Received: 16 October 2024 | Accepted: 18 October 2024

DOI: 10.1002/sres.3098

DISCUSSANT'S COMMENTS

SYSTEMS and BEHAVIORAL RESEARCH SCIENCE WILEY

Integrating management and sustainability literature: Comment on the paper by Gonçalves et al.

Nici Zimmermann

UCL Institute for Environmental Design and Engineering, Bartlett School of Environment, Energy and Resources, University College London, London, UK

Correspondence
Nici Zimmermann, UCL Institute for Environmental Design and Engineering, Bartlett School of Environment, Energy and Resources, University College London, Gower Street, London WC1E 6BT, UK.
Email: n.zimmermann@ucl.ac.uk

Abstract

This commentary explores the integration of management and sustainability literature, using the work of Gonçalves et al. (2024) as a starting point. I situate their work within the broader context of literature that connects the management and sustainability fields, tracing historical developments and diverse perspectives. Key areas for further exploration include the fields' different levels of analysis, the commensurability of theoretical foundations, the balance between theoretical and applied research and the importance of interdisciplinary, transdisciplinary and systems approaches in advancing sustainability research and practice. The commentary serves as a starting point for further research aimed at supporting the transformative changes needed for a more sustainable society.

KEYWORDS

capability attributes, interdisciplinarity, management literature, sustainability literature, sustainability transformation

1 | INTRODUCTION

In their paper on organisational capabilities, Gonçalves et al. (2024) address how organisations can allocate their resources effectively to develop sustainability capabilities. Based on the system dynamics literature on capability traps (e.g., Repenning & Sterman, 2001, 2002), the authors develop a theoretical model of three capability attributes: development time, erosion time and the productivity of the capability. After presenting a formal capability trap model that includes the three capability attributes, the authors show how these attributes span a capability region within which it is effective to invest into the development of resources. Interestingly, the authors then also present tentative and simple estimates for the three capability attributes in different sustainability domains. For example, they estimate the development time, erosion time and productivity of creating green investment banks or changes in people's public transport behaviours (see section 6 in Gonçalves et al., 2024). By doing so, they manage to bridge across one of the divides of much of the management versus the sustainability literature: the focus on theoretical versus applied research. Gonçalves et al. (2024) cut across this divide by introducing a highly theoretical model that is grounded in the management literature and then suggesting how it applies very concretely to sustainability applications. It thus shows how management theory can be used to derive practical implications for sustainability questions.

Integrating management and sustainability research is useful, as the needed transformative changes are not happening at the required speed, scale or depth. Sustainability literature identifies key areas for change, while management/organisational literature provides insights

on how to implement and sustain it. Understanding the progress of this integration is vital to bridging the gap between setting sustainability goals and achieving them.

In this commentary, I position the paper by Gonçalves et al. (2024) within the broader context of integrating the management/organisational and sustainability literature. I explore the intersections of these fields, highlighting their historical evolution, diverse perspectives and future research opportunities. The commentary continues with an exploration of how the integration has evolved over time. It then presents phenomena that seem worthwhile exploring in future research: The different levels of analysis commonly addressed in these fields, the commensurability of key theories and concepts that underpin much of this literature, the integration of theoretical and applied research and the promise of transdisciplinary and systems approaches.

2 | RESEARCH LINKING MANAGEMENT AND SUSTAINABILITY

Mainstream organisational and management research evolved separately from sustainability, with an integration only becoming more prevalent since around 2010 (Delbridge et al., 2024). Previously, sustainability-related management research focused primarily on corporate social responsibility (CSR), thus attending to the socio-economic aspects of sustainability. CSR research studies the incentive-based, moral, legal and economic motivations for responsible behaviour. It addresses the development of compliance and CSR standards at national and international level and how CSR can be implemented and monitored in organisations (Bungenberg et al., 2014; E-Vahdati et al., 2019). Historically, this research concentrated on social versus economic performance, stakeholders and green management, with little integration of ecological or environmental science (Linnenluecke & Griffiths, 2013).

