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Strategic Innovation for Sustainability: A Conceptual Model Linking Digitalization, Social Dynamics, and Climate Change Mitigation

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ABSTRACT

This study addresses a significant research gap in the literature by systematically reviewing and synthesizing the interplay between social dynamics, environmental changes, and organizational innovation. Although prior research has explored these dimensions in isolation, the integrative framework remains lacking. To address this, we conducted an integrative review that combined bibliometric and content analyses of 845 peer-reviewed articles, following the PRISMA guidelines for methodological rigor. Our study reveals that digitalization, social innovation, and technological advancement collectively empower firms to navigate complex social and environmental challenges, fostering sustainable innovation and resilience. Theoretical contributions are grounded in the Triple Bottom Line, Innovation Diffusion Theory, and Resource-Based View theory, offering a robust framework for understanding how organizations balance their economic, social, and environmental performance. Key findings highlight the pivotal role of communication, collaboration, and knowledge sharing in driving innovation, as well as the importance of integrating social and environmental responsiveness into strategic resource management. This study advances the literature by presenting a comprehensive framework that incorporates organizational innovation with broader sustainability outcomes, thereby informing both academic research and practical strategies for sustainable business transformation.

1 | Introduction

In the contemporary and dynamic business landscape, the emergence of organizational innovation has become a crucial component in achieving success and gaining a competitive edge (Chesbrough 2007; Markovic et al. 2021). Comprehending the complicated network of elements that influence and propel innovation is crucial, particularly in light

of the significant obstacles encountered by firms in a setting marked by unparalleled intricacy and rapid change. Previous studies (Jorgenson et al. 2019; Oltra 2008) have emphasized the significant influence of social dynamics and environmental changes on shaping and catalyzing organizational innovation. Environmental changes encompass a wide range of contextual factors, including advancements in technology, market dynamics, and regulatory changes (Oltra 2008). On

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the other hand, social dynamics encompass the complex network of relationships, patterns of communication, and cooperative actions that are integral to the internal structure of an organization (Wilpert and Klumb 2013). In order to shed light on the significant influence of the interconnected factors of social dynamics and environmental changes on the process of organizational innovation, this research undertakes an integrative review of the current body of literature. By conducting a methodical examination of the interaction among social dynamics, environmental changes, and organizational innovation, our objective is to offer significant insights into the ways in which firms may effectively tackle global issues through innovation.

This review is based on a multitheoretical framework that combines the Triple Bottom Line Theory (TBL) (Elkington and Rowlands 1999), Innovation Diffusion Theory (IDT) (Rogers et al. 2014), Resource-Based View (RBV) (J. B. Barney 2001), and its extension, Social Resource-Based View (SRBV) (Tate and Bals 2018). SRBV broadens this by incorporating social and ethical aspects as strategic resources, whereas RBV emphasizes the importance of distinctive, valuable, and inimitable internal resources as drivers of sustained competitive advantage. IDT sheds light on how innovations are adopted and disseminated in social and organizational contexts, whereas the TBL framework emphasizes the need to balance economic, social, and environmental performance for sustainable development. These viewpoints collectively inform our examination of how businesses utilize their internal resources and social dynamics to innovate and adapt successfully in rapidly shifting social and environmental contexts, establishing organizational innovation as a vital, resource-driven process for mitigating the effects of climate change and achieving sustainable business performance.

In this study, we aim to gain a comprehensive understanding and identify key research avenues. Such revelations, in turn, hold the potential to enhance our understanding of how enterprises can effectively leverage these processes to cultivate an innovative culture and drive sustainable growth within the complex landscape of contemporary business. Notably, innovation is indispensable in bolstering national and sub-national decarbonization initiatives, especially within a society increasingly grappling with the visible ramifications of climate change (Chesbrough 2007). Recent advancements have furnished both the public and commercial sectors with diverse technological solutions, ranging from groundbreaking carbon capture and storage innovations to low-carbon alternatives designed to curtail greenhouse gas emissions (Farrukh et al. 2020; Sovacool et al. 2021). Nevertheless, the domain of innovation studies, characterized by its diverse array of perspectives encompassing technology and innovation management, as well as innovation policy, underscores that addressing global challenges through innovation necessitates not only technological progress but also concomitant organizational, social, and economic transformations (Bhatt and Altinay 2013; Guinet and Meissner 2012; Iizuka and Hane 2021). In this context, entrepreneurs find themselves compelled to navigate the intricate organizational landscape, necessitating an understanding not only of the nuances of social interactions but also a profound awareness

of environmental shifts, along with innovative approaches to address them.

Within the confines of corporate entities, the underlying currents of social dynamics—encompassing communication styles, teamwork, information dissemination, and leadership philosophies—assume a pivotal role in either fostering or impeding innovation. A substantial body of literature (Oltra 2008; Wilpert and Klumb 2013) supports the assertion that organizations fostering robust internal networks, facilitating open lines of communication, and nurturing diverse teams are more likely to conceive and implement innovative ideas. Moreover, environmental changes themselves wield formidable influence as catalysts for organizational innovation. A turbulent milieu, shaped by technological advancements, market volatility, and regulatory metamorphoses, compels organizations to adapt and innovate as a means of survival. Extensive research (Bergman et al. 2010; Parra 2013; Sarewitz 2011) supports the notion that enterprises grappling with heightened environmental instability are more inclined to adopt innovative methodologies. Within this context, the imperative of promoting a culture of innovation, fostering resilient social dynamics, and cultivating adaptive capabilities to respond to external disruptions effectively emerges as a transformative strategy, augmenting an organization's agility (Schartinger et al. 2020).

Given the ever-evolving business landscape and the increasing significance of organizational innovation, there is an imperative need for further research into the role of social dynamics and environmental changes in driving such innovation. Although the existing literature (Folke et al. 2002; Wilpert and Klumb 2013) offers valuable insights into the importance of these factors, notable gaps and unanswered questions persist, warranting deeper investigation. Through a comprehensive examination of this research area, we can uncover new knowledge that informs organizational strategies, practices, and policies designed to foster innovation. A nuanced understanding of the intricate interplay between social dynamics and environmental changes can bestow upon organizations a competitive advantage by facilitating effective adaptation to dynamic market conditions, the exploitation of emerging opportunities, and adept navigation of challenges. Moreover, an integrative review in this domain not only contributes to academic scholarship but also holds practical implications for managers and leaders aspiring to enhance their organization's innovation capabilities. Henceforth, the scholarly literature has bestowed relatively scant attention on the nexus between social dynamics, environmental changes, and organizational innovation (e.g., Bergman et al. 2010; Oltra 2008; Parra 2013).

Therefore, additional research in this domain is imperative to elucidate the intricacies and uncover novel pathways for organizations to thrive within an ever-evolving business landscape. This investigation undertakes an integrative review of the existing literature to examine the contributions of social dynamics and environmental changes to organizational innovation. The ensuing sections provide an interpretation of the results derived from the thorough integrative analysis. To the best of our knowledge, this represents the first comprehensive review of the existing literature on the interplay between social dynamics and environmental changes in facilitating organizational

innovation. The study is geared toward addressing the following research questions:

RQ1: What are the prevailing publication trends within the literature on social dynamics, environmental change, and organizational innovation concerning temporal aspects?

RQ2: What thematic directions have research endeavours pursued within this domain, and how have these themes evolved? What are the latest research trends within this sphere?

RQ3: What unexplored areas within this field offer potential avenues for future research? This review makes a significant contribution to advancing our understanding of the intricate relationships between social dynamics, environmental changes, and organizational innovation. It accomplishes this by identifying and elucidating the mechanisms through which social dynamics influence innovation processes in response to environmental changes. This synthesis and analysis of multiple studies is detailed in Section 3. This holistic perspective serves to enlighten both researchers and practitioners about the interdependence of these factors, enabling the development of comprehensive strategies for fostering innovation within dynamic environments, as elucidated in RQ1.

Furthermore, the review identifies the underlying social mechanisms that drive innovation amid environmental transformations. Essential elements influencing these innovation processes include patterns of communication, collaborative engagement, knowledge exchange, alignment with sustainability goals, incorporation of green business practices, leadership approaches, and the prevailing organizational culture. The review provides valuable insights into thematic development and identifies specific areas where organizations should focus to cultivate an innovation-conducive climate amidst environmental and social transformations, as addressed in Sections 4.2 and 4.3. Furthermore, the review uncovers promising avenues for future research within the realm of social dynamics and environmental changes as they pertain to organizational innovation. Addressing the identified gaps, conducting multilevel analyses, considering contextual variations, delving into sustainable innovation, exploring the resource-based view, examining climate change mitigation strategies, investigating social inclusion, scrutinizing technological advancements, and incorporating cross-cultural perspectives all hold the potential to enhance our comprehension of this intricate interaction, as laid out in RQ3 (see Section 4).

The subsequent sections of this paper are organized as follows: The following section provides an in-depth explanation of the review strategy employed in this investigation. The third section delves into the descriptive and conceptual framework. The fourth section delineates the future research agenda. The final section encapsulates the conclusion and study implications and highlights certain limitations of this study.

2 | Theoretical Underpinning

The theoretical framework of this study is based on a multi-theoretical approach that combines the TBL (Elkington and

Rowlands 1999), IDT (Rogers et al. 2014), the RBV (Barney 2001), and its extension, the SRBV (Tate and Bals 2018). The TBL framework highlights the multifaceted nature of sustainability by emphasizing the interrelationship between economic, social, and environmental performance dimensions (Slaper 2011; Jayashree et al. 2021). Sustainable innovation extends beyond mere financial gain or technological advancements; it also encompasses social well-being and ecological balance.

