

## **Re-orienting research on Sustainable Business Principles, Models and Systems: foresight from 3-horizons**

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### **Abstract**

Applying a future-oriented framework, this article identifies five essential steps to reorient research on sustainable business models and stakeholder value creation. Amid growing societal pressures from the ecological crisis, economic disparity, and systemic financial risks, there is a pressing need to reevaluate current models of production and innovation. Responding to this call, the article synthesizes the perspectives of fourteen doctoral and postdoctoral researchers, along with professors from leading European universities. This collaborative effort underscores the importance of prospective theorizing, urging management researchers to actively envision and construct desirable futures. Ultimately, the steps from this article offer a roadmap for advancing sustainable business models, encouraging collaboration and foresight within the evolving landscape of research and application.

## **Keywords**

Sustainable Business Principles, Sustainable Business Models; Sustainable Business Systems; 3-horizons; value creation; grand-societal challenges

## **Introduction**

Today, the well-being of our society faces tremendous pressure. The accelerating ecological crisis, the widening gap between the rich and the poor, and the systemic risks provoked by disconnected financial markets necessitate a profound re-evaluation of our models of production and innovation. To address this pressure, Ehrlich and Ehrlich (2013) call for both natural and social scientists to devote more effort to finding the best ways to reorient at least part of their research toward business and economic re-modelling. Responding to this call, a workshop titled “Sustainable Business Models and Value Creation for Stakeholders” was organized on March 5th, 2024, at the Universidad Politécnica de Madrid. The initiative is part of the EELISA European University InnoCore and Connect programs whose aim is to transform the European Research & Innovation fields by fostering and supporting the development of joint actions and the creation of new structures (research groups, clusters, joint labs, start-ups, scientific parks).

Fourteen doctoral/postdoctoral researchers and professors joined forces to share conceptual and practical research ideas on sustainable business models and value creation for stakeholders. The researchers hailed from the Universidad Politécnica de Madrid, Istanbul Technical University, Scuola Superiore Sant’Anna, and the Friedrich Alexander University Erlangen-Nürnberg.

This workshop employed a participatory session to co-create a vision for future research directions in sustainable business models. The three-horizons framework, primarily developed by Sharpe et al. (2016), served as the guiding structure. Discussions followed a World Café format (Brown, 2010) with three rounds of small group conversations. Initially, the focus was

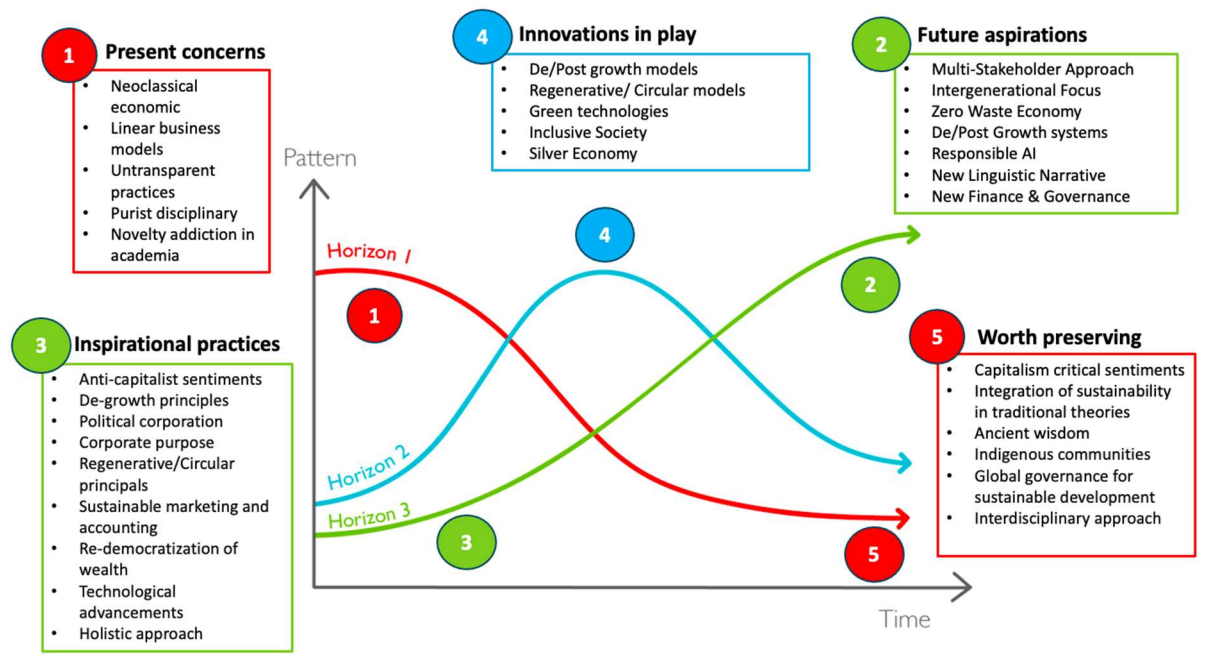
on Horizon 1, which includes the systems present in the current state (step 1) with the identification and management of research topics aligned with contemporary needs and demands, as well as the elements we should preserve (step 5). Subsequently, the focus shifted to Horizon 3, where participants articulated desirable future research directions, new fundamental principles (step 3) and the underlying value systems driving these aspirations (step 2). The final round explored Horizon 2, the transition space (step 4). Here, the discussion aimed to identify feasible models that could bridge the gap between current reality and the envisioned future research landscape.

