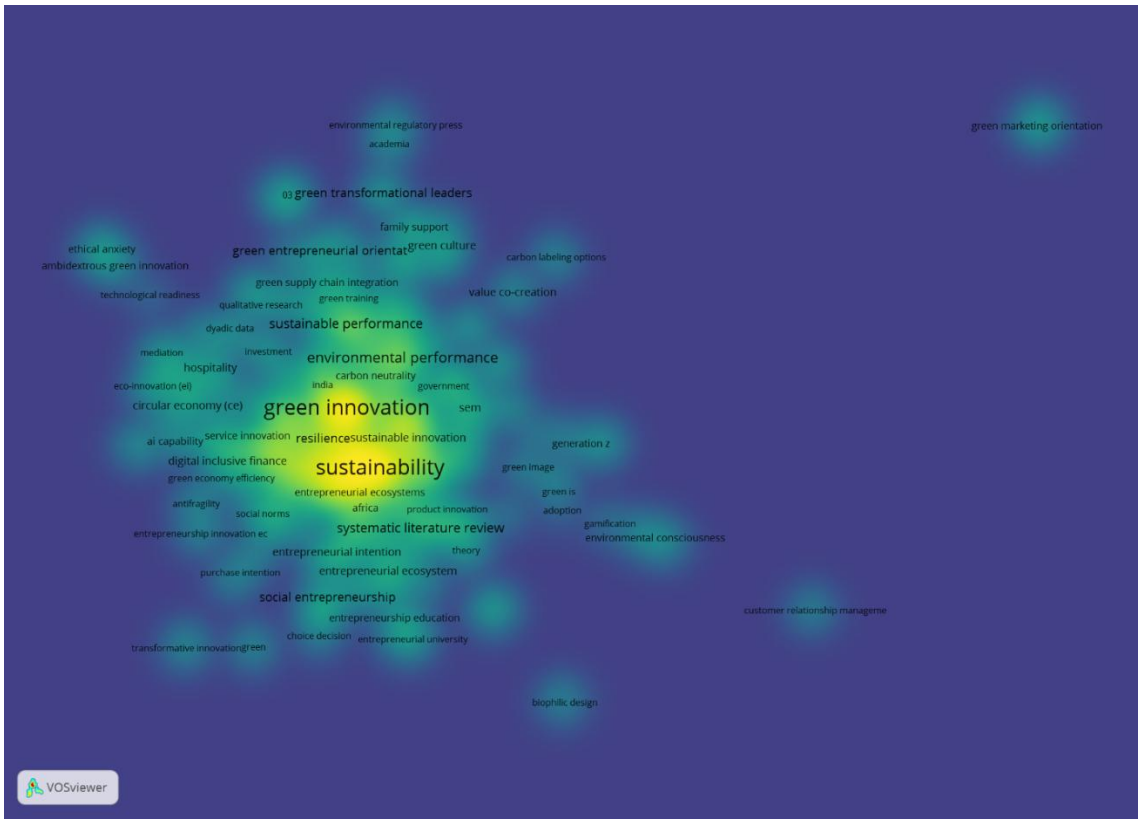

Figure 4. Density Visualization

Encircling these high-density areas, the concept of sustainable performance also exhibits significant concentration, suggesting that environmental performance and organizational sustainability remain the primary objectives linked to diverse dimensions of green orientation. In essence, contemporary scholarship views green practices not merely as ethical imperatives but as strategic business mechanisms designed to deliver measurable outcomes and foster long-term competitive advantage. These insights align with the theoretical propositions of the Dynamic Capabilities View (DCV), which asserts that a firm's adaptive and innovative capabilities play a pivotal role in navigating external challenges and responding effectively to global environmental dynamics.