Digitalization and social innovation (SI) play a crucial role in the environmental pillar by utilizing innovative technologies, energy-efficient processes, and digital monitoring systems to help reduce carbon emissions. At the same time, digital tools promote social inclusion and the spread of knowledge, which supports the social aspect of sustainability. Economic benefits stem from reducing costs, differentiating oneself in the market, and competing in an environmentally responsible manner (Bamel et al. 2022; Cuevas-Pichardo et al. 2025). The conceptual model formulated in this study is closely aligned with the TBL framework, depicting digitalization and social dynamics as mediating mechanisms that equilibrate the triad of people, planet, and profit.

IDT enhances this framework by elucidating the processes through which sustainability-driven innovations are communicated, adopted, and institutionalized in social and organizational contexts. Digitalization functions simultaneously as a technological enabler and a social facilitator, connecting innovators, early adopters, and institutional actors, thereby accelerating the dissemination of sustainable technologies and practices (Zupic and Čater 2015). SI also enhances an organization's capacity to absorb new information by fostering collective learning and cultural preparedness for adopting sustainable practices (Ensor and Harvey 2015; Viera Trevisan et al. 2024).

The RBV and SRBV also support this idea. They emphasize the strategic importance of both tangible and intangible firm-specific assets, as well as social skills like trust and stakeholder engagement, in promoting innovation and gaining a competitive edge (Barney 1991; Bitencourt da Silva and Bitencourt 2018). RBV asserts that distinctive, valuable, and hard-to-replicate internal resources foster enduring competitive advantage, whereas SRBV integrates social and ethical resources as essential for sustainable performance (Freeman et al. 2021; Bhatt and Altinay 2013). This viewpoint elucidates how digitalization and social dynamics enable companies to utilize internal and social resources to effectuate climate-responsive transformations.

3 | Method and Data Collection

There are several approaches for conducting qualitative and quantitative literature reviews, including systematic reviews, meta-analyses, bibliometric analyses, and content analyses (Apriliyanti and Alon 2017; Kraus et al. 2022). In addressing our research inquiries, we employed an integrative review methodology that includes a combination of bibliometric analysis techniques, encompassing bibliographic coupling, citation and historiographic citation analysis, keyword co-occurrence analysis, and conceptual theme mapping, in addition to the content analysis method (Bevilacqua et al. 2025; Donthu et al. 2021).

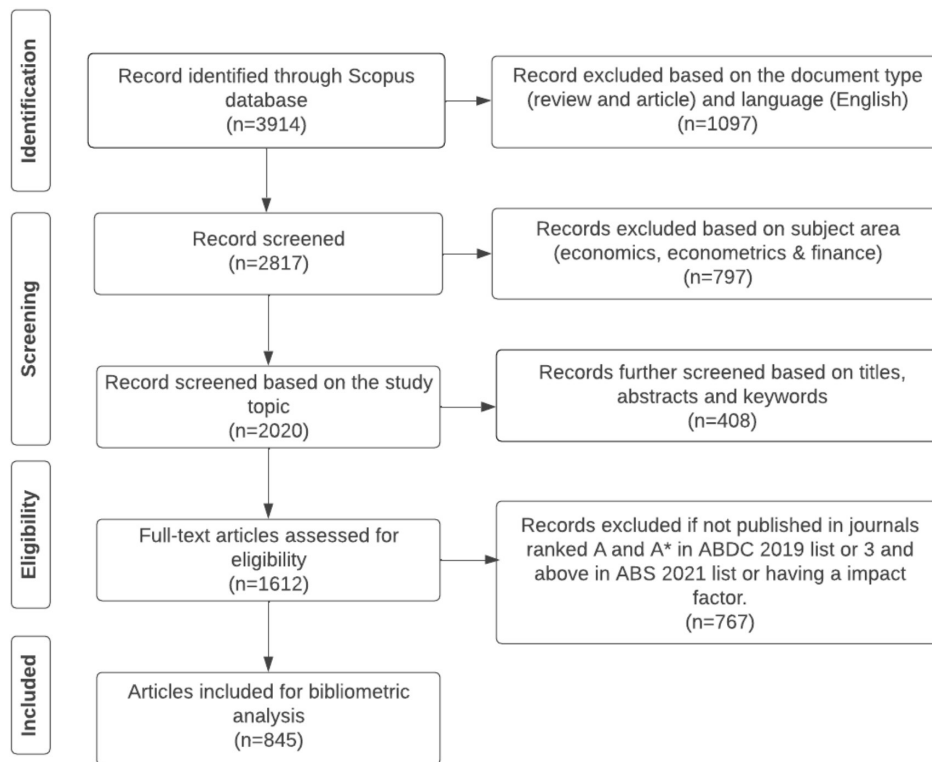


FIGURE 1 | Study flow diagram.

Our investigation involved an integrative review of existing literature focusing on the role of social dynamics and environmental changes in fostering organizational innovation. This approach is well-suited for comprehensively examining the topic across diverse research designs and methodologies. We employed both bibliometric analysis and manual review of retrieved literature to understand the current state of the field and outline a research and policy agenda.

In the pursuit of rigour and transparency in our research endeavor, we adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, depicted in Figure 1 (Liberati et al. 2009; Moher, Liberati, Tetzlaff, Altman, et al. 2009). PRISMA serves as a widely acknowledged and recommended framework for conducting and reporting research articles, particularly within the realm of systematic reviews and meta-analyses. This structured and transparent framework is instrumental in ensuring the thorough and rigorous assessment of existing literature. The PRISMA flow diagram helps illustrate the various searches conducted during the review, as well as the choices made regarding which articles are included and excluded (Moher, Liberati, Tetzlaff, and Altman 2009).

We conducted an extensive search in the Scopus database utilizing advanced search options, employing keywords such as “social dynamic*,” “social change*,” “social innovate*,” “social ecology,” “social learning*,” “environment*,” “sustainab*,” “sdg*,” and “technolog*,” in conjunction with operators such as AND, OR, NEAR, and W/n. This search yielded a total of 3914 documents. The asterisk (*) in the keywords allowed for variations in spelling. Scopus is employed as a primary data source

because it is one of the most comprehensive and methodologically robust bibliographic databases for academic research. It offers extensive coverage of peer-reviewed journals, books, and conference proceedings across the sciences, social sciences, and humanities (Harzing and Alakangas 2016; Mongeon and Paul-Hus 2016).

Subsequently, we refined our search by filtering for documents in the English language, resulting in 2817 papers, and excluding nonjournal document types, which led to the removal of 1097 papers. To further focus our search, we filtered the papers by subject area, including Social Sciences, Business, Management, Accounting, Economics, Econometrics, Finance, and Arts and Humanities. This step yielded 2020 documents directly related to the core topic of our study, eliminating 797 papers (Durach et al. 2017; Tranfield et al. 2003). Scopus was the only database used for data collection because it covers a wider range of publications than PubMed and Web of Science, and its citation analysis is both faster and more comprehensive than those of Web of Science and Google Scholar (Harzing and Alakangas 2016; Martín-Martín et al. 2018).

We then conducted a manual evaluation of titles, abstracts, and keywords to select papers specifically addressing the interplay between dynamic evolution, technological change, and the dynamism of the business environment. This manual screening process reduced the number of papers to 1612, eliminating 408 papers. The manual evaluation of titles, abstracts, and keywords served as an efficient method for researchers to screen and select papers (Bahoo et al. 2020). Lastly, to ensure the quality of the reviewed articles, we retained papers published in journals ranked “A” or above in the Australian ABDC ranking from 2019,

those ranked “3” or above in the British ABS ranking from 2021, or those with a Clarivate Impact Factor. This step resulted in a final selection of 845 papers, with 767 papers removed. Given the impracticality of conducting a complete manual content analysis on 845 papers, the content analysis phase was applied to a selected subset of papers identified through important bibliometric indicators. This allowed us to extract valuable qualitative insights without affecting comprehensiveness. This approach strikes a balance between breadth and depth by utilizing quantitative bibliometric methods for comprehensive thematic mapping and qualitative content analysis of strategically selected publications. The average number of citations per document for the selected 845 papers is 34.79, with an average of 4.618 citations per year per document.

Bibliometric analysis is a comprehensive and meticulous approach employed for the exploration and examination of extensive sets of scientific data. It serves as a means to delve into the intricate evolutionary aspects of a specific subject area, shedding light on emerging areas of research. Nevertheless, its application within the realm of business research is relatively nascent and often underutilized. The utilization of quantitative methodologies, such as bibliometric analysis, particularly citation analysis, on bibliometric data constitutes a subset of bibliometric methods, encompassing units of publication and citation (Broadus 1987).

Our study aims to identify emerging trends in research papers that examine the impact of social dynamics and environmental turbulence on organizational innovation. It encompasses the examination of collaboration patterns and the further exploration of the subject domain through both subjective means, such as thematic analysis, and objective measures, including annual publication and citation evaluations. The analysis was conducted using the Bibliometrix R-tool, as elaborated in subsequent sections of this study. Specifically, we extracted data on annual publication and citation trends (Figure 2) and conducted keyword analysis (Figure 3) using the bibliometrics R-tool (Donthu et al. 2021; Ed-Dafali et al. 2024).