However, Etzion (2007) notes that some research linking organisational/management and the natural environment existed before 2010. He reviewed this research at three levels of analysis: the organisational level, the industry level and the broader organisational environment level, a distinction still relevant today. Organisational level research shares a focus on organisational performance with research on strategy, often using or indirectly corresponding to the resource-based view. With their focus on capabilities, Gonçalves et al. (2024) address the effective employment of resources to develop capabilities. By considering the development time, erosion time and productivity of the capability, their work has an innovative focus on the attributes of capabilities as such. Their paper and this stream of research fits into research on organisational strategy applied to sustainability contexts.

Research at the industry level of analysis often takes an economic perspective, examining how industries respond to regulation and consumers (Etzion, 2007). Gonçalves et al. (2024) cite examples of incumbents failing to develop the capabilities necessary to adapt to a changing environment, aligning with population ecology's view that organisations can struggle to respond to environmental pressure, for example, from stakeholders (Hannan & Freeman, 1977, 1984, 1989). While population ecology concepts originated in natural science, sustainability was underexplored at the industry level before 2010 (Salimath & Jones, 2011), with later research often focusing on circular economy and socio-technical concepts (Ruggerio, 2021) and sustainability standards (e.g., Reinecke et al., 2012).

A further level of analysis addresses the organisational environment and how organisations perceive and respond to external stakeholders (Etzion, 2007). It emphasises how sensemaking and cognitive framing shape managers' sustainability perceptions (Hahn et al., 2014). Some of this research focuses on micro-level decision-making, cognitive and emotive factors (Bertassini et al., 2021; Onkila et al., 2024; Sarna et al., 2022). Studies have also explored organisational paradoxes and how organisational decision-makers navigate the tension between sustainability and business goals (Hahn et al., 2014). The sustainable development goals (SDGs) and how organisations prioritise and contextualise these goals has also become increasingly prominent in research (Berrone et al., 2023), demonstrating a deeper integration of management and sustainability concepts. However, concentrating on individual SDGs can result in unintended siloing effects, hindering integration across SDGs or the environmental, social and economic dimensions (Bogers et al., 2022). As this limits the effectiveness of sustainability initiatives, it underscores the need for frameworks that promote the interconnectedness among sustainability areas. A focus on SDGs is also very prominent in research originating from the sustainability field.

Sustainability research often focuses on the national, supranational or societal level of analysis, such as the UN's IPCC assessment reports (IPCC, 2023). It distinguishes between weak and strong sustainability, with weak sustainability research often addressing the circular or green economy and socio-technical transitions and strong sustainability research addressing degrowth (Ruggerio, 2021). In weak sustainability, the integration of management and sustainability perspectives may be

the most advanced, with dedicated frameworks and journals, but it may not be the deepest.

Research also frequently targets the smaller level of analysis, focusing on communities (Escribano et al., 2020), individuals (Thøgersen, 2021; White et al., 2019) or objects such as a building (Jain et al., 2020). For example, individual behaviours influence sustainable consumption and production (Thøgersen, 2021), driven by psychological factors (White et al., 2019). At the individual level, leadership in sustainability is closely tied to values, attitudes and beliefs (Boeske, 2023).