This future-looking approach aligns with Gümüşay & Reinecke's (2024) advocacy for prospective theorizing, which emphasizes the importance of imagining and actively creating desirable futures within the present context. Such theorizing not only prepares stakeholders for future challenges but also enhances the feasibility of achieving these futures through collaborative efforts and innovative thinking. Moreover, the discussions around the transitional phase (Horizon 2), highlights the necessity of developing flexible and sustained courses of action. Feuls (2023) emphasizes that organizations must adopt a level of "foolishness" to explore alternative solutions, integrating experimentation into their strategic planning. This perspective is crucial as it encourages organizations to remain adaptable while pursuing long-term goals that may extend decades into the future, particularly in the face of grand challenges such as climate change. The workshop's participatory nature allowed for the co-creation of knowledge, enabling researchers to identify feasible models that bridge the gap between current realities and envisioned futures, thus fostering innovation and resilience in business practices. In the following sections, we apply the three-horizons framework (Sharpe et al., 2016) as the guiding structure, presenting key concepts and seminal literature across the five steps of the framework, concluding with final remarks.

### **Foresight from 3-horizons**

The foresight approach of the 3 Horizons framework provides a structured lens for analyzing the potential trajectories of sustainable business models. By distinguishing between present practices (Horizon 1), emerging innovations and adaptations (Horizon 2), and long-term aspirational futures (Horizon 3), this framework enables stakeholders to envision transformative change while recognizing the transitional stages necessary to achieve it. Through the 3 Horizons lens, discussions at the workshop illuminated pathways for advancing from conventional models toward Horizon 3 aspirations, such as systems centered around sustainability, social equity, and well-being. By applying this model, workshop participants were able to explore innovative practices that challenge established paradigms, including anti-capitalistic perspectives, impact-oriented business models, and advances in green technology. This foresight-oriented framework underscored that while the Horizon 3 vision is essential for inspiring sustainable futures, the intermediate steps within Horizon 2 are critical for bridging current practices and future aspirations.

**Fig. 1** *Foresight from 3-horizons in 5 steps*



**Step 1: Examining present concerns.** A three-horizon conversation begins by bringing the flaws of concern into view when observing today’s status quo. Current flaws in our economic and academic systems make them increasingly “vulnerable to shocks despite unprecedented progress” (Dixson-Declève et al., 2022). Those flaws are many and stem from a **neoclassical economic logic** that emphasizes the maximization of shareholder value (Grant, 1991) over broader social and environmental well-being. Based on the conception that a company’s sole objective is to generate profit, this economic logic appeals to simplicity, authority, and finality where complex interdependent dynamics of different overarching societal interests are at play. This oversimplification led to a similarly short-sighted mode of operation in companies. As such, the neoclassical economic logic promotes **linear business models** fixated on short-term profits. Social and global issues are seen as a business opportunity (Cooperrider, 2008) overriding the social and environmental dimensions of sustainability (Alonso et al., 2021). This cradle-to-grave mindset (Bocken et al., 2016) leads to products being designed to end up in landfills. In an economic sense this wastes increasingly scarce resources while creating global pollution that is as much an ecological problem as it is a social one (Fuller et al., 2022).