Areas of medium research density including green entrepreneurial orientation, entrepreneurial ecosystem, and systematic literature review demonstrate that these themes are receiving growing scholarly attention. This pattern signifies a gradual shift from purely conceptual investigations toward model-driven and ecosystem-oriented research. Recent studies have begun to explore cross-sectoral linkages connecting green entrepreneurial orientation with innovation, marketing, and sustainable performance. The increasing concentration in these zones also underscores the rising application of systematic review and bibliometric methodologies, which are now being adopted as rigorous scientific tools for theory development and agenda-setting in GEMO research.

Medium-to-high density regions are also observed around themes such as social entrepreneurship, entrepreneurial intention, and entrepreneurial ecosystem. This suggests that topics related to social entrepreneurship and innovation ecosystems have become integral components of the GEMO framework. Studies within this cluster have evolved beyond the traditional focus on market orientation or profitability, emphasizing instead social value creation, community well-being, and ecological harmony as the ultimate objectives of green entrepreneurship. Consequently, GEMO is increasingly recognized as a multidisciplinary framework that bridges economic, ethical, and social innovation perspectives.

Conversely, lower-density areas depicted in greenish-blue tones and associated with green marketing orientation, customer relationship management, and biophilic design indicate limited research activity in these domains. Although these topics hold substantial relevance, direct empirical and theoretical connections with green entrepreneurial orientation remain underdeveloped. This gap presents promising future research opportunities to systematically integrate green marketing strategies and eco-design principles within the broader GEMO structure. Notably, the somewhat isolated position of green marketing orientation in the visualization highlights its insufficient integration with green innovation and entrepreneurial frameworks, reinforcing the need for conceptual unification.

In addition, regions containing terms such as AI capability, digital inclusive finance, and technological readiness exhibit moderate intensity, reflecting the initial phase of integration between digital transformation and sustainability practices. The increasing prominence of these concepts signals a new trajectory toward the development of the Green Digital Entrepreneurial Marketing Orientation (GDEMO) framework, wherein digital technologies function as key enablers that accelerate green innovation and enhance sustainability-oriented operational efficiency.

The overall density visualization reveals that GEMO research encompasses three hierarchical layers of focus. The first layer represents the conceptual core, anchored in themes such as resilience and sustainable performance. The second layer comprises entrepreneurial orientation, social innovation, and the formation of green ecosystems. The third layer encompasses emerging frontiers including digitalization, organizational culture, and public policy which now reinforce GEMO's integrative and adaptive character. This layered structure demonstrates that GEMO has evolved from a theoretical paradigm into a strategic, context-responsive framework capable of addressing the complex sustainability challenges of contemporary business environments.

Discussions

The concept of Green Entrepreneurial Orientation (GEO) has evolved into a strategic bridge that connects entrepreneurship with sustainability. Theoretically, GEO evolves from the traditional entrepreneurial orientation (EO) framework, which has been adapted and expanded to incorporate the dimensions of environmental responsibility and social sustainability (Guo et al., 2021; Khan et al., 2023). This perspective positions green entrepreneurship not merely as an economic pursuit but as a proactive organizational strategy aimed at identifying and exploiting environmentally responsible business opportunities (Liu et al., 2022; Ameer & Khan, 2023). In essence, GEO represents a strategic mindset that integrates proactiveness, innovativeness, social consciousness, and

ecological awareness into decision-making processes, forming a critical foundation for sustainable strategic orientation.

At the operational level, GEO is reflected in several key behavioral indicators that shape organizational decision patterns. Green innovativeness captures a firm's capacity to design environmentally friendly products, processes, or business models, acting as a core driver of sustained competitive advantage (Appiah-Kubi et al., 2023; Zhang et al., 2024). This attribute enhances SMEs' adaptive resilience amid volatile market conditions and tightening environmental regulations. Green proactiveness, meanwhile, represents a company's readiness to anticipate environmental and market shifts before external pressures arise. Firms exhibiting proactive green strategies tend to build a strong sustainability-oriented brand image and foster deeper customer loyalty (Coelho et al., 2024; Song & Wang, 2024).