According to Gan and Wang (2014), keyword analysis reveals the predominant themes within each cluster, illustrating the central focus areas within the field, specifically “Social dynamics and environmental changes for innovation in organizations.” Following the insights of Zupic and Čater (2015), keywords are indicative of thematic elements within the knowledge domain,

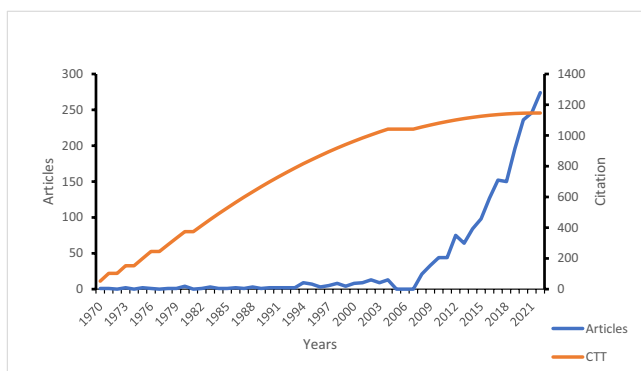


FIGURE 2 | Annual publication and citation trend.

with their presence within a document signifying connections between themes explored within that document (Bamel et al. 2022).

Subsequently, in the second stage of our analysis, we conducted an in-depth review of these publications and categorized the literature on how social dynamics and environmental changes influence technological revolution within organizations into key concepts and themes (Figure 4). Additionally, we present an inductive analysis (Figure 5) and ultimately propose a conceptual framework (Figure 6) delineating the pathway through which an understanding of social dynamics leads to the adoption of sustainable business practices.

4 | Descriptive and Conceptual Structures

4.1 | Annual Publication and Citation Trend

Over the past decade, a profound transformation has occurred in social dynamics. This evolution is attributed to technological changes and the dynamic nature of the business environment. The contemporary business landscape is marked by intense competition, making it challenging for both newcomers and established entities to thrive. Consequently, this environment demands proactive entrepreneurs who can anticipate social dynamics and create products or services suitable for today’s dynamic digital world.

Between the 1970s and 2004, the annual production of relevant papers numbered fewer than 20. However, a significant shift occurred after 2010. The expansion of digital infrastructure has democratized communication and networking, leading to increased connectivity, the dissemination of information, collaborative initiatives, empowerment, greater awareness of climate change, and sustainability efforts. This shift resulted in a fivefold rise in the number of publications. Additionally, global events such as the Rio Summit on climate safety and the establishment of Sustainable Development Goals (SDGs) prompted large organizations to recognize the importance of adapting to environmental changes and embracing modern, innovative technologies while considering the ever-evolving nature of social dynamics (Shove 2014).

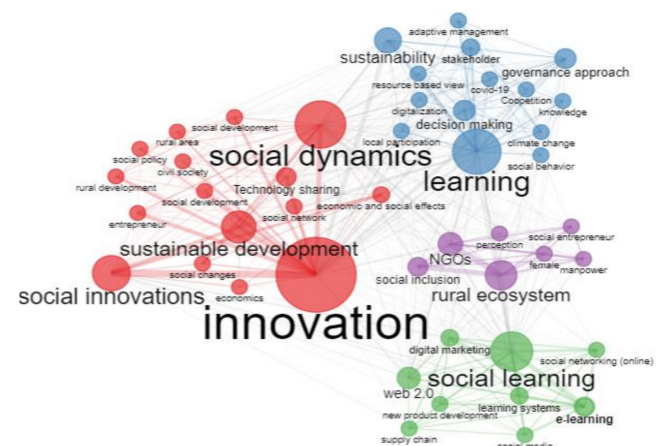


FIGURE 3 | Keyword analysis map.

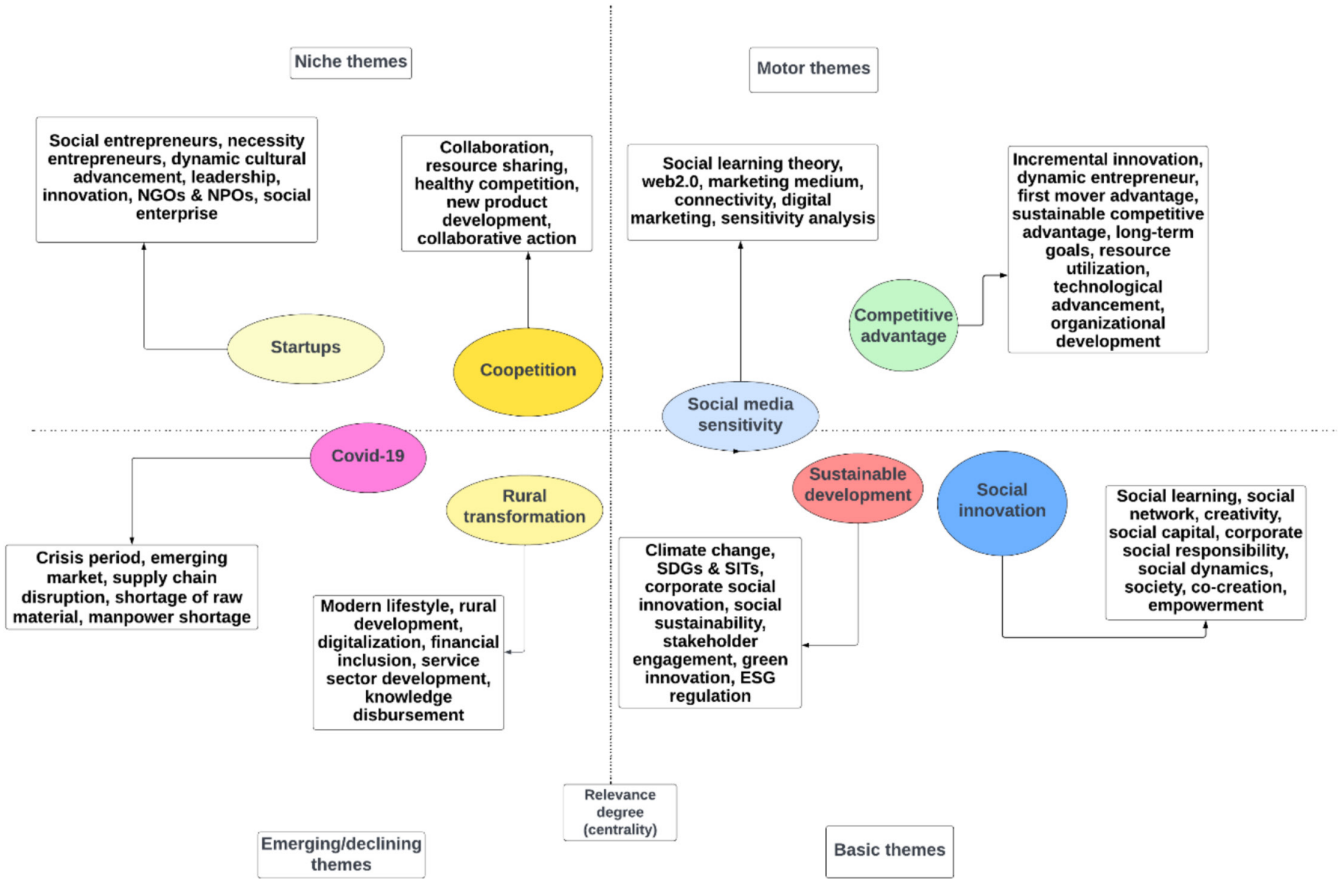


FIGURE 4 | Thematic map.

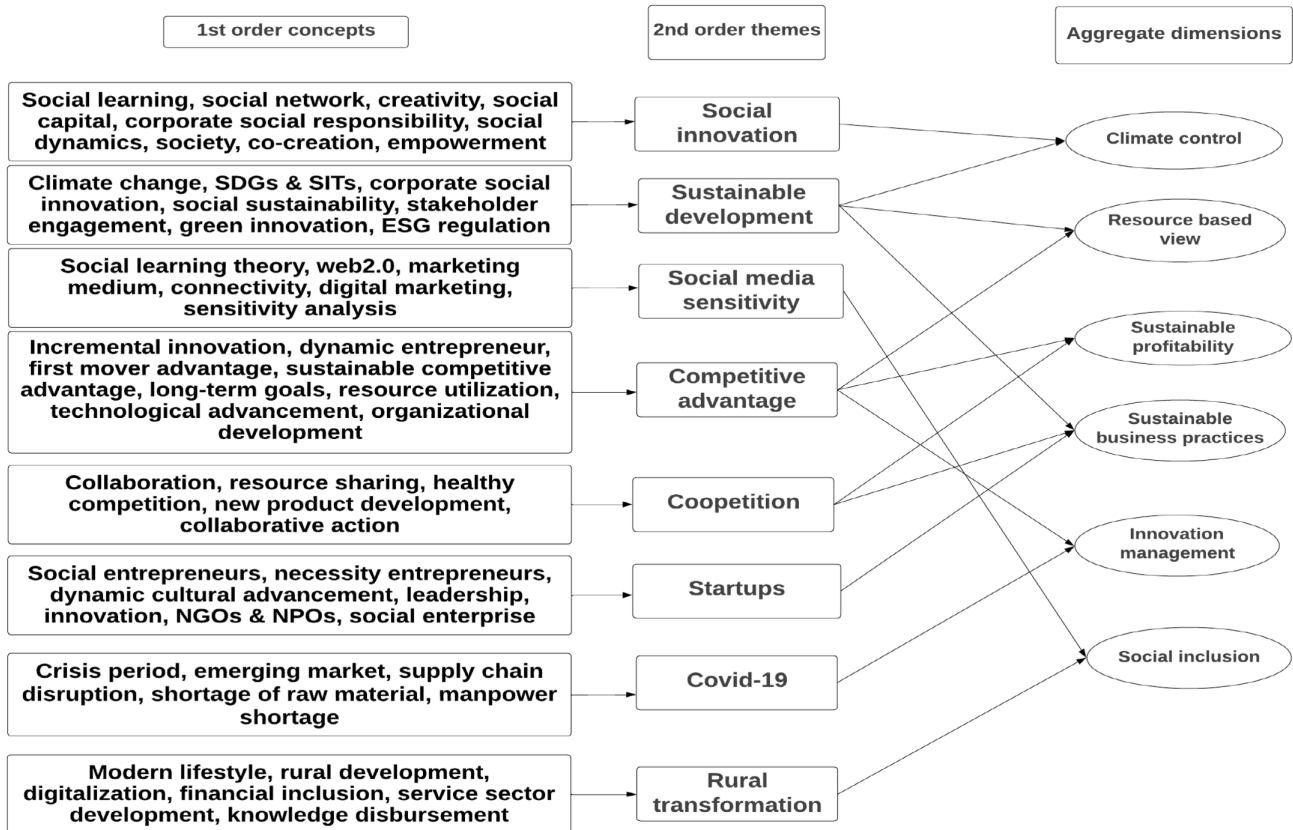


FIGURE 5 | Concepts, themes, and aggregate dimensions.