Moreover, the prevalence of **opaque practices** such as greenwashing perpetuates dishonesty and undermines trust by misleading consumers and investors about a company's true environmental and social impacts. This divergence between corporate sustainability claims and actual engagement, when uncovered, has direct negative effects on the respective company and generally corrupts corporate efforts for a more sustainable development (Gatti, 2019).

Our academic system and its underlying aspiration to understand and solve complex issues struggles with its own shortcomings. A **purist disciplinary view** encourages narrow specialization and discourages the interdisciplinary collaboration that is essential for holistic problem solving and innovation (cf. Friedman & Friedman, 2009). Disciplinary elitism impedes one discipline from employing results of scholarship from other disciplines, a serious hurdle for sustainability solutions that require the integration of different disciplinary insights (Lam et al., 2014).

To make matters worse, an **addiction to novelty** within academia prioritizes the pursuit of new ideas at the expense of consolidating existing knowledge, thereby jeopardizing the depth and rigor of scientific inquiry (cf. Cohen, 2017). This overemphasis on novelty lacks a balance with research that applies existing knowledge to gain practical insights.

**Step 2: Exploring future aspirations.** This step involves examining Horizon 3, where visions, aspirations, and possibilities for the reality that will emerge over time are explored as a replacement of Horizon 1, as a new system. Horizon 3 is the most future looking among the three horizons. To re-evaluate our models of production and innovation requires a forward-looking perspective, as these complex issues often stretch beyond immediate concerns. Applying a future frame approach enables the exploration of desirable futures, which can guide strategic planning and decision-making processes in the present (Gümüşay & Reinecke, 2024). Here, the research will focus on emerging and alternative systems that extend beyond traditional capitalist frameworks, embracing sustainable business models that consider broader societal

and ecological impacts. These systems are designed to address complex global challenges, and their features include various transformative components.

One foundational element is the New Linguistic Narrative of Sustainable Development, which aims to reshape societal perceptions of how social and environmental issues are deeply interconnected (Raworth, 2017). This narrative provides a fresh lens, encouraging people and organizations to recognize the shared impacts of their actions on the planet and society at large. Alongside this narrative is the *Multi-Stakeholder Approach*, which promotes collaboration among diverse groups—including businesses, governments, and civil society—to collectively shape and support the sustainability goals of these alternative systems. Such an approach is essential for aligning interests and fostering a more inclusive decision-making process that balances competing priorities.

To ensure that these systems can endure over time, *Intergenerational Pathways* are incorporated, prioritizing actions that secure the well-being of both present and future generations (Kaplan et al., 2017). This approach helps to cultivate long-term resilience by embedding future-oriented considerations into current planning and actions, thus maintaining relevance and effectiveness across generations.

Resource efficiency is also prioritized through *Zero-Waste Principles*, which aim to reduce waste generation by designing products and processes that minimize resource consumption and environmental impact (Zaman, 2015). This principle underscores a commitment to sustainable resource management, encouraging industries to rethink production and consumption practices to support a circular economy.

Further challenging traditional economic models, *De/Post-Growth Systems* seek to redefine success beyond GDP growth, emphasizing prosperity, equity, and ecological sustainability instead (Jackson, 2021). These systems call for a reorientation of values within economies,

aiming to prioritize well-being and balance rather than endless growth—a shift that is particularly relevant as societies confront environmental limits and social inequities.

Moreover, as digital technologies advance, *Responsible AI Development Frameworks*, such as *Ethics by Design*, play a critical role in Horizon 3 by ensuring that technological progress aligns with ethical considerations and sustainability goals (Brey & Brandt, 2023). In addition to supporting ethical AI, these frameworks include the analysis of sustainable business models that leverage innovative approaches like boundary work theory (Velter, 2020) to find alignment among diverse stakeholders in complex, multi-stakeholder environments.

Finally, *New Finance & Governance Forms* will be pivotal in democratizing wealth distribution and enhancing transparency in decision-making. For example, emerging technologies such as blockchain enable secure, decentralized systems that support participatory governance (Scherer & Voegtlin, 2020). These technologies provide a foundation for equitable resource distribution and foster a more inclusive financial system, where transparent practices help build trust and accountability among participants.