Furthermore, green market responsiveness emphasizes a company's ability to align marketing strategies and product offerings with the expectations of environmentally conscious consumers. A firm's rapid adaptability to sustainability-driven market trends provides a distinct competitive edge (Hu & Tresirichod, 2024; Muangmee et al., 2021). In this sense, the ability to interpret and respond to green market signals not only strengthens a firm's position but also advances its long-term sustainable performance. Another critical dimension, green risk-taking, reflects an organization's willingness to undertake bold initiatives in environmental innovation (Alfandi & Bataineh, 2023; Habib et al., 2020). Firms that embrace calculated risks in green innovation generally achieve higher and more enduring performance outcomes.

Additional dimensions such as environmental commitment and green opportunity recognition further reinforce GEO's strategic depth. Environmental commitment reflects the degree to which sustainability principles are embedded in corporate vision, mission, and culture (Asad et al., 2023; Coelho et al., 2024). Meanwhile, green opportunity recognition captures managerial ability to identify economic value within environmental problem-solving initiatives (Baquero, 2025; Zhang et al., 2024). Collectively, these dimensions demonstrate that GEO extends beyond innovation and marketing practices it embodies the internalization of sustainability values and ethical principles within the organizational structure.

The relationship between GEO and Sustainable Performance (SP) can be grounded in two major theoretical frameworks: the Resource-Based View (RBV) and the Dynamic Capabilities View (DCV). From the RBV perspective, GEO is viewed as a strategic intangible resource valuable, rare, and difficult to imitate capable of creating long-term competitive advantage (Coelho et al., 2024). These resources comprise environmental knowledge, innovative culture, and a strong commitment to ecological and social responsibility. From the DCV perspective, GEO functions as a dynamic capability that enables organizations to reconfigure internal and external resources in response to environmental change (Alfandi & Bataineh, 2023). Thus, GEO acts as a strategic foundation for developing green innovation capabilities that enhance economic, social, and environmental outcomes.

Empirical evidence supports the positive association between GEO and SP. Watto et al. (2025) demonstrated that GEO mediates the relationship between innovation and sustainable performance, indicating that firms with stronger GEO are more responsive to ecological and consumer shifts. Similarly, Adiguzel and Cakir (2025) showed that GEO

fosters innovative cultures and managerial strategies focused on resource efficiency and sustainable operations. In agribusiness, Zhang et al. (2024) identified GEO as a key enabler aligning managerial sustainability vision with long-term growth strategies based on resource conservation.

Baquero (2025) further emphasized that higher levels of GEO enhance an organization's capacity to acquire and utilize green knowledge, forming the foundation for sustainable innovation. Consistent with this, Hu and Tresirichod (2024) found that GEO strengthens SP by developing green intellectual capital and sustainable supply chain management systems. These findings confirm that GEO contributes to performance both directly and indirectly, by fostering cross-functional collaboration and internal capability development.

Habib et al. (2020) argued that implementing GEO leads to a more efficient and responsible green value chain, thereby improving competitiveness and operational efficiency, particularly in SMEs. Song and Wang (2024) added that external collaboration and strategic networking reinforce the GEO–SP link by enhancing firms' ability to sense and seize green market opportunities. Hence, collaborative partnerships emerge as a crucial mechanism for maximizing GEO's impact on sustainability outcomes.

From a managerial perspective, GEO plays a pivotal role in cultivating resilient and future-oriented organizational cultures. Coelho et al. (2024) highlighted that green product and process innovations, when mediated by entrepreneurial values, connect managerial vision with tangible sustainability outcomes. This underscores GEO's role as a strategic catalyst linking entrepreneurial spirit with measurable sustainability results. Similarly, Asad et al. (2023) emphasized that GEO fosters organizations that are not only economically competitive but also ethically grounded and environmentally responsible.

In both conceptual and empirical terms, GEO emerges as a primary determinant of sustainable performance. By combining innovation, proactiveness, market responsiveness, environmental commitment, and risk-taking, GEO enables organizations to adapt, innovate, and create shared value for both the economy and the environment. Accordingly, it can be hypothesized that higher levels of Green Entrepreneurial Orientation significantly enhance an organization's Sustainable Performance.

