The Role of Social Capital in Sustainable Change: Knowledge Dynamics within the Proklim Lestari Communities

*Riesta Wijayanti[1] and Syamsul Hadi[2]

[1,2] Universitas Sarjanawiyata Tamansiswa, Yogyakarta, Indonesia
*[1]riestawijayanti2019@gmail.com,[2]syamsulhadi@ustjogja.ac.id

Abstract. This conceptual study explores how social capital drives sustainable change within community based environmental programs, with a specific contextual focus on the Proklim Lestari initiative in Sleman Regency. Motivated by regional waste management challenges and the need to build environmental resilience, this research constructs a theoretical framework positioning knowledge creation and knowledge diffusion as key intervening mechanisms. Relying on secondary data comprising regional policy documents, programmatic reports, and relevant scientific literature the study employs a qualitative conceptual analysis. The synthesis reveals that social capital, manifested through trust, reciprocal norms, and networks, is foundational for collective environmental action. Furthermore, community interactions foster continuous knowledge creation, while established social networks accelerate its diffusion. These knowledge dynamics act as bridges, transforming latent relational potential into actionable innovations and sustainable behaviors. The findings propose that the long term success of initiatives like Proklim Lestari depends critically on integrating social capital strengthening with systemic knowledge management. Consequently, communities can evolve into adaptive and participatory agents capable of sustaining environmental programs.

Keywords: Knowledge Creation, Knowledge Diffusion, Social Capital, Sustainable Change

1 Introduction

The challenges of environmental conservation and sustainable resource management at the regional and organizational levels often get bogged down in short-term interventions that fail to produce long-term impacts. These failures not only result in a waste of financial resources but also erode public legitimacy and trust in the effectiveness of institutions. To address this, appropriate long-term solutions are needed to bring about sustainable organizational change. Sustainable change is a long-term structural transformation that integrates environmental, social, and economic considerations into an organization's operations and systems. This sustainable change has a fundamental impact by disrupting the convention of relentless economic exploitation and moving toward a system that facilitates future sustainability [1].

Although the implementation of sustainable change is often hindered by institutional inertia and a lack of capacity [2]. These obstacles can be overcome through social capital—that is, resources embedded in social networks and trust that facilitate

© The Author(s) 2026
K. Chandra Kirana et al. (eds.), *Proceedings of the International Conference on Business, Economic, and Social Sustainability (ICOBES 2026)*, Advances in Economics, Business and Management Research 409,
https://doi.org/10.2991/978-94-6239-811-5_11

cooperation and collective action, Because it operates at various levels, social capital influences a very broad spectrum of outcomes, ranging from the dynamics of group cooperation [3], enhancing the culture of knowledge sharing and organizational creativity [4], building social cohesion and well-being [5], to accelerate the adoption of new technologies [6]. In the context of achieving sustainable change, social capital influences the success of the ecological transition by acting as an essential catalyst that drives collective action and adherence to environmental norms, such as fostering environmental citizenship [7], accelerate public acceptance of ecological innovations [8], as well as strengthening Environmental, Social, and Governance (ESG) performance and Corporate Social Responsibility (CSR) compliance at the corporate level [9]

This is in line with the waste management situation in Sleman Regency, which is currently facing critical challenges, marked by a high volume of waste generation 601.80 metric tons per day in 2023. The closure of the Piyungan Landfill due to overload has triggered a severe crisis, reducing waste management effectiveness to just 43.57% and leaving approximately 289.58 metric tons of unmanaged waste daily. In response to this reality, the Sleman Regency Government has set a strategic target of 100% waste management by 2045 through a transformative scenario in Rencana Pembangunan Jangka Panjang Daerah (RPJPD). This goal is not merely focused on addressing physical sanitation issues; rather, it calls for achieving a balance among economic, environmental, and social aspects. This strategy requires strengthening community-based environmental resilience through the scaling-up of the Climate Village Program (Proklim), which has now been transformed into the Climate Community Program.

Within the context of Sleman's local culture, which is deeply rooted in the value of Hamemayu Hayuning Bawana (caring for the earth), the Proklim community essentially functions as a platform for social education. To bridge this gap, this study proposes a logical model in which social capital serves as the initial foundation that facilitates trust and community networks. However, social capital alone is not enough to create permanent change if it is not converted into tangible innovation. Therefore, Knowledge Creation is needed to break the deadlock of routine by reconstructing community interactions into new ideas for waste management, as well as Knowledge Diffusion to distribute these best practices across group boundaries so they can spread more widely.