In addition to research at large and small scales, research on cities as a separate level of analysis in sustainability research has gained emphasis due to their disproportionate impact. While occupying only 3%–4% of land, they host 55% of the population and consume 80% of resources (IRP, 2017; Spiliotopoulou & Roseland, 2020; UN Habitat, 2022). Their growth has serious consequences for economic and ecological development (Zhong et al., 2023). At the same time, cities and communities often lead in addressing climate change via commitments beyond national requirements (e.g., C40 https://www.c40.org/, 100 Resilient Cities https://resilientcitiesnetwork.org/; ICLEI Local Governments for Sustainability https://iclei.org/, Transition Network https://transitionnetwork.org/). Spiliotopoulou and Roseland (2020) effectively illustrate how the urban sustainability discussion evolved from the limits to growth (Meadows et al., 1972) to ideas of just (Fainstein, 2014), liveable (Lowe et al., 2015) and resilient cities (Desouza & Flanery, 2013) and the urban application of the SDGs (Leavesley et al., 2022; Zinkernagel et al., 2018). Systems approaches, such as adaptive, network or socio-ecological systems perspectives, are common in studying urban development (Spiliotopoulou & Roseland, 2020). City-level system dynamics studies exist as well (e.g., Eker et al., 2018; Güneralp & Seto, 2008; Rios-Ocampo & Gary, 2024), but they often lack explicit links between organisational/management and sustainability theory.

3 | PHENOMENA TO EXPLORE

This overview highlights several areas for further research: levels of analysis, the relevant theoretical foundations linking management management/organisational and sustainability perspectives, the balance between theoretical and applied research as well as transdisciplinary and systems approaches.

The management and sustainability literature differ concerning their **levels of analysis** with one distinguishing organisational levels and the other spatial ones. Research from management and organisation typically focuses on the organisational, industry and external environment level. In contrast, sustainability literature often examines the spatial levels such as community or neighbourhood, city, region and country. While this complicates the integration of these perspectives, it offers opportunity to explore how it enriches discussions and helps develop more diverse insights.

The management and sustainability literatures also differ in their **theoretical foundation**, although some overlaps exist. Management research often draws on population ecology, CSR, institutional theory or the resource-based view, the latter of which is particularly relevant to the concept of capabilities explored by Gonçalves et al. (2024). Sustainability research frequently employs resilience, circular economy and life-cycle concepts. Both literatures, however, share common grounds in their use of the SDGs, stakeholder and systems theory (Delbridge et al., 2024; Sovacool et al., 2023; Spiliotopoulou & Roseland, 2020). The differing theoretical foundations raise important questions about the commensurability of management and sustainability perspectives. This debate is closely linked to the strong versus weak sustainability dichotomy, where some argue that managerial approaches under a weak sustainability framework conflict with those rooted in strong sustainability (Biely & Chakori, 2024). Newton and Harte (1997, p. 87) criticised that at the 'theoretical level, writers on environmental strategy tend to simply rewrite the corporate strategy literature in environmental terms'; thus, without critically examining the transformative changes required for sustainability. This challenge, therefore, lies not merely in integrating management and sustainability perspectives but in reconciling their paradigmatic differences and system goals, particularly regarding the relative importance of economic versus environmental goals. Further research could explore how shared concepts such as the SDGs, stakeholders and systems thinking, or the capabilities concept employed by Gonçalves et al. (2024), might help bridge these divides and facilitate more effective integration.

Another important distinction between the management and sustainability literatures is their focus on **theoretical versus applied research**. Sustainability research, particularly at the city or community level, often emphasises real-world applications, linking directly to initiatives such as the Transition Network, 100 Resilient Cities, C40 or ICLEI Local Governments for Sustainability. These studies frequently engage with local communities and aim to drive tangible improvements, demonstrating a commitment to translating research into practical outcomes. Gonçalves et al. (2024) exemplify

how to move from a theoretical model to practical relevance. Their approach addresses 'the twin challenges of the need for new theorizing in combination with devising practically relevant support for change' (Delbridge et al., 2024, p. 8). Many researchers emphasise the further need to make theoretical frameworks actionable (Berrone et al., 2023; Delbridge et al., 2024; Spiliotopoulou & Roseland, 2020) and to test and refine theses frameworks in real-world settings (E-Vahdati et al., 2019; Linnenluecke & Griffiths, 2013). Exploring and concretising the capability frontier suggested by Gonçalves et al. (2024) would exemplify such approaches.