Green Marketing Orientation and Sustainable Performance

Green Marketing Orientation (GMO) has emerged as a key strategic approach that connects business orientation with broader social and environmental responsibilities. Conceptually, GMO signifies a paradigm shift from traditional marketing centered solely on customer satisfaction toward a more comprehensive marketing philosophy that harmonizes economic value creation, social well-being, and environmental stewardship (Syekhan et al., 2024). Within this framework, green marketing is not limited to a promotional activity, but represents a holistic value system that embeds sustainability principles into an organization's strategy, culture, and managerial decision-making. From this perspective, green marketing functions as a strategic mechanism for achieving sustainable performance across economic, social, and environmental dimensions (Shabbir & Wisdom, 2021; Sharma, 2021).

Historically, the evolution of green marketing can be categorized into three major phases. The first, known as the "ecological era," primarily focused on environmental awareness campaigns (Henion & Kinnear, 1976). The second, the "environmental era,"

expanded its reach to include clean technologies and green product markets (Syekhan et al., 2024). The third stage, the "sustainability marketing era," positioned sustainability at the core of marketing theory and practice (Braik et al., 2024; Jung et al., 2020). During this phase, green marketing is understood as a comprehensive process encompassing the entire value chain from product design to supply chain management aimed at creating a circular and responsible economy (Gelderman et al., 2021). This progression demonstrates that GMO today functions as a strategic philosophy rather than a mere communication activity.

Operationally, GMO is implemented through the green marketing mix, which adapts the traditional 4Ps (product, price, promotion, and place) to sustainability-oriented principles (Chisty & Sayari, 2024; Nguyen-Viet, 2023). Green products are designed under the reduce, reuse, recycle framework to minimize waste and ecological impact (Shabbir & Wisdom, 2021; Sharma, 2021). Green pricing internalizes social and environmental costs, thereby promoting responsible consumption (Agustini et al., 2021; Braik et al., 2024). Green promotion enhances corporate reputation through transparent and educational communication about environmental commitments (Mukonza & Swarts, 2021). Meanwhile, green distribution focuses on optimizing logistics efficiency and minimizing emissions across the supply chain (Nguyen-Viet, 2023; Mahjoob et al., 2021). Together, these four elements establish GMO as a strategic framework that balances profitability with ecological accountability.

From a theoretical standpoint, the Resource-Based View (RBV) conceptualizes GMO as a strategic intangible resource that is valuable, rare, and difficult to imitate (Jamil et al., 2025). Its strategic value lies in cultivating stakeholder trust, a positive green reputation, and a strong internal commitment to sustainability. Firms embedding GMO across all business functions benefit from greater customer loyalty, enhanced legitimacy, and broader access to green markets. Conversely, the Dynamic Capabilities View (DCV) emphasizes that GMO's effectiveness in improving sustainable performance depends on a firm's capacity to sense, seize, and transform emerging green opportunities (Hossain et al., 2025). Thus, GMO operates as a dynamic capability enabling firms to adapt rapidly to regulatory changes, shifting consumer preferences, and technological innovation.

Empirical studies consistently validate the positive relationship between GMO and Sustainable Performance (SP). Nsefumu et al. (2024) revealed that SMEs with strong GMO practices maintain a balanced orientation toward profitability, social welfare, and environmental stewardship. Nuryakin and Maryati (2022) further emphasized that this relationship is amplified when firms integrate green innovation and develop sustainability-based competitive advantages. In essence, GMO provides strategic direction that enables organizations to generate economic value while reinforcing ecological responsibility. Sulaiman (2025) confirmed that green product innovation mediates the GMO and SP link, demonstrating that sustainability-oriented marketing strategies lead to greater market acceptance, improved financial outcomes, and enhanced environmental impact.