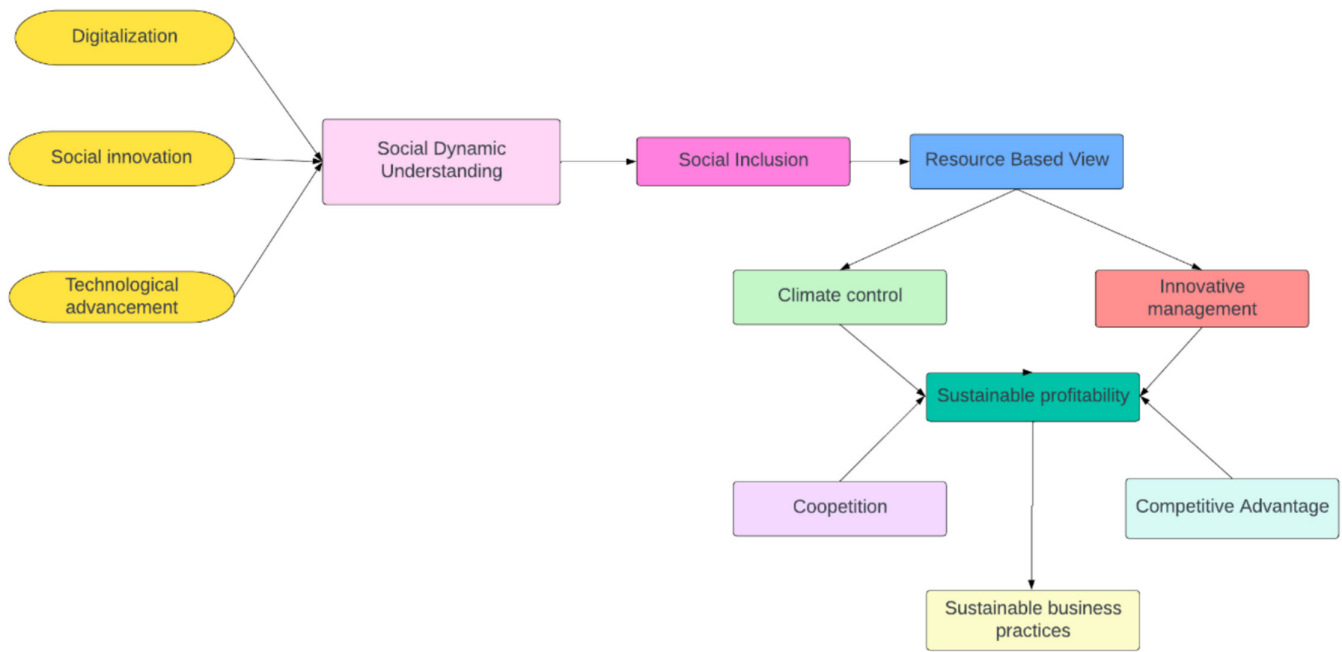


FIGURE 6 | Conceptual framework.

Publishing trends experienced another significant upswing after 2015 (see Figure 2), coinciding with the introduction of 17 SDGs addressing societal dynamics and cultural advancement (Aleixo et al. 2020). Notably, there was a substantial increase in publications in 2020 and 2021, totaling 236 and 246, respectively, in response to the COVID-19 pandemic and COP-26. These spikes exemplify how global-level events impact research output and underscore the importance of sustainability, technological sophistication, and proactive corporate practices.

4.2 | Keyword Analysis Map

Keywords play a pivotal role in academic publications, offering valuable insights into the central themes and research trends within the domain of social dynamics and the impact of environmental change on organizational innovation (Bamel et al. 2022). Keyword co-occurrence analysis involves examining the presence, frequency, and proximity of similar keywords across multiple studies (Aria and Cucurullo 2017). The resulting keyword co-occurrence network comprises nodes representing potential search terms, whereas the edges signify co-occurrences of two terms within the titles, abstracts, or tagged keywords of studies (Grames et al. 2019).

This graphic can be categorized into four distinct clusters: The red cluster delves into “understanding the interplay of social dynamics, social innovation, and sustainable development.” The blue cluster revolves around “leveraging resource-based views for adaptive decision making and social learning to drive innovative transformation.” The green cluster highlights the “role of social networking and Web 2.0 in facilitating social learning for effective new product development.” The purple cluster explores the “potential of social entrepreneurship and workforce dynamics in fostering social inclusion.” The objective of these topic clusters is to provide readers with a

clear understanding of the subject matter and themes under investigation.

Keyword co-occurrence analysis provides a visual representation of the evolution and development of a field of study over time. To facilitate clarity, we employed four distinct color-coding schemes to differentiate the various clusters depicted on the map. Below, we offer a comprehensive elucidation of each cluster.

4.2.1 | Interplay of Social Dynamics, SI, and Sustainable Development

The most frequently employed keywords in this context include “innovation,” “sustainable development,” “social innovation,” “social dynamics,” “technology sharing,” and “economic and social effect,” all part of the red cluster. These keywords reflect the evolving landscape of social dynamics, driven by an increased emphasis on sustainability, digitization, and innovation in corporate practices (Porath 2023; Rodriguez et al. 2002). The intricate interplay among social dynamics, SI, and sustainable development constitutes a complex and interconnected relationship. Leveraging social dynamics and promoting SI can catalyze positive change, foster inclusivity, and advance sustainable development objectives, contributing to a more equitable and resilient future for all (Bergman et al. 2010; Jayashree et al. 2021; Oltra 2008).

Community-based change initiatives represent planned, self-organized interventions by community-based actors aiming to mobilize resources and energy to achieve collective change (Igalla et al. 2019). These initiatives involve intricate social processes influenced by multiple variables that evolve and adapt over time (Fazey et al. 2016; Suhaeb et al. 2024), impacting various facets of community life, including livelihoods, the

natural environment, values, discourses, practices, and the ever-changing business environment (Pelling et al. 2015; Tabas et al. 2024). Consequently, contemporary social dynamics are marked by unpredictability, with connectivity and innovation undergoing a revolutionary phase.

Sustainable Development (SD) has garnered significant attention among academics, business leaders, and governments, exemplified by the focus on innovation's role in fostering sustainability (Azmat et al. 2023; Georgeson and Maslin 2018). Companies invest heavily in research and development to gain a sustainable competitive advantage, outperform their competitors, or secure a first-mover position. The transfer and exchange of information and technology drive the development of new business models, innovations, and economic progress, making them a key driver of knowledge and technology transfer that culminates in SI, technology sharing, and sustainable development (Simelyte et al. 2021).

4.2.2 | Leveraging Resource-Based Views for Adaptive Decision-Making and Social Learning for Innovative Transformation

The blue cluster encompasses keywords such as “learning,” “decision-making,” “resource-based view,” “adaptive management,” and “governance approach.” Employing resource-based views supports adaptive decision-making and social learning, which are pivotal for innovative transformation. Through efficient resource utilization and development, organizations can adapt to evolving environments, seize new opportunities, and foster innovation. Social learning fosters knowledge sharing, collaboration, and collective intelligence, facilitating transformative and innovative processes (Barney 1991; Barney 2001; Gui et al. 2024; Le 2023; Ting 2023).

Learning, particularly social learning, is a vital driver and normative objective in natural resource management, motivating innovation (Armitage et al. 2008; Berkes 2009). Resolving sustainability challenges involves managing land and natural resources to sustain functional social, economic, and ecological systems (Folke et al. 2002). Addressing such issues necessitates adaptive decision-making amid uncertainty and social dynamics, incorporating diverse perspectives and values. Researchers in natural resource management advocate active experimentation and ongoing evaluation, often referred to as “learning by doing” (Berkes 2009). The literature also highlights the connection between SI and gender equality as women's labor force participation increases, thereby reshaping economic dynamics. Lauri (2021) links social dynamics with business practices and gender equality with profitability within an economic framework. Gender equality, articulated through the lens of SI, becomes a means to adapt organizational operations to meet legal requirements and respond to social dynamics.

In response to evolving environmental regulations, enterprises find themselves compelled to engage in collaboration, innovation, and operational adaptation. These actions are undertaken to align with governmental policies, secure sustainable competitive advantages, and adopt a resource-centric perspective.

4.2.3 | Role of Social Networking and Web 2.0 in Fostering Social Learning for Effective New Product Development

The green cluster focuses on “social learning,” “social networking,” “digital marketing,” “Web 2.0,” and “new product development.” Social networking and Web 2.0 platforms facilitate social learning for effective new product development by connecting individuals, fostering knowledge exchange, and enabling collaboration, leading to successful new product initiatives (Ensor and Harvey 2015; Hangna et al. 2013).