Interdisciplinary, transdisciplinary and systems approaches are vital for linking theory with practice, fostering cross-sector collaboration and ensuring that research builds the knowledge necessary to drive real-world sustainability. Systems thinking can help address sustainability challenges by embracing paradoxical tensions (Carmine & De Marchi, 2023) and by addressing dynamics (Grewatsch et al., 2023). It offers a holistic view that can enhance the effectiveness of sustainability efforts across various theoretical foundations, disciplines and levels of analysis (Williams et al., 2017). Research could further explore the potential of transdisciplinary and systems approaches to address the interconnected and dynamic nature of sustainability challenges. The modelling approach used by Gonçalves et al. (2024) represents a useful step into this direction by being able to compute a concrete capability region. This approach not only provides concrete values for specific examples but also offers an underlying model that can simulate dynamics over time, can be adapted to diverse sustainability contexts and explored in a participatory way with stakeholders.

This overview is not exhaustive in exploring the links between management/organisational and sustainability research but aims to serve as a starting point to inspire further inquiry to support the transformative changes needed for a more sustainable society.

ORCID

Nici Zimmermann https://orcid.org/0000-0003-2344-7238

REFERENCES

Berrone, P., Rousseau, H. E., Ricart, J. E., Brito, E., & Giuliodori, A. (2023). How can research contribute to the implementation of sustainable development goals? An interpretive review of SDG literature in management. *International Journal of Management Reviews*, *25*(2), 318–339. https://doi.org/10.1111/ijmr.12331

Bertassini, A. C., Ometto, A. R., Severengiz, S., & Gerolamo, M. C. (2021). Circular economy and sustainability: The role of organizational behaviour in the transition journey. *Business Strategy and the Environment*, *30*(7), 3160–3193. https://doi.org/10.1002/bse.2796

Biely, K., & Chakori, S. (2024). Sustainability transition theories: Perpetuating or breaking with the status quo. *Sustainable Development*. https://doi.org/10.1002/sd.3101

Boeske, J. (2023). Leadership towards sustainability: A review of sustainable, sustainability, and environmental leadership. *Sustainability*, *15*(16), 12626. https://doi.org/10.3390/su151612626

Bogers, M., Biermann, F., Kalfagianni, A., Kim, R. E., Treep, J., & de Vos, M. G. (2022). The impact of the sustainable development goals on a network of 276 international organizations. *Global Environmental Change*, *76*, 102567. https://doi.org/10.1016/j.gloenvcha.2022.102567

Bungenberg, M., Dutzi, A., Krebs, P., & Zimmermann, N. (Eds.). (2014). *Corporate compliance und corporate social responsibility: Chancen und Risiken sanfter Regulierung*. Nomos.

Carmine, S., & De Marchi, V. (2023). Reviewing paradox theory in corporate sustainability toward a systems perspective. *Journal of Business Ethics*, *184*(1), 139–158. https://doi.org/10.1007/s10551-022-05112-2

Delbridge, R., Helfen, M., Pekarek, A., Schuessler, E., & Zietsma, C. (2024). Organizing sustainably: Introduction to the special issue. *Organization Studies*, *45*(1), 7–29.

Desouza, K. C., & Flanery, T. H. (2013). Designing, planning, and managing resilient cities: A conceptual framework. *Cities*, *35*, 89–99. https://doi.org/10.1016/j.cities.2013.06.003

Eker, S., Zimmermann, N., Carnohan, S., & Davies, M. (2018). Participatory system dynamics modelling for housing, energy and wellbeing interactions. *Building Research & Information*, *46*(7), 738–754. https://doi.org/10.1080/09613218.2017.1362919

Escribano, P., Lubbers, M. J., & Molina, J. L. (2020). A typology of ecological intentional communities: Environmental sustainability through subsistence and material reproduction. *Journal of Cleaner Production*, *266*, 121803. https://doi.org/10.1016/j.jclepro.2020.121803

Etzion, D. (2007). Research on organizations and the natural environment, 1992-present: A review. *Journal of Management*, *33*(4), 637–664. https://doi.org/10.1177/0149206307302553