From an operational perspective, the success of GMO depends not only on internal strategies but also on stakeholder engagement. Mufti et al. (2024) found that stakeholder involvement amplifies GMO's effect on SP, particularly when sustainability values are embedded in corporate culture. Active collaboration with suppliers, customers, and communities fosters a resilient and adaptive green value chain. Similarly, Alhijris and

Alnasser (2025) highlighted that green innovation serves as a critical mechanism linking GMO strategies with enhanced marketing performance and long-term sustainability.

Beyond internal value creation, GMO extends its influence externally through digital transformation and value co-creation. Khan et al. (2024) explained that GMO drives innovation in digital green services and eco-communication, enhancing customer engagement and expanding market reach. Jamil et al. (2025) further demonstrated that the integration of GMO with blockchain technology strengthens transparency, efficiency, and corporate credibility. This confirms that GMO is not merely a communication philosophy, but also a platform for sustainable technological integration.

The synergistic potential of GMO becomes even more evident when combined with other management practices emphasizing efficiency. Afum et al. (2023) showed that aligning GMO with lean management principles improves resource efficiency and reduces operational waste without sacrificing quality or profitability. This reinforces the understanding of GMO as a multidimensional framework that integrates innovation, efficiency, and social responsibility.

Drawing from the RBV and DCV perspectives, supported by robust cross-sectoral evidence, GMO has demonstrated a significant and consistent influence on sustainable performance. By implementing environmentally responsible, innovative, and adaptive marketing strategies, firms not only achieve competitive differentiation but also build long-term reputation, trust, and social legitimacy. Therefore, it can be concluded that a higher level of Green Marketing Orientation substantially enhances an organization's Sustainable Performance.

Green Innovation and Sustainable Performance

Green Innovation (GI) has emerged as a core pillar of sustainability strategies in contemporary organizations, particularly within the small and medium-sized enterprise (SME) sector. Conceptually, GI encompasses systematic efforts to design and implement environmentally friendly products, processes, and management systems that minimize ecological harm while improving resource efficiency (Singh et al., 2021). This form of innovation functions not only as a response to external pressures including regulatory demands and market expectations but also as a strategic mechanism for generating balanced economic, social, and ecological value (Mubeen et al., 2024). Hence, GI is no longer considered a peripheral initiative but an integral component of long-term, sustainability-driven business strategies.

In practice, GI is typically manifested through three dimensions: eco-friendly inputs, eco-friendly processes, and eco-friendly products. The first dimension, eco-friendly inputs, concerns the selection and utilization of low-emission materials and renewable energy sources. Afum et al. (2021) emphasized that green inputs involve choosing renewable materials, cleaner technologies, and sustainable energy systems to minimize waste and pollution. This approach reflects a company's environmental awareness and commitment to aligning its production systems with conservation principles and environmental regulations (Kanan et al., 2023).

The second dimension, eco-friendly processes, focuses on production innovation aimed at reducing energy consumption, managing waste, and minimizing harmful emissions. Niazi et al. (2023) explained that process innovation enhances environmental management performance through energy efficiency, recycling practices, and closed-loop

supply chains. Consistent with Kanan et al. (2023), such process improvements directly strengthen operational efficiency and compliance with international environmental standards such as ISO 14031. Therefore, eco-friendly processes not only mitigate environmental impacts but also reinforce competitiveness and industrial performance.

The third dimension, eco-friendly products, emphasizes innovation in product design, material selection, and life-cycle management to achieve energy efficiency, recyclability, and user safety (Niazi et al., 2023; Singh et al., 2023). Products developed under sustainability principles enhance corporate reputation, consumer trust, and market access within the growing domain of green consumption.

From a theoretical standpoint, the Resource-Based View (RBV) conceptualizes GI as a strategic intangible resource that is valuable, rare, and difficult to imitate (Hanaysha et al., 2025). GI capabilities serve as competitive advantages derived from environmental expertise, technical know-how, and an innovation-driven culture that supports ecological efficiency. Hanaysha et al. (2025) found that organizations with strong GI capabilities achieve distinct strategic differentiation through a combination of resource optimization and sustainability reputation. This highlights GI's role as an intangible asset that strengthens both operational excellence and stakeholder trust.