2 Literature Review

2.1 Social Capital Theory

Social Capital Theory is used as a grand theory to examine how connections and interactions within society can drive information management and the achievement of sustainable change. [10] and [11] explain that this theory explores the role of social relationships, networks, and shared norms as valuable resources that enable individuals and groups to achieve collective goals. [11] specifically highlights that social capital is unique because it essentially lives and thrives within human connections, setting it apart from physical capital such as infrastructure and human capital such as individual skills.

2.2 Sustainable Change

Sustainable change is a fundamental paradigm shift in how organizations approach transformation, integrating environmental management, social responsibility, and governance excellence into their core operational framework. This concept has evolved beyond traditional corporate social responsibility to encompass systemic organizational transformation that addresses the triple bottom line [12]. To achieve success, organizations and communities must adopt a comprehensive, multidimensional approach, such as the KINoS framework (Knowledge Creation and Diffusion, Innovation, and Social Capital) developed by [13]. The logical foundation of this model is highly relevant for replication in environmental community ecosystems.

The KINoS framework highlights how social processes support sustainable change across three main dimensions: time, scope, and depth. In addition, there are several factors that influence sustainable change, including: psychological, organizational, and structural factors; resource allocation; organizational culture; social and community factors; stakeholder engagement; environmental and contextual factors; and technology adoption and digital transformation.

2.3 Social Capital

Social capital is defined as a dynamic relational asset embedded in social networks, which enables actors to access resources, facilitates the exchange of knowledge, and coordinates collective action to achieve sustainable goals [14]. This definition emphasizes that social capital is not merely the "number of friends," but rather the quality of interactions that can generate economic and social value amid global uncertainty [15].

The theoretical development of social capital has been shaped by Pierre Bourdieu, James Coleman, and Robert Putnam. While each offers a different conceptualization, their collective contributions establish social capital as a multidimensional construct that encompasses structural, relational, and cognitive elements. Modern applications have expanded upon this classical foundation to address contemporary organizational challenges, including digital transformation, sustainability, and knowledge management. The dimensions of social capital consist of: the structural dimension, the relational dimension, and the cognitive dimension.

2.4 Knowledge Creation

Knowledge creation is defined as a multifaceted process within an organization that involves the formulation of innovative ideas and solutions, whether developed from scratch or through the systematic reconfiguration and integration of existing knowledge [16].In the context of modern project dynamics and collaboration, knowledge creation is also defined as the process of capturing, articulating, and reinforcing knowledge generated by individuals (both tacit and explicit), which is then integrated into the organization's knowledge base to foster continuous learning [17].

In knowledge creation, there are four modes (SECI) developed by Nonaka and Takeuchi. This model identifies four modes of knowledge conversion: Socialization (tacit-to-tacit), Externalization (tacit-to-explicit), Combination (explicit-to-explicit),

and Internalization (explicit-to-tacit) [18]. Meanwhile, the factors that influence knowledge creation are organizational factors, individual and human capital factors, and environmental and institutional factors.

2.5 Knowledge Diffusion

Knowledge diffusion, on the other hand, refers to the mechanisms by which knowledge spreads across organizational boundaries, through networks, geographic regions, and institutional contexts [19]. In knowledge diffusion, the concept of knowledge diffusion is fundamentally rooted in the Theory of the Diffusion of Innovations developed. This process is characterized by five key stages knowledge, persuasion, decision, implementation, and confirmation which guide individuals from initial awareness to the eventual adoption or rejection of an innovation [20].

3 Methodology

This study employs a qualitative approach using conceptual analysis. Conceptual analysis was chosen to examine and link the key concepts related to knowledge creation, social capital, knowledge diffusion, and sustainable change in the context of waste management. This study utilizes secondary data in the form of a literature review drawn from relevant sources, including scientific articles, books, reports, and policy documents, based on their appropriateness. This framework is designed to answer the following questions: (1) Does social capital influence sustainable change? (2) Does social capital influence knowledge creation? (3) Does social capital influence knowledge diffusion? (4) How does knowledge creation contribute to sustainable change in waste management practices? (5) How does knowledge diffusion contribute to sustainable change in waste management practices?

4 Results & Discussion

4.1 The Role of Social Capital in Sustainable Change

Achieving sustainability at both the organizational and community levels through an effective organizational approach depends heavily on the dynamics of interactions and relationships among the actors involved [1]. Social capital which encompasses the elements of trust, norms of reciprocity, and social network density serves as an invisible infrastructure that enables agents of social change to catalyze collective action in response to complex social and environmental challenges. [21]. When an organization has strong social bonds, resistance to new initiatives can be minimized due to mutual trust and shared goals.