E-Vahdati, S., Zulkifli, N., & Zakaria, Z. (2019). Corporate governance integration with sustainability: A systematic literature review. *Corporate Governance: the International Journal of Business in Society*, *19*(2), 255–269. https://doi.org/10.1108/CG-03-2018-0111

Fainstein, S. S. (2014). The just city. *International Journal of Urban Sciences*, *18*(1), 1–18. https://doi.org/10.1080/12265934.2013.834643

Gonçalves, P., Sentürk, F., Andreeva, M., & Mamashli, Z. (2024). Characterizing the capability frontier: Key attributes determining the development of capabilities. *Systems Research and Behavioral Science*. https://doi.org/10.1002/sres.3064

Grewatsch, S., Kennedy, S., & Bansal, P. (2023). Tackling wicked problems in strategic management with systems thinking. *Strategic Organization*, *21*(3), 721–732. https://doi.org/10.1177/14761270211038635

Güneralp, B., & Seto, K. C. (2008). Environmental impacts of urban growth from an integrated dynamic perspective: A case study of Shenzhen, South China. *Global Environmental Change*, *18*(4), 720–735. https://doi.org/10.1016/j.gloenvcha.2008.07.004

Hahn, T., Preuss, L., Pinkse, J., & Figge, F. (2014). Cognitive frames in corporate sustainability: Managerial Sensemaking with paradoxical and business case frames. *Academy of Management Review*, *39*(4), 463–487. https://doi.org/10.5465/amr.2012.0341

Hannan, M. T., & Freeman, J. (1977). The population ecology of organizations. *The American Journal of Sociology*, *82*(5), 929–964. https://doi.org/10.1086/226424

Hannan, M. T., & Freeman, J. (1984). Structural inertia and organizational change. *American Sociological Review*, *49*(2), 149–164. https://doi.org/10.2307/2095567

Hannan, M. T., & Freeman, J. (1989). *Organizational ecology*. Harvard Univ. Press. https://doi.org/10.4159/9780674038288

IPCC. (2023). Climate Change 2023: Synthesis Report. In Core Writing Team, H. Lee, & J. Romero (Eds.), *Contribution of working groups I, II and III to the sixth assessment report of the intergovernmental panel on climate change*. IPCC.

IRP. (2017). *Assessing global resource use: A systems approach to resource efficiency and pollution reduction*. Nairobi.

Jain, N., Burman, E., Robertson, C., Stamp, S., Shrubsole, C., Aletta, F., Barrett, E., Oberman, T., Kang, J., Raynham, P., Mumovic, D., & Davies, M. (2020). Building performance evaluation: Balancing energy and indoor environmental quality in a UK school building. *Building Services Engineering Research and Technology*, *41*(3), 343–360. https://doi.org/10.1177/0143624419897397

Leavesley, A., Trundle, A., & Oke, C. (2022). Cities and the SDGs: Realities and possibilities of local engagement in global frameworks. *Ambio*, *51*(6), 1416–1432. https://doi.org/10.1007/s13280-022-01714-2

Linnenluecke, M. K., & Griffiths, A. (2013). Firms and sustainability: Mapping the intellectual origins and structure of the corporate sustainability field. *Global Environmental Change*, *23*(1), 382–391. https://doi.org/10.1016/j.gloenvcha.2012.07.007

Lowe, M., Whitzman, C., Badland, H., Davern, M., Aye, L., Hes, D., Butterworth, I., & Giles-Corti, B. (2015). Planning healthy, Liveable and sustainable cities: How can indicators inform policy? *Urban Policy and Research*, *33*(2), 131–144. https://doi.org/10.1080/08111146.2014.1002606

Meadows, D. H., Meadows, D. L., Randers, J., & Behrens, W. W. (1972). *The limits to growth*. Universe Books.