**Step 3: Exploring inspirational practice in the present.** The second step generally merges with the third step, which is to identify “pockets of the future in the present,” (Sharpe et al., 2016) which are concrete examples of where new ways of doing things are visible at the margins of the mainstream first horizon systems, new principles that can drive the change. The workshop identified projected desirable practices that, while already implemented by some pioneering organizations, remain futuristic as they have not yet been commonly embraced across the broader business landscape (Gümüşay & Reinecke, 2024).

In the current economic landscape, shifts are underway that reflect growing interest in anti-capitalist and de-globalization principles, emphasizing the importance of localized and resilient economic structures. A prime example of this trend is the rise of *Localized Economic Systems*, which advocate for alternative economic spaces that challenge traditional, globalized economic



structures. These systems support regional economies, fostering greater self-sufficiency and sustainability by focusing on the unique needs and resources of local communities (Gibson-Graham, 2008).

At the same time, multinational corporations are increasingly being viewed as “political actors” in society, engaging in meaningful dialogue with their stakeholders to build and maintain corporate legitimacy. This shift reflects a move away from purely profit-driven motives towards a more balanced role in which corporations act as stewards of social and environmental values as well (Scherer & Palazzo, 2007; Ciepley, 2013). These dialogues encourage companies to consider the broader impacts of their operations and foster trust and cooperation with stakeholders.

There is also a visible rise in impact-oriented, nature-based, and circular economic theories, which are reshaping the priorities of stakeholders across industries. These regenerative principles focus on developing business models and practices that restore, rather than deplete, natural resources and promote social well-being (Cole, 2012). This trend aligns closely with the increasing integration of sustainability into traditional business disciplines, such as marketing, accounting, and design. For instance, sustainable marketing strategies now emphasize ethical production, eco-friendly materials, and long-term value for consumers and communities.

One particularly impactful approach within sustainable design is *Bio-Inspired Design*. Rooted in biomimicry, this approach draws on nature’s time-tested patterns and strategies, using them as blueprints for sustainable innovation (Benyus, 1997). By mimicking processes observed in nature—such as efficient resource use and waste recycling—bio-inspired design offers solutions that are both ecologically and economically viable, bridging the gap between innovation and sustainability.

Furthermore, new skills and competencies are gaining importance, particularly in the realm of collaboration and collective capabilities. In this context, cross-sectoral partnerships are

increasingly recognized for their potential to bring together diverse perspectives and resources, fostering holistic collaboration that addresses complex societal challenges (Vickers, Lyon & Sepulveda, 2024). These collaborative efforts emphasize the importance of unity and cooperation among sectors, recognizing that meaningful and sustainable progress often requires a blend of expertise from business, government, and civil society.

**Step 4: Innovations in play.** This step considers the second horizon (H2), viewed as the realm of transition between the first (H1) and third horizons (H3). This intermediary stage holds significant value, acting as a catalyst for the emergence of transformative systems that deviate from the status quo. At this point, the intermediate models that enable the establishment of future sustainable business frameworks are made explicit. Some innovations in H2 (H2+) drive the expansion of existing systems (H1) while also paving the way for more radical structures (H3). However, other innovations (H2-) face setbacks, either being absorbed into existing frameworks or yielding only marginal improvements with minimal change (Sharpe et al., 2016). Generally, research in the second horizon seeks to challenge conventional norms and promote progressive ideals, fostering a sustainable and inclusive society. Interdisciplinary collaboration in research is vital, as it brings together diverse perspectives and expertise, which are crucial for crafting innovative solutions. In economic contexts, we explored **De-Growth and Post-Growth Models** as alternatives for achieving sustainability and well-being, emphasizing the importance of reducing consumption and shifting toward ecological and social health over economic expansion. These models underscore the need to reconsider growth as the central tenet of economic success, advocating for economies that prioritize human well-being, equitable distribution of resources, and environmental stewardship rather than continuous GDP growth. By decoupling prosperity from consumption, de/post-growth models provide pathways for societies to thrive within planetary boundaries.

In environmental research, the focus shifts to **regenerative and circular models** that aim to restore and enhance ecosystems while generating economic value, illustrating the potential for these models to reshape industries by designing waste-free cycles that support both natural systems and economic resilience. These models not only challenge the traditional linear "take-make-dispose" economic model but also emphasize regeneration, wherein ecosystems are enhanced rather than depleted, and materials continuously circulate through the economy. By integrating regenerative principles, businesses can contribute to biodiversity, improve soil health, and mitigate climate change while maintaining economic viability. Regenerative and circular models present an opportunity to harmonize environmental and economic goals, ensuring long-term sustainability.