Specifically in the context of community-based environmental initiatives such as the transition to a circular economy at the grassroots level bottom-up dynamics require strong social capital for innovations to take root and become institutionalized [22]. The success of community programs, such as environmental management or community-based waste management, is largely determined by the quality of relationships among residents. This has been empirically confirmed by [23] Social capital is a key predictor

of the success of solid waste management practices in local communities and rural areas. Social cohesion, agreed-upon social sanctions, and a sense of shared ownership ensure that pro-environmental behavioral changes do not occur merely reactively or temporarily, but rather transform into sustainable habits.

Furthermore, within the framework of KINOS [13] It clearly identifies social capital as a key enabler that drives sustainable change. A cohesive social network provides entities with the adaptive capacity to continue learning, withstand external pressures, and maintain the momentum of transformation over time. Without adequate social capital, change programs tend to stall when structural support or interventions are withdrawn. Therefore, the higher the level of trust and cooperation within a network, the greater the likelihood that a change will be sustained.

4.2 The Role of Social Capital in Knowledge Creation

In today's knowledge economy, the process of knowledge creation is no longer viewed solely as an isolated individual cognitive activity, but rather as a highly dynamic process of social interaction. This is consistent with the view that [24], which emphasizes that social capital plays a fundamental role in the knowledge economy. Strong networks, high levels of trust, and shared norms and values within a group serve as vital infrastructure that facilitates the exchange of intellectual resources among individuals [24]. This high-quality social interaction is an absolute prerequisite for fostering collaboration that leads to innovation and new knowledge.

Cohesive relational bonds within an organizational network or community create a psychologically safe environment. This environment encourages individuals within it to be more open in discussing complex ideas, sharing empirical experiences, and externalizing their tacit knowledge into shared knowledge.

Without a solid foundation of social capital, suspicion or reluctance to share information will prevail, thereby hindering the process of dialogue and collective learning. Conversely, when social capital is well managed, an organization has a far greater capacity to continuously synergize ideas and formulate new solutions [13]

4.3 The Effect of Social Capital on Knowledge Diffusion

In the contemporary knowledge ecosystem, social capital plays a crucial role as the primary determinant of how knowledge flows and spreads among individuals, organizations, and institutions. This process of knowledge dissemination or diffusion is facilitated by complex mechanisms built upon the three main dimensions of social capital: the structural, relational, and cognitive dimensions [25].

From a structural perspective, the configuration and connections of a network create an infrastructure or channels that directly enable the flow of knowledge [26]. An actor's position within that network structure especially those in central positions provides a strategic advantage in accessing, controlling, and widely disseminating information [27]. The strength of these network ties both strong ties, which facilitate in-depth knowledge, and weak ties, which promote novelty in information significantly shape patterns of knowledge diffusion [28]. Dense networks have also been shown to facilitate the development of trust and the enforcement of group norms that support the exchange of information [29]. Furthermore, the smooth functioning of these structural channels depends heavily on relational dimensions, in which trust serves as a

fundamental pillar that enables the effective diffusion of knowledge across various organizational boundaries [15]. Trust determines whether an interaction will encourage knowledge-sharing behavior or, conversely, trigger counterproductive behaviors such as withholding and hoarding knowledge [30]. A trust deficit has clearly proven to be a crippling obstacle to the diffusion of knowledge [31]. In addition to trust, the norm of reciprocity serves as the backbone that ensures this exchange of knowledge continues over time [32]. This process of information transmission is then enhanced by the cognitive dimension of social capital. The presence of cognitive affinity, a shared language, and a uniform narrative facilitates mutual understanding among actors within the network Ulrich [33]. This shared cognitive framework ensures that new information can be effectively understood, absorbed, and integrated by its recipients [34].

4.4 The Impact of Knowledge Creation on Sustainable Change

In response to ecological pressures and the imperative to achieve sustainable development, organizations are required to continually develop adaptive responses. Based on the Resource-Based View (RBV) and dynamic capabilities theory, knowledge creation or the ability to generate knowledge serves as a fundamental mechanism through which an entity can respond to ever-evolving sustainability demands. These knowledge-generating activities have been shown to directly influence an organization's sustainability outcomes, as highlighted by [35], which found that the ability to generate knowledge supported by absorptive capacity and governance mechanisms is a key determinant of a company's environmental performance and sustainability outcomes. Furthermore, knowledge creation integrated into the organization's learning processes serves as a crucial bridge for translating environmental aspirations into operational improvements. Green knowledge management emerges as a key mediator between an organization's strategic factors and improvements in green innovation performance [36].