The impact of social networking on social learning, which reshapes society's social dynamics, is widely acknowledged (Subodha Kumar and Qiu 2022). The role of social media in influencing consumer behavior and driving innovation through customer engagement and social media platforms is emphasized. The literature explores emerging techniques and their transformative impact on business operations. Digital marketing has significantly transformed marketing styles and new product development. Digital technology-based innovations have reshaped consumer dynamics, purchasing patterns, and market structures, leading to the development of new, environmentally sustainable, and socially dynamic products (S Kumar and Qiu 2021).

4.2.4 | Potential of Social Entrepreneurship and Manpower for Social Inclusion

The purple cluster comprises “social inclusion,” “social entrepreneurship,” “manpower,” and “rural ecosystem.” Social entrepreneurship utilizes innovative business models and manpower to promote social inclusion (Gallardo-Vázquez et al. 2023; Scartozzi et al. 2024). By blending entrepreneurship with a social mission, social entrepreneurs develop sustainable solutions that tackle societal challenges, empower marginalized communities, and promote inclusive growth, contributing to a more equitable society (Alexandre-Leclair 2017; George et al. 2021).

The digital revolution, accelerated by the COVID-19 pandemic, underscored the importance of digital technology (Enciso-Santocildes et al. 2021). This rapid digitization has led to a surge in social entrepreneurs addressing rural ecosystem dynamics and contributing to economic growth through technology-driven solutions (Canestrino et al. 2024; Gigauri et al. 2023). In the competitive market, product-oriented businesses must proactively understand social dynamics (Alexandre-Leclair 2017).

4.3 | Themes and Thematic Areas

Figure 4 illustrates the density and centrality rank values within a two-dimensional network (Cobo et al. 2015). Centrality denotes the interaction between themes or external strengths, whereas density refers to the internal linkages between keywords in a subject. The strategic map, organized into four quadrants, displays research topic themes: motor (upper-right quadrant), basic (lower-right quadrant), niche (upper-left quadrant), and

emerging/declining (lower-left quadrant) (Aparicio et al. 2019). The strategic map encompasses eight topics (two motor themes, two base themes, two niche themes, and two emerging or vanishing themes) that facilitate understanding of the domain's epistemology (Rodríguez-Soler et al. 2020). Motor themes are foundational, basic concepts that require further exploration. Niche themes have strong internal links but are loosely connected to the primary area, and emerging/declining themes have weak links and may shift over time. "Rural transformation" and "Covid-19" are anticipated to become basic themes in the next quadrant.

In terms of centrality, SI and sustainable development emerge as crucial themes, with SI encompassing subthemes like social learning, social networking, creativity, social capital, corporate social responsibility, social dynamics, and empowerment (Chen and Saman 2021; Oliveira and Breda-Vázquez 2012; Reed 2017).

In rural areas, SI is viewed as crucial for addressing societal concerns and revitalization. Staying connected with engaged residents, even without awareness of SI, fosters it as an unintended outcome of ongoing engagement (Chen et al. 2022). Networking offers opportunities for eco-inclusive and ecologically sustainable business models through online incubation programs. Social networking facilitates partnerships, new solutions, and entrepreneurship perseverance (Thukral 2021). Encouraging creativity in managing the social and environmental dynamic can lead to new crisis-solving methods and employment opportunities for youth, promoting SIs that advance sustainable development and regional solidarity (Borge-Diez et al. 2017). SI, including the sharing economy and collaborative consumption, has reshaped consumption patterns, addressing climate change and environmental issues by enhancing resource efficiency and asset utilization. Entrepreneurs adhering to social and ecological regulations gain a competitive edge and drive innovation (Phuong and Thu 2021). Social entrepreneurs identify market opportunities, creating innovative business models that yield social and environmental benefits, like renewable energy solutions and sustainable production practices, thereby enhancing the scalability and effectiveness of climate and environmental interventions.

The second theme is sustainable development, which encompasses topics such as climate change, corporate SI, social sustainability, green innovation, SDGs and sustainable investment targets (SITs), and environment, social, and governance (ESG) regulation (Aksoy et al. 2019; Khaustova et al. 2019; Leal Filho et al. 2022; Martínez-Baron et al. 2018; Schartinger et al. 2020). Climate change is increasingly recognized as a security threat (Dorigo 2013), with digital technology playing a crucial role in addressing it. The United Nations established SDGs and SITs to regulate organizations (George et al. 2021). Green innovation focuses on improving manufacturing processes and product design to reduce pollution and enhance environmental sustainability. Entrepreneurs and researchers drive innovations such as renewable energy technologies and sustainable manufacturing processes, thereby mitigating climate change and promoting environmental conservation. ESG regulation integrates responsible practices into business strategies, requiring businesses to measure and disclose their environmental impacts, mitigate

risks, and prioritize sustainability (Lam et al. 2024; Sierdovski et al. 2022).

The third theme, social media sensitivity, encompasses subthemes such as social learning theory, Web 2.0, connectivity, digital marketing, and sensitivity analysis (Bennet et al. 2017; Chen and Ractham 2012; Duarte Alonso et al. 2020; Varadarajan et al. 2022). The digital revolution enhances connectivity and knowledge exchange, fostering a dynamic mindset. Social learning theory emphasizes observation, modeling, and reinforcement in shaping behavior. Social media platforms can inspire sustainable actions by promoting sustainable lifestyles and highlighting the impacts of climate change (Hanna et al. 2013). Future business leaders educated in this environment are more aware of social dynamics, which lead to the development of creative and sustainable solutions. Web 2.0 facilitates information exchange in schools and businesses (Chen and Ractham 2012). Digital technology plays a vital role in long-term business performance, positively correlated with corporate performance (Khin and Ho 2019). Digital technology offers both tangible and intangible benefits, enabling businesses to profit and meet customer expectations (Ong et al. 2021). Understanding customer conditions and behaviors is crucial in a sensitive and dynamic consumer market. Social media and digital marketing have a profound impact on social dynamics, necessitating proactive adaptation from enterprises (Zhao et al. 2021). Entrepreneurs in the digital age can utilize social media sensitivity and digital marketing for sustainable innovation by identifying market gaps for eco-friendly products and services.

The fourth theme, competitive advantage, which is part of the motor theme, includes subthemes such as incremental innovation, dynamic entrepreneurship, first-mover advantage, sustainable competitive advantage, technological advancement, and organizational development (Herrera 2015; Lahtinen 2013; Shehzad et al. 2021; Svensson and Mahoney 2020). Sustainability is crucial for gaining a competitive edge in emerging green markets. Dynamic entrepreneurs with vision, creativity, agility, and practical knowledge management enhance organizations' ability to leverage intellectual capital and drive sustainable innovation, resulting in environmentally friendly products, services, and business models. Knowledge management processes strongly mediate the relationship between collaborative culture and radical and incremental innovation, with ownership structure moderating this link (Shehzad et al. 2021). Effective knowledge management identifies social dynamics, fostering technological advancement and organizational growth. In a competitive and dynamic environment driven by AI and machine learning, proactive resource-based strategies are necessary to capitalize on the first-mover advantage (Krakowski et al. 2022).

Coopetition, a niche theme, encompasses subthemes such as collaboration, resource sharing, healthy competition, new product development, and collaborative action (Alzate et al. 2022; Goddard and Mannion 1998; Lu and Yang 2004; Zheng et al. 2022). Coopetition, a concept dating back to the 1980s, describes the paradoxical interplay between collaboration and rivalry among competitors (Luo and Tung 2007). The importance of coopetition has grown significantly post-pandemic, as organizations have come to realize their interdependence (Alzate et al. 2022). Supply chain dynamic capabilities (SCDCs) play a

crucial role in horizontal collaboration, mitigating risks, and enhancing sustainability, particularly in emerging economies post-pandemic: Collaborative networks and resource sharing further support this development. SCDC promotes integration among supply chain actors, making collaboration a vital capability for supply chain dynamism and corporate sustainability. SCDC also helps identify environmental challenges and opportunities within supply chains, enabling organizations to monitor and mitigate environmental impacts and fostering innovation in sustainable technologies and practices. This ongoing refinement and innovation mindset drives significant environmental change in supply chains.

The sixth theme, startup, encompasses subthemes like social entrepreneurship, opportunity entrepreneurship, leadership, innovation, and NGOs and NPOs (Antonites 2003; Bozic 2021; Iqbal and Piwowar-Sulej 2022; Rivers et al. 2015). Social enterprises prioritize transformative impact and social change using innovative business strategies (Campbell 1998; Sasaki et al. 2017). These businesses must proactively understand social dynamics, environmental requirements, and regulations while innovating for society and the environment. Startups often introduce disruptive models that challenge traditional practices and promote sustainable alternatives. They may focus on areas like product-as-a-service, clean energy, smart grids, sustainable agriculture, water management, and circular economy solutions. Opportunity entrepreneurship is linked to technology development and social dynamics (Mroźewski and Kratzer 2017). However, its positive impact decreases as entrepreneurial opportunities multiply, emphasizing the role of a conducive entrepreneurial environment. Entrepreneurs can still identify opportunities through continuous innovation, collaboration, and adaptability, akin to NGOs and NPOs. SI is closely tied to social enterprises, defined initially as transforming change-related needs or ideas into public-service realities (García-Jurado et al. 2021). Entrepreneurs in SI should adopt a mindset of ongoing innovation, collaboration, and strategic adaptation to seize opportunities, drive positive social change, and contribute to environmental sustainability by addressing environmental concerns and mitigating the impacts of climate change (Battistella and Pessot 2024).