To foster these systems, open, strong, and predictable policy frameworks are essential for mitigating the risks inherent in transforming traditional business models into circular ones. Such policies act as both drivers and resources, encouraging investment and innovative initiatives (Veral, 2021). Enabling policies should be carefully designed to overcome specific barriers preventing the implementation of circular strategies (Van Opstel & Borms, 2023). Effective governance mechanisms are needed to support industries in transitioning to these models, ensuring the necessary incentives, infrastructures, and regulatory environments are in place to scale innovations.

In addition to environmental considerations, innovations in green technology are crucial. These innovations focus on developing, adopting, and assessing the impact of new technologies that help organizations reduce their environmental footprints and operate more sustainably (Ünal et al., 2019). Technologies such as renewable energy systems, smart grids, sustainable agriculture, and carbon capture technologies are essential tools for enabling the transition to a low-carbon economy. By integrating these innovations into business operations, companies can not only

reduce their environmental impact but also gain a competitive edge in a marketplace increasingly driven by sustainability standards and consumer demand for responsible products. Societal innovation, particularly in addressing **inclusivity**, highlights the importance of creating systems and strategies that embrace diversity, ensuring that underrepresented and marginalized groups have equitable access to resources, opportunities, and decision-making processes. Inclusivity is essential not only as a matter of social justice but also as a driver of innovation itself, as diverse perspectives foster more creative solutions to complex challenges. By prioritizing inclusivity in the design of products, services, and policies, organizations can contribute to reducing inequalities and creating more resilient communities. This is especially critical in addressing the needs of vulnerable populations who are often disproportionately affected by social and environmental disruptions.

Furthermore, the challenges of aging populations call for focused innovations within the **silver economy** (Griva et al., 2024), underscoring the need for products and services that not only meet the evolving needs of older consumers but also promote their active participation in the economy, contributing to their overall well-being and quality of life. As societies around the world grapple with demographic shifts toward aging populations, the silver economy offers opportunities to develop innovative solutions that enhance the lives of older individuals. This includes innovations in healthcare, housing, mobility, and technology that support aging in place, encourage lifelong learning, and facilitate social engagement. By tapping into the economic potential of older adults and addressing their specific needs, the silver economy also contributes to broader societal goals of inclusion and equity.

Through these interdisciplinary initiatives, innovations in the second horizon pave the way for a future that is environmentally sustainable, economically viable, and socially inclusive. These innovations, grounded in systemic change and driven by diverse perspectives, have the potential to reshape industries, communities, and economies in ways that support long-term human and

planetary well-being. As we move toward the third horizon, it becomes clear that the second horizon is not merely a transition phase but a critical space for experimentation, collaboration, and transformation, where the seeds of future systems are sown.

**Step 5: Essential features to maintain.** The final step draws attention to those aspects of the old system that will persist into the future within the context of the new dominant system. The current normative shift reflected in anti-capitalist sentiment has the potential to transform into a capitalism-critical but constructive approach to market economies while advocating for a shift from maximizing shareholder value to maximizing stakeholder value (cf. Freeman & Phillips, 2002). **Traditional management- and academic practices** are already starting to **integrate and refine sustainability** from their disciplinary lens, including fundamental questions of corporate legitimacy (Scherer & Palazzo, 2007) and how business can be conceptualized as “political actors” (Scherer et al., 2014) beyond profit-maximization. Financial scandals and changing social expectations lead to a more nuanced perception of business in society. Already around the change of the millennium, academics sought to understand how corporations and, more specifically, their managers, can create morally sound approaches that positively contribute to sustainability efforts (Jones & Wicks, 1999). This initial understanding has since developed in a vast literature body that is constantly refined and applied in practice.

Social Entrepreneurship and **Social Business Models** have been taught and implemented for more than two decades now. Business model approaches that facilitate the integration of disenfranchised individuals and communities and promote social and economic development (George et al., 2012; Bakker & McMullen, 2023), address environmental protection (Schaltegger et al., 2016) or aim at safeguarding vulnerable populations (Cucino et al., 2023) are worth preserving. They prove that an interplay between economic growth and sustainability is possible. Entrepreneurial innovation has always been a motor in market economies and thus

indirectly responsible for progress. Research and practice show that it can be targeted and transformed into a direct force for good.