In today's digital economy, the process of knowledge creation has also evolved into the co-creation of green value. Active engagement in this digital co-creation of knowledge has been shown to have a significant positive effect on improving digital green innovation performance [37]. In addition, the ability to generate and share new knowledge internally supported by transformational leadership has been shown to synergistically enhance innovation capabilities, which in turn drive the dynamism of the environment and the company's overall sustainable performance [38].

The impact of knowledge creation on sustainable change, as viewed from the Knowledge-Based View (KBV), positions knowledge as the most strategic asset that determines an entity's ability to adapt and achieve long-term excellence [39]. The knowledge creation process which includes the stages of generating, codifying, sharing, and utilizing knowledge serves as a key driver of green innovation and resilience. When new ideas are successfully developed and transformed into a shared memory or a structured governance system, that entity has a strong foundation for consistently implementing sustainable practices [40]. This capability aligns with the Dynamic Capabilities Theory, according to which entities that continuously update their knowledge will be more agile in responding to environmental pressures and achieving holistic, sustainable transformation [41].

Knowledge creation can serve as a mediator between social capital and sustainable change, based on a synthesis of the two relationships described above. Social capital is a latent potential that provides a relational infrastructure; however, social capital cannot automatically generate sustainable change without mechanisms that transform those relationships into practical solutions. The process of knowledge creation acts as a critical pathway that bridges this gap. Empirical evidence shows that the utilization of knowledge fully mediates the relationship between the knowledge management process and an organization's sustainability performance [39]. In a practical context, high levels of social capital within a community or organization facilitate discussions, deliberations, and the transfer of expertise. These social interactions lead to collective innovation and adaptive behavior at both the individual and group levels [42]. This collectively generated knowledge is then translated into sustainable operational changes or daily behaviors, such as green innovation practices sustainable [43].

4.5 The Impact of Knowledge Diffusion on Sustainable Change

Knowledge diffusion represents an important mechanism through which innovations, practices, and information are disseminated among individuals, organizations, and communities to facilitate sustainable development and address environmental and social challenges [44]. In light of the urgency of the global environmental crisis and the transition toward a sustainable system, understanding the mechanisms through which knowledge is transmitted and absorbed has become crucial for accelerating transformative change [45]. Contemporary understanding recognizes that effective knowledge diffusion is not merely a linear transfer, but rather involves complex interactions between knowledge sources, mediating factors, and recipient systems, such as local communities [46].

The varying degrees of success in knowledge diffusion depend heavily on the concept of absorptive capacity that is, an entity's ability to recognize, assimilate, and apply new knowledge that is crucial for achieving sustainable results. In the context of community groups or organizations, mechanisms for knowledge gathering and collaboration serve to translate widely dispersed knowledge into strategic decisions and sustainable performance outcomes [35]. The process of spreading innovations and sustainable practices within society is significantly shaped by the attributes of the innovations themselves, such as relative advantage, compatibility, observability, as well as environmental and ethical considerations and stakeholder expectations [44]. The ecosystem lens and collaborative networks highlight the importance of networking and the involvement of local actors in accelerating knowledge diffusion for sustainability [46]. The collective sharing of knowledge and pooling of resources among community members similar to cooperative systems or environmentally conscious groups has proven effective in increasing the adoption of sustainable practices, resource efficiency, and overall community engagement [47].

Social capital is a crucial foundation for building a collaborative ecosystem that enables the effective flow of information. The structural dimensions of social capital, such as network density and connectivity, significantly facilitate the flow of knowledge and collaborative innovation among actors. In addition, the experience and relationships built within a network can accelerate the transfer of technical knowledge due to the presence of strong relational capital [48]. Furthermore, the formation of

community-level organizations improves members' access to resources and credit, indicating that structural social capital serves as a key channel for the diffusion of knowledge regarding climate-smart practices [49]. Therefore, the stronger one's social capital, the faster and more widely knowledge can be distributed.

The main challenge in achieving environmental and economic sustainability often lies in a limited fundamental understanding of the mechanisms of transformation. Knowledge diffusion which includes technology transfer and green learning initiatives is essential for achieving sustainable development goals. Knowledge that is effectively disseminated enables individuals or groups to develop a high sense of self-efficacy, allowing them to consciously adopt behaviors that promote environmental conservation and social resilience [43]. Knowledge-mediated transformation efforts have been shown to improve operational efficiency and promote structural optimization toward a green economy [15]. Knowledge diffusion as a mediator between social capital and sustainable change. The intersection of social capital and sustainability does not always produce a linear impact in the absence of a catalyst in the form of knowledge flow. Empirical evidence shows that network capabilities (social capital) enhance economic and environmental performance through the mediating channel of knowledge workers' productivity [50]. In addition, relational capabilities facilitate a dynamic impact on environmental and social performance, indicating that social capital requires channels for information transfer to generate sustainable outcomes [48]. Network embedding also plays an intermediary role in the creation of digital green value that enhances innovation performance. Knowledge signals that spread through a network have been shown to have a significant spillover effect on an entity's sustainable innovation outcomes.