The seventh theme, rural transformation, encompasses subthemes such as modern lifestyle, rural development, digitization, financial inclusion, and service sector development (Desmarchelier et al. 2022; Fudemma et al. 2020; Ooi et al. 2018). Digitization, driven by the digital revolution, plays a pivotal role in reshaping rural dynamics, with businesses adapting to meet the demands of rural areas (OECD 2018; Ozili 2018). Digital innovations are significantly impacting the financial sector, diversifying financial products (OECD 2015). Promoting digital financial literacy and sustainable prosperity can enhance financial inclusion, driving economic growth and new business creation (Beck et al. 2007; Bruhn and Love 2014). Financial inclusion supports environmentally sustainable projects and helps individuals and businesses manage climate-related risks. It fosters sustainable entrepreneurship, resilience, and adaptation, contributing to a more climate-resilient future.

The last theme, COVID-19, encompasses subthemes such as the crisis period, emerging markets, raw material shortages, supply

chain disruptions, and manpower shortages (Kapoor et al. 2018; Lusiantoro et al. 2022; Rabadjeva and Butzin 2020; Shen and Sun 2021). Businesses, except for hospitals, were impacted by the recession; however, the recovery has been swift, fostering both cooperation and competition (Markovic et al. 2021). This crisis has encouraged new partnerships and a collaborative approach to business in emerging markets (Wensel et al. 2021). Innovation has emerged as a strategic solution to crises, increasing the likelihood of collaboration (Bagherzadeh et al. 2021). Business-to-business open innovation (B2B OI) involves intentional interactions with partners, enabling access to external resources, such as ideas and information. Firms are focusing on operational flexibility and collaboration beyond supply chains to tackle supply disruptions and raw material shortages, relying on digital readiness for agility (Shen and Sun 2021).

4.4 | Concepts, Themes, and Dimensions

This section explores the relationship between concepts, themes, and aggregate dimensions. Concepts are derived from keyword and thematic analysis maps, whereas themes represent thematic clusters or co-occurring keywords (Sharma et al. 2024). Aggregate dimensions combine multiple subthemes and themes to provide a concise overview of the literature (Thomas and Tee 2022). The ADs are conceptualized based on keyword analysis and thematic analysis, and after an in-depth review of 845 sample studies (Sharma et al. 2023). These linkages are established based on insights from authors, field experts, and existing literature (Bretas and Alon 2021). Aggregate dimensions help uncover patterns and relationships within data. Developed through thematic analysis and the review of 845 sample studies, these six aggregate dimensions reflect the combined significance of eight individual themes in the literature. They enable a comprehensive analysis of theme interconnections (Mahendru et al. 2022). Figure 5 visually represents the concepts, themes, and aggregate dimensions in the context of social dynamics, environmental change, and organizational innovation, with concepts sourced from the thematic map subthemes in Figure 4.

Climate control plays a pivotal role in the 21st century and the rapidly evolving fourth industrial revolution, reshaping regulations, innovation, and economic performance (Christa and Kristinae 2021; Maji and Kalita 2022). Collaborative leadership, as emphasized by Sadabadi and Mirzamani (2021), stands as a vital criterion for achieving the SDGs, where SI and sustainable development go hand in hand. SI fosters an environment that encourages collaborative leadership, promoting networking, creativity, and social capital. The digital age's digitization, innovation, and social dynamics have underscored the importance of climate and environmental sustainability for businesses, prompting increased R&D investment in developing sustainable alternatives and gaining a competitive edge (Jibril et al. 2024; Li et al. 2024; Zhu et al. 2024).

Arslan et al. (2022) explore the causal links between environmental consciousness (ECO), green creativity (GCR), green mindfulness (GMD), and energy efficiency (EE). Their findings demonstrate that ECO enhances green innovation and EE among employees, with GMD serving as a moderating factor in this relationship. Moreover, ECO and EE are interconnected. An

organization's sustainability hinges on the social learning and social capital of its engaged members. The interplay between social and environmental concerns, particularly in climate change adaptation, is gaining significant attention. Social learning methodologies, involving knowledge sharing and collaborative action among stakeholders, drive learning and transformation, resulting in global social empowerment, green innovation, and social sustainability (Baquero 2024; Ensor and Harvey 2015; Viera Trevisan et al. 2024).

The resource-based view is the second dimension, which consists of competitive advantage and sustainable development. SDG objectives, ESG standards, social sustainability, and climate change are the most current benchmarks that businesses must meet to contribute to sustainable development (Kandpal et al. 2024; Krasodomska et al. 2024; Zatonatska et al. 2024). To achieve these objectives, the business must be both innovative and agile in its resource management. Consequently, the resource-based view is a management paradigm used to identify the strategic resources a business may use to build a sustained competitive advantage. Freeman et al. (2021) stated that RBV in its current form is incomplete and could become a more comprehensive theory by incorporating four essential elements from stakeholder theory: (a) incorporating normativity, (b) recalibrating the concept of sustainability, (c) viewing people beyond resources, and (d) making more room for cooperative behaviors. Consequently, a firm with a long-term objective, social capital for incremental innovation to obtain a first-mover advantage, and a resource-based view for social sustainability will achieve a sustainable competitive advantage (Bhatt and Altinay 2013; de Carvalho et al. 2021; Lombardi and Costantino 2021).

The third component addresses sustainable profitability, which consists of competitive advantage and cooperation (Crick et al. 2024; Gernsheimer et al. 2024). Creating solutions to sustainability concerns necessitates cooperation across multiple enterprises and people from various industries and sectors (e.g., regulatory authorities and nonprofit organizations). Therefore, for a company to achieve a sustainable profit, its strategy must be sustainable, and in the present environment, sustainability is a tremendous competitive advantage. Munten et al. (2021) emphasized the importance of supporting SI. However, if not adequately recognized and predicted, the dynamic social trap might threaten the viability and effectiveness of any SI and operate as a barrier to the formation of future SIs (Sottini et al. 2024). Consequently, businesses must develop intelligently by defining the game, sharing resources, taking collaborative action, and establishing precise and careful governance mechanisms. Literature suggests that in this dynamic and competitive climate, maintaining a win-win scenario in the business is one of the most critical tasks. A. Sharma et al. (2021) stated that with the rising desire for interconnection, organizations have begun to collaborate and compete at the same time to develop their networks and create sustainable profits. When two competing enterprises operate in silos or engage in direct competition, profit levels are therefore unstable. In the majority of profit-related cases, the cooperative alliance assures consistent profit levels, avoids infrastructure duplication, and results in a win-win position for both company partners (Wilkinson and Young 2002; Yadav and Asongu 2025).

The fourth component addresses sustainable business practices, which cover start-ups, cooperation, and sustainable development. Industry 4.0 has been regarded as a significant contributor to the digital era. Its implications for sustainable development have attracted considerable interest from the viewpoints of the triple bottom line, sustainable business models, and circular economy (Khan et al. 2021). According to Jayashree et al. (2021), triple-bottom-line studies primarily focus on Industry 4.0 adoption and implementation, sustainable supply chains, smart and sustainable cities, and smart factories. Circular economy and sustainable business models are developing research topics that emphasize the adoption and implementation of Industry 4.0 as well as sustainable supply chains (Birkel and Müller 2021). Therefore, implementing sustainability into company performance is the outcome of continuous research and development, innovation, and cooperation. Goni et al. (2021) identified nine major areas to consider when developing a sustainable business model: sustainability, information technology (IT), circular economy, value chain, core values, value creation, organizational values, performance management, and stakeholder involvement. Therefore, it will assist practitioners in capturing key components of sustainability implementation, enabling them to successfully integrate sustainability into their organization's business processes and meet stakeholder requirements and environmental standards.

The fifth component addresses innovation management, which includes social media sensitivity and COVID-19. The impact of social media on individual behavior can be observed in their demand patterns (Makridis and Wang 2020). Companies place a significant emphasis on social media marketing and trend monitoring in order to adapt to dynamic and current trends. Su et al. (2022) emphasized the need for digital transformation in the aftermath of the COVID-19 pandemic and in the years to come. Portfolio diversification, service delivery innovation, product revamping, new market development, collaborating with rivals and/or complementary service providers, synergizing with other stakeholders, and open innovation are typical responses to adversity. As corporations have grasped the benefits of teamwork and competitiveness in crisis management, all these strategies are becoming increasingly popular. Sustainable development is described as balancing actions connected to the triple bottom line to achieve economic, environmental, and social objectives, thereby producing value (Su et al. 2022). As a result, incremental innovation, organizational growth, and supply chain management in times of crisis have modified behavior and generated advanced and inventive management techniques that are very effective at sensing social dynamics and environmental change and reacting appropriately (Hao et al. 2024; Slaper 2011).

The final component addresses social inclusion, which involves social media sensitivity and rural transformation. Social media refers to the web-based tools and media that enable people to engage, create, share, retrieve, and exchange information and ideas in virtual communities and networks in a personal and informal manner. Social media encompasses social networking sites, blogs, microblogs, online forums, discussion boards and groups, Wikipedia, and socially integrated text messaging. Patwari (2020) notes in her research that the use of social media is increasing among rural 16- to 25-year-olds, including both males and females. Youth

between the ages of 16 and 20 make up a significant proportion of the sample (62% for males and 64% for females). Female rural youth mostly use social media for talking (100%) and site browsing of employment, educational, and retail sites (94%), whereas male rural youth primarily use social media for site surfing (100%) and leisure (95%). The literature also suggests that these internet marketing advertisements and metropolitan fashion sense are reflected in their conduct, and rural communities are increasingly socially integrated as a result of technological progress (Amrutrao 2020). Consequently, businesses must closely monitor the social media sensitivity of rural communities and design products accordingly. SI, digitization, and information dissemination have reduced the barrier between urban and rural populations, thereby transforming rural communities and giving them an active role in new product development or the modification of existing products (Fahmi and Arifianto 2022).