However, the RBV perspective alone cannot fully explain an organization's capacity to navigate dynamic environmental change. The Dynamic Capabilities View (DCV) complements this framework by emphasizing a firm's ability to sense, seize, and transform environmental opportunities into competitive advantages (Alwakid & Dahri, 2025). In the SME context, GI acts as a catalyst for adaptation, enabling firms to leverage emerging technologies such as artificial intelligence (AI) and big data analytics to enhance both efficiency and resilience. From the DCV perspective, GI represents a proactive capability that continuously evolves in response to the volatility of green market conditions.

Empirical evidence strongly supports the positive association between GI and Sustainable Performance (SP). Waqar et al. (2025) found that adopting GI within a circular economy framework simultaneously improves economic and environmental outcomes. Nasir et al. (2024) identified GI as a mediating mechanism linking knowledge management to sustainability outcomes, demonstrating that innovation translates organizational learning into measurable performance gains. These findings indicate that firms committed to environmental learning tend to possess greater innovative capacity to achieve sustainability objectives.

Beyond economic results, GI also delivers significant social benefits. Waqar et al. (2025) observed that green process innovation enhances employee engagement and customer satisfaction, reflecting an organization's ethical commitment to environmental stewardship. Within SMEs, GI promotes a responsible, inclusive, and value-driven work culture, strengthening both employee loyalty and corporate reputation. Alwakid and Dahri (2025) further asserted that when GI is combined with entrepreneurial orientation and digital capability, it enhances SME resilience in the face of market uncertainty.

Strategically, GI also reinforces a firm's position within collaborative innovation networks. Nasir et al. (2024) reported that SMEs collaborating with research institutions, universities, and industry partners exhibit higher innovation capacity in environmental practices. Such collaborations not only accelerate green technology adoption but also expand access to external funding and policy incentives. Waqar et al. (2025) added that

governmental support and public policies play a critical role in scaling GI initiatives across the SME sector.

GI's contribution to the Sustainable Development Goals (SDGs) is equally significant particularly in the domains of industry, innovation, and infrastructure, and responsible consumption and production. By improving resource efficiency and reducing waste, GI facilitates the transition toward a circular and low-carbon economy. Hanaysha et al. (2025) concluded that the true impact of GI extends beyond financial metrics, encompassing its ability to generate enduring social and ecological value.

GI represents a strategic foundation for sustainable business transformation. Within the frameworks of RBV and DCV, GI functions both as a distinctive resource and a dynamic capability that enables organizations to adapt, innovate, and thrive in environmentally demanding markets. Therefore, it can be concluded that higher levels of Green Innovation substantially enhance an organization's Sustainable Performance across economic, social, and environmental dimensions.

Organizational Resilience and Sustainable Performance

Organizational Resilience (OR) has emerged as a strategic cornerstone for achieving robust Sustainable Performance (SP), particularly among small and medium-sized enterprises (SMEs) facing continuous environmental, technological, and market turbulence. Resilience extends beyond the mere capacity to withstand crises it reflects an organization's ability to adapt, recover, and transform into a stronger, more sustainable entity. Within this context, the three dimensions of Green Entrepreneurial and Marketing Orientation (GEMO) namely Green Entrepreneurial Orientation (GEO), Green Marketing Orientation (GMO), and Green Innovation (GI) function as foundational pillars that strengthen the long-term linkage between organizational resilience and sustainable performance.

First, Green Entrepreneurial Orientation (GEO) underpins organizational resilience through its core elements: innovativeness, proactiveness, and risk-taking within a sustainability framework (Ameer & Khan, 2022). Innovation enables organizations to develop environmentally sound solutions aligned with regulatory and market shifts, while proactiveness allows early recognition of environmental opportunities. Risk-taking, particularly in developing green technologies, empowers organizations to navigate uncertainty with agility. Consequently, GEO fosters an adaptive, forward-looking organizational structure that responds to crises through sustainable and innovation-driven strategies (Guo et al., 2020; Shehzad et al., 2023). Within the theoretical lenses of the Resource-Based View (RBV) and the Dynamic Capabilities View (DCV), GEO can be conceptualized as an intangible strategic asset that builds long-term resilience capacity.