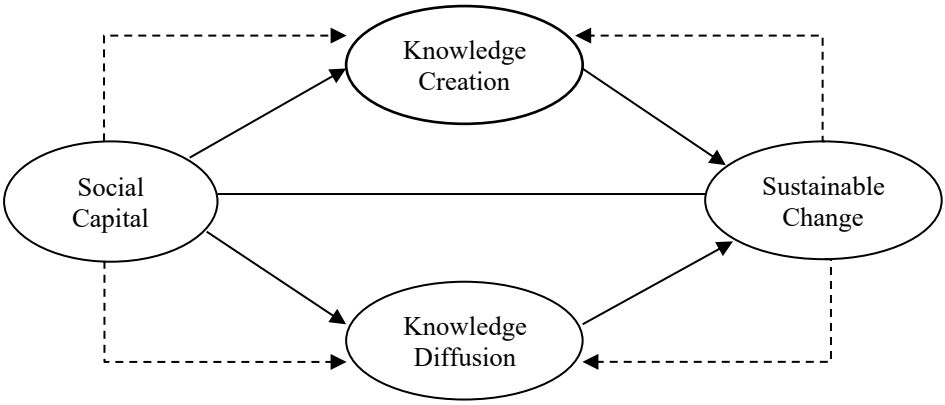


Fig. 1 Conceptual Framework

5 Conclusion

This study shows that social capital plays a crucial role in driving sustainable change within the Proklim Lestari community in Sleman Regency. Social capital, underpinned by trust, norms of reciprocity, and the strength of social networks, has proven to be the

primary foundation for building community collaboration and collective action. However, social capital does not directly bring about sustainable change; rather, it must be strengthened through the processes of knowledge creation and knowledge diffusion.

The study's findings also confirm that knowledge creation plays a role in transforming social interactions into innovations and new solutions in environmental management, particularly community-based waste management. Meanwhile, knowledge diffusion ensures that this knowledge can spread more widely among individuals and groups so that best practices can be adopted sustainably. Thus, the success of sustainable change is determined not only by the strength of social ties within a community but also by the community's ability to effectively manage, create, and disseminate knowledge. The combination of these three variables forms a mutually reinforcing model for achieving sustainable environmental transformation at the community level.

References

[1] R. Delbridge, M. Helfen, A. Pekarek, E. Schuessler, and C. Zietsma, "Organizing Sustainably : Introduction to the Special Issue," *Introd. to Spec. Issue Organ.*, vol. 45, no. 1, pp. 7–29, 2024, doi: 10.1177/01708406231217143.

[2] S. Bourdin and N. Jacquet, "Closing the loop at the local scale : Investigating the drivers of and barriers to the implementation of the circular economy in cities and regions," *Ecol. Econ.*, vol. 231, no. January, 2025, doi: 10.1016/j.ecolecon.2025.108542.

[3] S. L. and A. L. M. Huang, Z. Li, F. Xiao, "'Trust Mechanism-Based Multi-Tier Computing System for Service-Oriented Edge-Cloud Networks,'" *IEEE Trans. Dependable Secur. Comput.*, vol. 21, no. 4, pp. 1639–1651, 2024.

[4] A. Ferraris, F. A. Perotti, Z. Rozsa, and M. Kud, "Building a knowledge sharing climate amid shadows of sabotage : a microfoundational perspective into job satisfaction and knowledge sabotage," *J. Knowl. Manag.*, vol. 28, no. 5, pp. 1490–1516, 2023, doi: 10.1108/JKM-03-2023-0262.

[5] V. Jennings, A. Rigolon, J. Thompson, A. Murray, A. Henderson, and R. S. Gragg, "The Dynamic Relationship between Social Cohesion and Urban Green Space in Diverse Communities : Opportunities and Challenges to Public Health," *Environ. Res. Public Heal. 2024,* vol. 21, no. 6, pp. 1–17, 2024.