Figure 6 presents the conceptual framework, derived from an extensive study of the existing literature through inductive analysis and the authors' findings. The categories of the conceptual framework were created using a mixed-methods approach that combined selective qualitative synthesis and bibliometric analysis. Initial conceptual categories were formed based on the dominant patterns found in the 845 articles by bibliometric techniques such as keyword co-occurrence and thematic clustering. A targeted qualitative review of representative articles was then used to refine these categories further (Thomas and Tee 2022).

Further, our conceptual framework distinguishes between theoretical lenses and broad conceptual constructs. The thematic analysis yielded outcome themes that include ideas such as innovation management, sustainable profitability, and climate control. Unlike being a theme in and of itself, the RBV has been recognized as a theoretical lens for examining and interpreting these thematic clusters. This distinction is consistent with accepted theoretical practice and enhances conceptual clarity.

The framework illustrates how *digitalization*, *social innovation*, and *technological advancements* assist businesses in understanding social dynamics and developing sustainable business models. *Social dynamics* refer to the patterns of interaction, activity, and relationships among individuals and groups within a community or organization. They include the dissemination of information, allocation of authority, and development of social norms that influence interpersonal connections, collaboration, and reactions to change (Wilpert and Klumb 2013). *Social inclusion* refers to the process of guaranteeing equitable opportunity, involvement, and access to resources for all societal members—especially disadvantaged or underrepresented groups—enabling each individual to contribute significantly to social and economic advancement (Goel and Jha 2020). The interconnection among these three conceptions is based on the notion that a profound understanding of social dynamics enables organizations to identify patterns of exclusion, inequality, and community needs. This knowledge enables the formulation of inclusive strategies that incorporate varied stakeholders into company operations, thereby promoting social inclusion. When inclusiveness is integrated into corporate plans, it bolsters legitimacy, fortifies stakeholder connections, and stimulates

innovation—essential elements of sustainable business (Tura et al. 2019).

The globe is simultaneously experiencing a digitalization and technological revolution that is unmatched in its scope, velocity, and complexity. To adapt to the fast changes in technology and the market, firms must undergo ongoing organizational adjustments. These modifications should emphasize the incorporation of technology into the sector and enhance the use of big data, digital technology, and digital communications while keeping up with the times. Through collaboration, the industry can meet the public's requirements, gain a deeper understanding of social dynamics, and optimize the use of organizations within the innovation ecosystem as a whole (Zhou et al. 2021). Therefore, digitalization, SI, and technological advancements facilitate enterprises' understanding of social dynamics. Once a company understands social dynamics, it will be able to plan its operations and make appropriate judgments (e.g., social entrepreneurs). Social enterprises have demonstrated their ability to alleviate the challenges faced by the poor and marginalized by providing innovative and imaginative solutions to persistent social problems. They generate innovative problem-solving processes at the grassroots level that traverse diverse local dynamics and cultural settings.

Extant literature indicates that understanding and studying the “connection” between SIs and social vitality is essential (Kummitha 2016). It is said that community-driven innovation management based on local knowledge encourages social entrepreneurship and fosters social inclusion through the development of infrastructure and capacity. Consequently, our framework suggests that when businesses have a better understanding of social dynamics or local contexts, it leads to increased social inclusion. Once social inclusion is achieved, businesses strive to gain a first-mover advantage and develop a sustainable competitive edge through improved resource management and effective resource sharing. Bitencourt da Silva and Bitencourt (2018) stated that the RBV reassembles in response to the inclusion of the social dimension, proposing a framework of an SRBV that comprises three interconnected strategies: social and ethical performance, SI, and sustainable development.

Once the business determines how to build a sustained competitive advantage via strategic management of its resources, it will be able to leverage this advantage. It assists businesses in contributing to climate change mitigation, green innovation, and effective innovation management. From an RBV perspective, effective product innovation can be ascribed to a capability comprised of a set of resources within the business's control (Verona 1999). This capability will enable the firm to differentiate its goods from those of its rivals (Barney 1991) and achieve superior overall performance (Peteraf and Barney 2003), whereas the RBV takes into account the environmental effect of a company's resources and the process emanating from these resources (Hart 1995). Successful product innovation derived from an RBV should provide a business with a competitive advantage and be environmentally good. After contributing to climate change and implementing creative resource management, the framework suggests that the firm will generate a sustainable profit if it engages in cooperation rather than competition. Cooperation is a commercial

approach that employs game theory principles to determine when it is advantageous for competitors to collaborate. This facilitates the sharing of a firm's individual competitive edge so that it can achieve sustainable profitability. Borba et al. (2019) stated that cooptation must concentrate on determining if the exchange of resources and expertise in a cluster defined by cooptation may provide competitive benefits for the enterprises involved. Consequently, interorganizational interactions within the brewing cluster assist members in becoming more competitive and increasing their profits.

Once a firm achieves a competitive advantage and begins making a sustainable profit, the business practice is deemed sustainable. The core drivers of sustainable profitability, however, lie in competitive advantage and cooptation. From the RBV perspective, competitive advantage arises from a firm's unique and inimitable resources—its human capital, innovation capacity, social inclusivity, and ethical governance—which enable it to deliver superior value compared to its rivals (Safari and Saleh 2020). Firms that embed sustainability and inclusiveness into their competitive strategy not only differentiate themselves but also build customer trust, operational efficiency, and market loyalty. Complementing this, cooptation—the strategic collaboration among competing firms—encourages shared innovation, cost reduction, and collective learning.

The contemporary world is focused on establishing and implementing Industry 4.0, a modern industrial system driven by IT, as well as achieving a sustainable society. Because of their proposed remedies (Olawumi and Chan 2018) for environmental, energy, climate change, and rural development issues, among others, the concepts of sustainability and sustainable business practices have garnered international interest (Axelsson et al. 2012). Therefore, businesses that follow the path of digitalization, SI, and technical improvement will have a durable competitive edge, and increased industry competition will increase their opportunities to form networks and pursue sustainable business practices (Cuevas-Pichardo et al. 2025).

5 | Reflections and Directions for Future Research

The technological revolution and digitalization offer ample research opportunities in organizational innovation and social dynamics. Our study employs bibliometric analysis-based visualizations to unveil current trends in research on social dynamics, organizational innovation, climate change, and sustainable development. The annual publication map shows a significant increase in papers, particularly focusing on digitalization and organizational innovation. However, there is a scarcity of literature that bridges the gap between technological advancements and environmental/climate change concerns, raising important questions about how technology affects organizations and the environment.

Keywords such as SI, social dynamics, and decision-making dominate the field, whereas areas like technology sharing, civil society, and economic/social impact require more attention. The red cluster lacks sufficient literature support, and the blue cluster

presents opportunities for future research in cooptation and local participation. The study reveals valuable insights, particularly in climate change control and adaptation, resource-based view and innovation, sustainable business practices, innovation management, and social inclusion (Ailawadi et al. 2009).

5.1 | Climate Change Control and Adaptation

Social dynamics within organizations—such as communication, collaboration, and knowledge sharing—play a pivotal role in fostering climate-focused innovation. However, the mechanisms through which these social interactions translate into innovative climate responses remain underexplored. Future research can investigate how organizational cultures that promote information exchange and interdisciplinary teamwork enable firms to integrate diverse perspectives and expertise, thereby generating novel strategies for addressing climate challenges.

As climate change continues to reshape environmental conditions and regulatory frameworks, it acts as both a constraint and a stimulus for innovation. Future studies should examine how organizations convert environmental disruptions into opportunities for sustainable practices, resilient infrastructure, and technological adaptation (Bergman et al. 2010). In particular, research can focus on how social mechanisms—such as trust, shared values, and collaborative networks—facilitate the co-creation of climate solutions and support innovation-driven resilience. Moreover, the role of social dynamics in stakeholder engagement deserves deeper exploration. Future research could examine how organizations utilize partnerships, social networks, and community involvement to foster SI for climate action. Understanding these processes can shed light on how collective efforts and multistakeholder collaborations contribute to sustainable transformation.

Lastly, researchers may explore the interconnection between social dynamics, environmental change, and organizational resilience. This would provide insights into how socially cohesive organizations not only withstand climate-induced disruptions but also use them as drivers of innovation. A system-level perspective linking social behavior, organizational adaptation, and environmental outcomes could advance theory and practice in sustainability and climate governance (Dawson and Daniel 2010).

5.2 | Sustained Competitive Advantage Through Strategic Resource Utilization

The pursuit of sustained competitive advantage through the effective utilization of strategic resources is central to the RBV. RBV asserts that organizations achieve long-term success by leveraging unique, valuable, and inimitable resources and capabilities. However, as business environments become increasingly dynamic and sustainability-driven, RBV needs to evolve to include social dynamics and environmental responsiveness as integral factors shaping competitive advantage.

Future research should investigate how social dynamics—such as communication, collaboration, and knowledge

sharing—impact the way organizations leverage their internal resources for innovation and performance. Investigating how social capital, trust, and cross-functional collaboration enhance the transformation of resources into competitive advantage would offer new insights into the relational dimension of RBV (Bagherzadeh et al. 2021).

Similarly, studies should explore how environmental turbulence and sustainability pressures reshape the strategic resource base. Integrating RBV with Dynamic Capabilities Theory can clarify how firms sense, seize, and reconfigure resources in response to technological shifts, climate change, and market volatility (Bhatt and Altinay 2013; Verona 1999). Comparative and longitudinal research could uncover how contextual factors moderate these relationships. Another promising avenue involves assessing how organizations integrate sustainability objectives within their innovation and resource management frameworks. Empirical research can investigate how green capabilities, circular practices, and eco-innovation contribute to both competitiveness and environmental responsibility (Goni et al. 2021).