Second, Green Marketing Orientation (GMO) functions as an external enabler, linking the organization to its broader market and stakeholder environment. By embedding green values into product design, pricing, promotion, and distribution, GMO enhances corporate legitimacy, customer trust, and stakeholder engagement (Papadas et al., 2024). Beyond image-building, GMO instills adaptive and collaborative values that strengthen the organization's ability to manage environmental pressures. In the context of resilience, GMO cultivates open communication networks, stakeholder collaboration, and sustainability-based decision-making systems that accelerate recovery following disruptions (Hossain et al., 2025; Song & Wang, 2024). The sustainability ethos

embedded within marketing culture thus becomes a stabilizing and guiding force, ensuring that every adaptive response aligns with long-term sustainability goals.

Third, Green Innovation (GI) operates as an internal catalyst that promotes efficiency, flexibility, and transformation through eco-friendly products, processes, and technologies (Issa et al., 2024). GI enables organizations to reduce operational risks while optimizing resource utilization. From a resilience perspective, GI enhances an organization's capability to sense environmental changes, capture green opportunities, and reconfigure its business models to remain competitive (Liang et al., 2025; Kyrdoda et al., 2023). Thus, GI reinforces OR's core functions absorbing, adapting, and recovering through environmentally conscious and innovative approaches that sustain long-term competitiveness.

Collectively, these three GEMO dimensions interact synergistically to strengthen the OR–SP relationship. GEO provides the entrepreneurial drive necessary for innovation and agility; GMO connects the firm to its external ecosystem, ensuring market adaptability and stakeholder alignment; and GI embeds transformational capability that supports sustainable operations in volatile environments. Together, they constitute a dynamic capability system that consolidates the organizational foundation for sustainability and resilience.

From a theoretical standpoint, this integrated relationship aligns with the RBV and DCV frameworks. Under RBV, GEO, GMO, and GI are positioned as strategic resources that are valuable, rare, inimitable, and non-substitutable forming the basis of a resilient competitive advantage. Meanwhile, DCV explains how organizations utilize these GEMO dimensions to build, integrate, and reconfigure capabilities in response to environmental, technological, and market challenges. When effectively aligned, these orientations form a resilience-oriented capability system that directly enhances sustainable performance (Crespo et al., 2025; Keskin et al., 2025).

Empirical evidence supports this framework: organizations exhibiting high levels of GEO, GMO, and GI consistently achieve superior sustainable performance across economic, social, and environmental dimensions (Vallet-Bellmunt & Del-Corte-Lora, 2024). GEO drives long-term value creation, GMO builds green reputation and stakeholder trust, while GI ensures resource efficiency and continuous innovation. The combination of these orientations enables firms not only to survive environmental disruptions but also to evolve through strategic learning and adaptation.

In summary, Green Entrepreneurial, Marketing, and Innovation Orientations collectively form a synergistic framework that strengthens Organizational Resilience and directly enhances Sustainable Performance. Together, they enable organizations to balance stability and adaptability, transforming uncertainty into opportunity and fostering sustainable growth and enduring competitive advantage.

Figure 5. Integrative GEMO Model

The Integrative GEMO Model (Figure 5) offers a comprehensive and empirically grounded framework that connects global sustainability imperatives with Green Entrepreneurial Marketing Orientation (GEMO) and its influence on organizational performance outcomes. By integrating Green Entrepreneurial Orientation (GEO), Green Marketing Orientation (GMO), and Green Innovation (GI) into a unified conceptual structure, the model demonstrates how proactive, innovative, and environmentally conscious behaviors can collectively strengthen organizational resilience while enhancing sustainable perfor-mance across economic, social, and environmental dimensions.