[6] B. O. Antonio, L. R. Juan, I. D. Ana, and L. C. Francisco, "Examining user behavior with machine learning for effective mobile peer - to - peer payment adoption," *Financ. Innov.*, 2024, doi: 10.1186/s40854-024-00625-3.

[7] P. Boostani, G. Pellegrini-Masini, and J. Klein, "The Role of Community Energy Schemes in Reducing Energy Poverty and Promoting Social Inclusion : A Systematic Literature Review," *Energies*, vol. 17, no. 13, p. 3232, 2024, doi: https://doi.org/10.3390/en17133232.

[8] M. City, A. K. Ejigu, and K. Yeshitela, "Envisioning sustainable sanitation planning : a uni fi ed approach of diffusion of innovation and theory of planned behavior in predicting ecosan toilet adoption in Arba," *Front. Environ. Sci.*, vol. 12, no. March, p. 1371659, 2024, doi: 10.3389/fenvs.2024.1371659.

[9] L. Ho, V. H. Nguyen, and T. L. Dang, "ESG and firm performance: do stakeholder engagement, financial constraints and religiosity matter?," *J. Asian Bus. Econ. Stud.*, vol. 31, no. 6, pp. 263–276, 2024, doi: 10.1108/JABES-08-2023-0306.

[10] P. Bourdieu, *Forms of Capital (읽기 전용). Handbook of Theory and Research for the*

Sociology of Education. 1986.

[11] J. S. Coleman, "Social Capital in the Creation of Human Capital," *Am. J. Sociol.*, vol. 94, pp. S95–S120, 1988.

[12] S. Santiago, L. F. Scavarda, R. S. Santos, D. Luiz, and D. M. Nascimento, "Corporate social responsibility and circular economy integration framework within sustainable supply chain management : Building blocks for industry 5 . 0," *Corp. Soc. Responsib. Environ. Manag.*, vol. 32, no. December 2023, pp. 269–290, 2025, doi: 10.1002/csr.2949.

[13] S. N. Van Den Boom-muilenburg and K. Vanlommel, "The KINoS framework : social capital as the key enabler driving sustainable educational change through," *J. Prof. Cap. Community,* no. February, pp. 1–18, 2026, doi: 10.1108/JPCC-04-2025-0042.

[14] S. Wang and H. Zhang, "Digital Transformation and Innovation Performance in Small- and Medium-Sized Enterprises : A Systems Perspective on the Interplay of Digital Adoption , Digital Drive , and Digital Culture," *Systems,* vol. 13, no. 1, p. 48, 2025, doi: https://doi.org/10.3390/systems13010043.

[15] G. Chen *et al.*, "Human Resources for Health Social support , psychological capital , multidimensional job burnout , and turnover intention of primary medical staff : a path analysis drawing on conservation of resources theory," *Hum. Resour. Health*, vol. 22, no. 24, pp. 1–14, 2024, doi: 10.1186/s12960-024-00915-y.

[16] M. Nakash and E. Bolisani, "Making knowledge management transparent : a new perspective on KM processes integration in the organizational framework," *Bus. Process Manag. J.*, vol. 31, no. 8, pp. 49–66, 2024, doi: 10.1108/BPMJ-07-2024-0566.

[17] M. Carmela, E. Mattarelli, D. Dentoni, and A. Messeni, "The micro-foundations of ambidexterity for corporate social performance : A study on sustainability managers ' response to conflicting goals," *Long Range Plann.*, vol. 57, no. December 2023, 2024.

[18] W. Zhang, W. Zhang, T. Daim, and H. Yalç, "AI challenges conventional knowledge management : light the way for reframing SECI model and Ba theory," *J. Knowl. Manag.*, vol. 29, no. 5, pp. 1618–1654, 2025, doi: 10.1108/JKM-02-2024-0203.

[19] F. Polidoro and C. Jacobs, "Knowledge diffusion in nascent industries: Asymmetries between startups and established firms in spurring inventions by other firms," *Strateg. Manag. J.*, vol. 45, no. 4, pp. 807–845, 2024.

[20] Q. Guo and W. Huang, "Analyzing the Diffusion of Innovations Theory," *Sci. Soc. Res.*, vol. 6, no. 12, pp. 95–98, 2024, doi: https://doi.org/10.26689/ssr.v6i12.8947.

[21] K. Heucher, E. Alt, S. Soderstrom, M. Scully, and A. Glavas, "King ' s Research Portal Catalyzing Action on Social and Environmental Challenges : An Integrative Review of Insider Social Change Agents Katrin Heucher (University of Groningen), Ante Glavas (University of Vermont) Corresponding Author : Katrin Heuch," *Acad. Manag. Ann.*, vol. 18, no. 1, pp. 295–397, 2024, doi: 10.5465/annals.2022.0205.