5.3 | Sustainable Business Practices, Innovation Management, and Profitability

Sustainable business practices increasingly require organizations to balance social, environmental, and economic objectives while adapting to dynamic global challenges. Future research should delve deeper into how organizations can strategically manage social dynamics and environmental transformations to foster sustainable innovation. Building a culture of sustainability and responsibility not only aligns corporate behavior with societal expectations but also harnesses collective employee intelligence to develop creative, value-driven solutions (Folke et al. 2002; Munten et al. 2021).

A key direction for future studies lies in examining how stakeholder engagement—particularly involving employees, suppliers, and customers—drives innovation, resilience, and financial outcomes. Understanding the mechanisms through which stakeholder collaboration enhances sustainability-oriented innovation could provide actionable insights for managers and policymakers (Rodriguez et al. 2002; Sadabadi and Mirzamani 2021). Moreover, research can explore the integration of circular economy principles, focusing on how re-designing business models, supply chains, and product life cycles contributes to resource optimization, waste reduction, and long-term competitiveness (Sharma et al. 2022).

Future investigations should also assess how social and environmental dynamics influence the adoption of such models, identifying the enablers and barriers to their successful implementation. Another promising avenue is the exploration of sustainability metrics and performance indicators, evaluating how these metrics can be effectively integrated into innovation processes to align economic gains with social and ecological objectives. By linking sustainability indicators with innovation management and profitability, researchers can identify pathways through which organizations achieve a competitive advantage while fulfilling their ethical

and environmental responsibilities (Rodriguez et al. 2002; Sadabadi and Mirzamani 2021).

5.4 | Social Inclusion

Social inclusion within organizations represents a crucial area where innovation, diversity, and collaboration intersect to create equitable and sustainable outcomes. As organizations increasingly operate in dynamic socio-environmental contexts, understanding how internal social dynamics and external environmental changes interact to foster inclusion becomes vital. A supportive and inclusive workplace enables diverse perspectives to surface, thereby nurturing creativity and developing solutions that address broader social disparities (Futemma et al. 2020; Wilpert and Klumb 2013).

Future research should delve deeper into the mechanisms through which social dynamics—such as team diversity, inclusive leadership, and participative decision-making—shape innovation processes aimed at enhancing social inclusion (Shahzad et al. 2022). Studies could investigate how diverse teams translate their varied experiences into innovative ideas that tackle issues of accessibility, equality, and empowerment. Similarly, the role of inclusive leadership in creating psychological safety and facilitating equitable participation warrants systematic examination.

Moreover, future studies should investigate the role of stakeholder engagement and co-creation practices in fostering inclusion-driven innovation. Engaging marginalized communities, NGOs, and local networks in the ideation and implementation process can generate more contextually relevant and socially impactful outcomes (Shahzad et al. 2022). Ultimately, researchers can evaluate how organizational policies and practices—such as diversity programs, mentorship initiatives, sustainability strategies, and employee resource groups—foster a culture of inclusion that promotes innovation. Comparative and longitudinal studies across sectors could reveal how organizations institutionalize inclusion as a strategic capability that enhances innovation performance and social equity (Khan et al. 2021; Shove 2014).

6 | Conclusion, Implications, and Limitations

This paper presents an integrative review of research on the relationship between social dynamics, climate change, and organizational innovation. Our study highlights the need to consider entrenched interests and ideas, particularly in the context of climate change adaptation, which has been relatively under-explored. We identify key future research directions, including climate change control, resource-based approaches, sustainable business development, profitability, innovative management, and social inclusion.

The findings stem from a comprehensive analysis of publication trends, keyword co-occurrences, thematic maps, and inductive analysis, revealing how the research has progressed and evolved in response to trends in world events and socio-cultural changes. In the literature, their contribution is also

stated in terms of showing how the established key themes of the research have transformed and what new areas are being focused on. Thematic clusters provide systematic summaries of the historical growth of the field, thus providing a base upon which future works can extend or fill in any gaps in existing bodies of knowledge.

The theoretical implications are given as follows. First, the analysis reveals that social elements, dynamics, resources, innovation, and sustainability are all interrelated in both theoretical settings and organizational practice. These emerging and motor themes of context continually refine the theoretical approaches to the field, contributing to the clarity of explanation regarding the interrelation and evolution of the analyzed concepts over time. Second, given the dynamic nature of social dynamics and environmental changes, it may be necessary to broaden the classic RBV models (Freeman et al. 2021; Vargas and Mantilla 2014) to include adaptive learning processes. This would require a more fluid and dynamic understanding of resource utilization and decision-making. Furthermore, theories such as the TBL, IDT, and the strong integration of the RBV and its extension, the SRBV, serve as guiding frameworks. When considered collectively, these viewpoints enhance understanding of how SI and digitalization foster competitive advantages and organizational changes that are climate-responsive.

Third, the focus on social networking and digital technologies in promoting social learning and the creation of new products indicates a theoretical shift in understanding technology as a fundamental enabler of innovation. Thus, Web 2.0 and social media play a crucial role in promoting knowledge exchange and collaborative innovation, which can impact consumer behavior and organizational strategy (Fahmi and Arifianto 2022; Subodha Kumar and Qiu 2022). This should be taken into consideration in theoretical frameworks. Fourthly, the controversy surrounding cooperation, particularly in the aftermath of the pandemic, suggests that conventional theories of cooperation and competition need to be revised to represent the contradictory nature of these two forces adequately. Theories should focus on how businesses can work together and compete simultaneously, utilizing the dynamic characteristics of supply chains to promote creativity and sustainability.

Our findings have several practical implications. First, businesses must recognize the importance of fostering a culture that encourages open communication, collaboration, and adaptability to sustain innovation and competitiveness in an increasingly complex global landscape. This suggests the necessity of making strategic choices about company culture, leadership, and resource allocation (Barney 2001; Freeman et al. 2021). Second, organizations must place a growing emphasis on sustainability, not only as a business obligation but also as a catalyst for innovation. This suggests a need for the development of environmentally friendly products, the adoption of green technology, and the formulation of strategies aimed at minimizing the environmental impact of activities (Oltra 2008). Third, the ability to adapt to technology breakthroughs is crucial for companies, since these innovations are an integral component of environmental changes. Therefore, organizations must remain up to date with the latest technological trends. This includes allocations

for research and development, the adoption of digital transformation strategies, and the utilization of emerging technologies to foster innovation and sustain a competitive advantage (Herrera 2015). Fourth, companies should allocate resources toward fostering employee involvement, training, and development to cultivate a conducive atmosphere that promotes the flourishing of creativity and the exchange of ideas. It is essential to cultivate effective team relationships and embrace diversity as a means to foster creativity (Iqbal and Piwowar-Sulej 2022).

Fifth, regulatory compliance is often influenced by climate change, resulting in changes to regulatory frameworks. It is imperative for organizations to diligently observe and adjust to these changes to ensure adherence, while simultaneously recognizing potential opportunities for innovation within the newly established regulatory framework. This may require the reorganization of structures, the redesign of processes, or the development of new products. Sixth, the extant literature (Ma et al. 2019; Markovic et al. 2021; Oltra 2008) suggests that resolving global challenges through innovative means is not limited to a specific field or industry. The establishment of cross-disciplinary collaborations among corporations, research institutions, and governments has the potential to yield more comprehensive and effective solutions.

Seventh, the importance of education and skill development lies in its role of equipping the workforce with the necessary tools to succeed in environments that are shaped by social dynamics and environmental fluctuations. Educational institutions must modify their curricula to equip students with the necessary skills to foster creativity in dynamic and changing environments. Promoting a culture of continuous learning and upskilling is vital inside the company (Merz and Sormani 2016; Sarewitz 2011). Last, public policy and government initiatives are crucial in tackling global concerns. Existing studies (Guinet and Meissner 2012) suggest that governments would benefit from establishing laws, incentives, and financing mechanisms that promote innovation aimed at addressing environmental and social challenges. Public-private partnerships have a crucial role in facilitating and catalyzing transformative shifts. Moreover, when assessing investment prospects, investors and venture capitalists must consider the potential impact of social dynamics and environmental changes. Investments in startups and enterprises that demonstrate alignment with sustainability objectives and possess adaptable capacities may have increased appeal.

Our study offers valuable insights into the limitations and scope of current research, providing a foundation for future researchers to explore the impact of social dynamics, social inclusion, and a resource-based perspective on innovation and sustainable business practices. Additionally, the thematic clusters and publication trends revealed by our analysis offer essential information for scholars entering this field, guiding their research agendas. We have also developed an aggregate dimension and a conceptual framework that can help managers navigate a dynamic, social, and innovative environment while developing sustainable business models. However, future studies should consider expanding the range of databases and sources to provide a more comprehensive perspective. Finally, although our analysis is comprehensive, systematic reviews or meta-analyses

may offer more detailed insights into this research area. In conclusion, this paper lays a foundation for future research in the field, addressing methodological constraints while providing valuable insights and directions for scholars, practitioners, and policymakers.

Author Contributions

Gagan Deep Sharma: conceptualization, methodology, analysis, resources, writing, original draft, visualization. **Alberto Ferraris:** conceptualization, methodology, review and editing, supervision. **Ritika Chopra and Dhairya Dev:** investigation, writing, data curation, validation, project administration. **Sascha Kraus:** review and editing, project coordination.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Bibliometric data for this study are available on request.

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