Newton, T., & Harte, G. (1997). Green Business: Technicist Kitsch? *Journal of Management Studies*, *34*(1), 75–98. https://doi.org/10.1111/1467-6486.00043

Onkila, T., Reynolds, N.-S., Mäkelä, M., Koistinen, K., Teerikangas, S., Sarja, M., & Valkjärvi, M. (2024). Meaningfulness, satisfaction and frustration: The importance of emotions for sustainability change agency. *Business Strategy and the Environment*. https://doi.org/10.1002/bse.3918

Reinecke, J., Manning, S., & von Hagen, O. (2012). The emergence of a standards market: Multiplicity of sustainability standards in the global coffee industry. *Organization Studies*, *33*(5–6), 791–814. https://doi.org/10.1177/0170840612443629

Repenning, N. P., & Sterman, J. D. (2001). Nobody ever gets credit for fixing problems that never happened. *California Management Review*, *43*(4), 64–88. https://doi.org/10.2307/41166101

Repenning, N. P., & Sterman, J. D. (2002). Capability traps and self-confirming attribution errors in the dynamics of process improvement. *Administrative Science Quarterly*, *47*(2), 265–295. https://doi.org/10.2307/3094806

Rios-Ocampo, J., & Gary, M. (2024). Urban development growth strategies and societal well-being. In *Working paper*. UNSW Sydney.

Ruggerio, C. A. (2021). Sustainability and sustainable development: A review of principles and definitions. *Science of the Total Environment*, *786*, 147481. https://doi.org/10.1016/j.scitotenv.2021.147481

Salimath, M. S., & Jones, R. (2011). Population ecology theory: Implications for sustainability. *Management Decision*, *49*(6), 874–910. https://doi.org/10.1108/00251741111143595

Sarna, B., Onkila, T., & Mäkelä, M. (2022). Rationality, experiences or identity work? Sensemaking of emotionally tense experiences of organizational sustainability. *Social Responsibility Journal*, *18*(8), 1692–1707. https://doi.org/10.1108/SRJ-05-2021-0205

Sovacool, B. K., Iskandarova, M., & Hall, J. (2023). Industrializing theories: A thematic analysis of conceptual frameworks and typologies for industrial sociotechnical change in a low-carbon future. *Energy Research & Social Science*, *97*, 102954. https://doi.org/10.1016/j.erss.2023.102954

Spiliotopoulou, M., & Roseland, M. (2020). Urban sustainability: From theory influences to practical agendas. *Sustainability*, *12*(18), 7245. https://doi.org/10.3390/su12187245

Thøgersen, J. (2021). Consumer behavior and climate change: Consumers need considerable assistance. *Current Opinion in Behavioral Sciences*, *42*, 9–14. https://doi.org/10.1016/j.cobeha.2021.02.008

UN Habitat. (2022). World City Report 2022: Envisating the Future of Cities. In United Nations Human Settlements Programme (Ed.). Nairobi, Kenya.

White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework. *Journal of Marketing*, *83*(3), 22–49. https://doi.org/10.1177/0022242919825649

Williams, A., Kennedy, S., Philipp, F., & Whiteman, G. (2017). Systems thinking: A review of sustainability management research. *Journal of Cleaner Production*, *148*, 866–881. https://doi.org/10.1016/j.jclepro.2017.02.002

Zhong, C., Guo, H., Swan, I., Gao, P., Yao, Q., & Li, H. (2023). Evaluating trends, profits, and risks of global cities in recent urban expansion for advancing sustainable development. *Habitat International*, *138*, 102869. https://doi.org/10.1016/j.habitatint.2023.102869

Zinkernagel, R., Evans, J., & Neij, L. (2018). Applying the SDGs to cities: Business as usual or a new dawn? *Sustainability*, *10*(9), 3201. https://doi.org/10.3390/su10093201

How to cite this article: Zimmermann, N. (2024). Integrating management and sustainability literature: Comment on the paper by Gonçalves et al. *Systems Research and Behavioral Science*, 1–5. https://doi.org/10.1002/sres.3098