[22] M. Henry, J. Kirchherr, R. Raven, and M. Hekkert, "Bottom-up dynamics in circular innovation systems The perspective of circular start-ups," *J. Ind. Ecol.*, vol. 28, no. 2, pp. 320–338, 2024, doi: 10.1111/jiec.13468.

[23] S. I. Allaoui, M., Elrhayam, Y., & Ahmed, "Response surface methodology and artificial neural network modeling study on optimizing heavy metal adsorption using shell powder," *Int. J. Environ. Sci. Technol.*, vol. 23, no. 3, 2026, doi: https://doi.org/10.1007/s13762-025-07026-8.

[24] O. Y. Myasnikova, "Social capital in the knowledge economy," *Econ. Manag. Law*, vol. 33, no. 6, pp. 35–51, 2024.

[25] S. Barbosa, S. Patricio, and L. Zofío, "The emergence and historical evolution of innovation networks : On the factors promoting and hampering patent collaboration in technological lagging economies," *Res. Policy*, vol. 53, no. April, 2024, doi: 10.1016/j.respol.2024.104990.

[26] S. S. M. Yuen and H. Y. Lam, "Enhancing Competitiveness through Strategic Knowledge Sharing as a Driver of Innovation Capability and Performance," *Sustain. Artic.*, vol. 16, no. 2460, pp. 1–19, 2024, doi: https://doi.org/10.3390/su16062460.

[27] R. Belderbos, D. Castellani, H. S. Du, and G. Ho, "Internal versus external agglomeration advantages in investment location choice : The role of global cities ' international connectivity," *J. Int. Bus. Stud.*, vol. 55, no. 6, pp. 745–763, 2024, doi: 10.1057/s41267-024-00686-7.

[28] G. Fazio, S. Maioli, and N. Rujimora, "The twin innovation transitions of European regions," *Reg. Stud. ISSN*, vol. 59, no. 1, 2025, doi: 10.1080/00343404.2024.2309176.

[29] M. A. Bhat, S. Tariq, and R. A. Rainayee, "Examination of stress–turnover relationship through perceived employee's exploitation at workplace," *PSU Res. Rev.*, vol. 8, no. 3, pp. 648–670, 2024, doi: 10.1108/PRR-04-2021-0020.

[30] A. Thomas, "The dynamics of knowledge behaviors : exploring drivers , triggers and paradoxes in knowledge sharing , hiding , hoarding and sabotage," *J. Knowl. Manag.*, vol. 29, no. 11, pp. 117–144, 2026, doi: 10.1108/JKM-03-2025-0399.

[31] S. Xu, K. I. Khan, and M. F. Shahzad, "Examining the influence of technological self - efficacy , perceived trust , security , and electronic word of mouth on ICT usage in the education sector," *Sci. Rep.*, vol. 14, no. 1, pp. 1–17, 2024, doi: 10.1038/s41598-024-66689-4.

[32] L. Hendricks, P. Matthyssens, and C. Kowalkowski, "International Journal of Production Economics The co-evolution of actor engagement and value co-creation on digital platforms," *Int. J. Prod. Econ.*, vol. 279, no. November 2024, p. 109467, 2025, doi: 10.1016/j.ijpe.2024.109467.

[33] U. Wilke and A. Pyka, "Sustainable innovations , knowledge and the role of proximity : A systematic literature review," *J. ofEconomic Surv. Publ.*, vol. 39, no. 1, pp. 1–26, 2024, doi: 10.1111/joes.12617.

[34] F. Rossi, M. De Silva, P. Pavone, A. Rosli, and N. K. T. Yip, "Technological Forecasting & Social Change Proximity and impact of university-industry collaborations . A topic detection analysis of impact reports," *Technol. Forecast. Soc. Chang.*, vol. 205, no. June 2023, p. 123473, 2024, doi: 10.1016/j.techfore.2024.123473.

[35] F. Alkaraan, M. Elmarzouky, K. Hussainey, V. G. Venkatesh, Y. Shi, and N. Gulko, "Reinforcing green business strategies with Industry 4 . 0 and governance towards sustainability : Natural-resource-based view and dynamic capability," *Bus. Strateg. Environ.*, vol. 33, no. 4, pp. 3588–3606, 2024, doi: 10.1002/bse.3665.

[36] M. Riaz, W. Jie, and S. Ali, "Assessing the role of organizational strategic factors in stimulating green innovation performance : moderating effects of green absorptive capacity," *Bus. Process Manag. J. R*, vol. 30, no. 4, pp. 1013–1043, 2024, doi: 10.1108/BPMJ-12-2023-0967.