This integrative synthesis not only advances the theoretical convergence between the Resource-Based View (RBV) and the Dynamic Capabilities View (DCV) but also provides actionable insights for SMEs seeking to improve adaptability, competitiveness, and long-term value creation in sustainability-oriented markets. Through this perspective, the model underscores that organizations aligning entrepreneurial dynamism, green marketing strategies, and innovation capabilities are better positioned to navigate global sustainability challenges while achieving enduring strategic advantage in an increasingly dynamic and eco-conscious business environment.

CONCLUSIONS AND RECOMMENDATIONS

This study confirms that Green Entrepreneurial Marketing Orientation (GEMO) com-prising three core dimensions: Green Entrepreneurial Orientation (GEO), Green Marketing Orientation (GMO), and Green Innovation (GI) functions as an integrated

strategic framework that strengthens organizational resilience and enhances sustainable performance, particularly within the small and medium-sized enterprise (SME) sector. Viewed through the theoretical lenses of the Resource-Based View (RBV) and the Dynamic Capabilities View (DCV), GEMO operates both as an intangible strategic asset and as a dynamic capability that enables organi-zations to sense, seize, and transform environmental opportunities into enduring sustainable competitive advantages.

Empirically, the integration of these three orientations exhibits a strong synergistic effect in responding to external pressures such as regulatory changes, environmental disruptions, and digital transformation. GEO cultivates innovative capacity and strategic risk-taking within green ventures; GMO establishes collaborative market relationships and stakeholder engagement grounded in sustainability values; while GI drives technological advancement and resource efficiency. The interaction among these orientations produces a resilient, adaptive, and learning-oriented organizational system capable of navigating the complex dynamics of the global sustainability landscape.

From a theoretical perspective, the synthesis of GEMO reinforces the understanding that sustainability has evolved from a peripheral concern into the central foundation of competitive strategy. The integrative model underscores that green entrepreneurship, marketing, and inno-vation represent the core pillars for creating economic prosperity, social equity, and environ-mental stewardship simultaneously. Accordingly, the Integrative GEMO Model developed in this study contributes to advancing the conceptual consolidation of RBV–DCV frameworks, while also offering practical guidance for organizations aiming to build resilient, sustainability-driven strategies within the green economy era.

Looking ahead, future research is encouraged to extend this model toward the development of a Green Digital Entrepreneurial Marketing Orientation (GDEMO) a next-generation frame-work that merges sustainability principles with digital transformation across entrepreneurial, marketing, and innovation domains. As digitalization increasingly becomes a critical catalyst for organizational adaptation to environmental challenges and global disruptions, GDEMO provides a pathway for firms to enhance resilience and sustainable performance through the integration of smart technologies, green data analytics, and digital collaboration along the value chain. Further cross-sectoral and cross-country empirical studies are essential to explore how the synergy between green and digital orientations contributes to shaping adaptive and sustainable com-petitive advantages within the evolving context of the Green Economy 5.0.

Research Limitations

This study acknowledges several limitations that provide important context for interpreting its findings and guiding future research directions. *First*, the analysis relied primarily on a single database Scopus, including publications accessible through plat-forms such as Elsevier, Web of Science, Emerald Insight, and Taylor & Francis which may have excluded relevant studies indexed elsewhere. As a result, the literature coverage may not be fully comprehensive.

Second, the restriction to English-language publications might have led to the exclusion of significant research written in local or regional languages, especially those providing contextual insights that could enrich the conceptual and empirical understanding of GEMO. *Third*, the literature cutoff at 2025 means that newly emerging research trends and findings beyond this year are not yet captured in the current synthesis.

Finally, this study did not explicitly examine the dimension of Green Digital Orientation (GDO) due to the limited number of available studies, most of which remain conceptual. These limitations open opportunities for future research to develop more comprehensive analyses by expanding data sources, language scope, and temporal coverage, as well as incorporating digital orientation as a key variable in advancing the GEMO framework.

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