[37] S. Yin and Y. Zhao, "Digital green value co-creation behavior, digital green network embedding and digital green innovation performance: moderating effects of digital green network fragmentation," *Humanit. Soc. Sci. Commun.*, vol. 11, no. 4, 2024, doi: 10.1057/s41599-024-02691-5.

[38] A. Alqatan, W. Simmou, M. Shehadeh, F. Alreshaid, M. Elmarzouky, and D. Shohaieb, "Strategic Pathways to Corporate Sustainability : The Roles of Transformational Leadership , Knowledge Sharing , and Innovation," *Sustainability*, vol. 17, no. 5547, pp. 1–22, 2025.

[39] F. Mohaghegh, H. Zaim, V. Dzenopoljac, A. Dzenopoljac, and N. Bontis, "Analyzing the effects of knowledge management on organizational performance through knowledge utilization and sustainability," *Knowl. Process Manag.*, vol. 31, no. 3, pp. 261–272, 2024, doi: 10.1002/kpm.1777.

[40] Y. Hassan *et al.*, "Exploring the Mediating Role of Information Security Culture in Enhancing Sustainable Practices Through Integrated Systems Infrastructure," *Sustainability*, vol. 17, no. 687, pp. 1–20, 2025.

[41] A. Garrido-moreno, R. Martín-rojas, and V. J. García-morales, "International Journal of Information Management The key role of innovation and organizational resilience in improving business performance : A mixed-methods approach," *Int. J. Inf. Manage.*, vol. 77, no. July 2023, p. 102777, 2024, doi: 10.1016/j.ijinfomgt.2024.102777.

[42] R. B. Soomro *et al.*, "The Adoption of Digital Technologies by Small and Medium-Sized Enterprises for Sustainability and Value Creation in Pakistan : The Application of a Two-Staged Hybrid SEM-ANN Approach," *Sustainability*, vol. 16, no. 7351, pp. 1–29, 2024.

[43] Z. Sun, L. Zhao, A. Mehrotra, M. A. Salam, and M. Z. Yaqub, "Digital transformation and corporate green innovation : An affordance theory perspective," *Bus. Strateg. Environ.*, vol. 34, no. 1, pp. 433–449, 2025, doi: 10.1002/bse.3991.

[44] R. Raman, H. Lathabhai, D. Pattnaik, C. Kumar, and P. Nedungadi, "Discover Sustainability Research contribution of bibliometric studies related to sustainable development goals and sustainability," *Discov. Sustain.*, vol. 5, no. 7, 2024, doi: 10.1007/s43621-024-00182-w.

[45] M. Lawrence *et al.*, "Global polycrisis : the causal mechanisms of crisis entanglement," *Glob. Sustain.*, vol. 7, no. 6, pp. 1–16, 2024, doi: https://doi.org/10.1017/sus.2024.1 Received:

[46] C. Y. Baldwin, M. L. A. M. Bogers, R. Kapoor, and J. West, "Focusing the ecosystem lens on innovation studies," *Res. Policy*, vol. 53, no. 3, p. 104949, 2024, doi: 10.1016/j.respol.2023.104949.

[47] B. Gajdzik, R. Wolniak, R. Nagaj, and W. W. Grebski, "The Influence of the Global Energy Crisis on Energy Efficiency : A Comprehensive Analysis," *energies Artic.*, vol. 17, no. 947, pp. 1–49, 2024.

[48] K. V Bhadra, T. J. Kamalanabhan, and S. K. Singh, "Evolution of dynamic capabilities for business sustainability performance : Evidence from the Indian manufacturing sector," *Bus. Strateg. Environ.*, vol. 33, no. 6, pp. 5583–5605, 2024, doi: 10.1002/bse.3767.

[49] W. Ma and D. Bahadur, "Climate-smart agriculture: adoption, impacts, and implications for sustainable development," *Mitig. Adapt. Strateg. Glob. Chang.*, vol. 29, no. 5, pp. 1–23, 2024, doi: 10.1007/s11027-024-10139-z.

[50] A. Tariq, M. Saleem, U. Khan, M. Dabi, M. M. Raziq, and M. Torkkeli, "Interlinking networking capabilities , knowledge worker productivity , and digital innovation : a critical nexus for sustainable performance in small and medium enterprises," *J. Knowl. Manag.*, vol. 28, no. 11, pp. 179–198, 2026, doi: 10.1108/JKM-09-2023-0788.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