Part of the old system are also collaborative practices, such as cross-sector partnerships which reflect a more comprehensive approach to challenges and are worth preserving as private platforms for learning and progress towards more sustainable economies. **Global Governance** and International Organisations have provided a public platform for dialogue and are still needed to find agreements on future aspirations. This is paralleled by a more local understanding of business, finding solutions for challenges directly where they occur. **Localized economic systems** (Gibson-Graham, 2008) advocate for alternative economic spaces that challenge and supplement globalized economic structures. In a broader sense old systems also include ancient wisdom and indigenous communities, which bear traditional logics worth preserving. Thus, existing approaches from public to private and from local to global are already shaping sustainable development. The task at hand is to figure out which practices are worth preserving and what their specific role is in the transition towards Horizon 3.

### **Limitations and further research**

The reliance on the 3 Horizons framework, while useful for structuring discussions on future systems, may oversimplify the complex and non-linear nature of sustainable transitions. Future systems are often shaped by dynamic, unpredictable factors, which the linear progression between horizons might inadequately capture. Additionally, while the workshop's interdisciplinary approach enriches the discourse, it inherently involves challenges related to the integration of diverse perspectives and disciplinary biases, potentially hindering consensus on sustainable goals and strategies. Furthermore, although the workshop emphasized alternative models and practices, these are often context-dependent, making it difficult to generalize findings or recommendations across diverse economic and social settings. Sustainable business practices that succeed in one region or sector may not be transferable to others due to cultural,

regulatory, and resource-related differences, which limits the universal applicability of the insights discussed.

Future research in sustainable business studies might further expand on three important conceptual directions. The first is the exploration of path enactment, a concept Feuls (2024) describes, which investigates how organizations can strategically navigate toward long-term objectives in the face of uncertainties and ambiguities. Examining the mechanisms that enable actors to sustain course corrections toward distant-future goals, particularly within grand challenges like climate change, represents an important area of study. The second direction for the future agenda, rooted in the call for prospective theorizing by Gümüşay and Reineke (2024), is suggesting to the researchers to focus on envisioning and articulating desirable futures rather than solely extending present trends into the future. Prospective theorizing encourages scholars to create prescriptive theories that support stakeholders in aiming toward more sustainable and equitable futures. Finally, the role of collective imagination in shaping potential futures, as discussed by Gümüşay and Reineke (2024), is a critical area for exploration. Thought experiments and metaphors, as tools for inspiring innovative thinking, facilitate critical discussions on possible futures. Future research should investigate how such imaginative practices might be embedded in organizational processes, fostering creativity and enabling collaborative envisioning of sustainable pathways among a diverse array of stakeholders.

Collectively, these research directions—path enactment, prospective theorizing, and collective imagination—provide valuable frameworks to guide sustainable business research, aligning academic inquiry with the pressing need for sustainable, equitable, and resilient systems for the future.

## **Conclusion**

In conclusion, the workshop "Sustainable Business Models and Value Creation for Stakeholders," held at the Universidad Politécnica de Madrid, demonstrated a proactive response to the pressing need to redirect research toward sustainable economic and business models. The collaboration of PhD and postdoctoral researchers, together with professors from various institutions, underscored the value of interdisciplinary cooperation in addressing complex environmental and social challenges. By applying the 3 Horizons framework, discussions focused on advancing toward Horizon 3—a vision for future systems that prioritize sustainability, equity, and well-being through sustained collaboration among stakeholders. The workshop identified specific examples of **innovative practices** that challenge established paradigms, including the emergence of anti-capitalistic perspectives, impact-driven business models, and the advancement of green technologies. Transitioning to the **aspirational systems** outlined in Horizon 3 requires incremental steps, represented by models within Horizon 2, which signify current and emerging paths forward. The envisioned systems of Horizon 3 embrace multi-stakeholder approaches, an intergenerational focus, and a zero-waste economy, arising from principles evident in the evolving practices within Horizon 2. This iterative development process highlights the essential role of **interdisciplinary collaboration** in promoting a sustainable and inclusive future while recognizing the capacity of traditional models to adapt and evolve.

### **Acknowledgements**

The authors wish to express their gratitude to the EELISA University Alliance InnoCORE program for their invaluable support in the development of this work. This research originated from discussions and collaborations fostered during the workshop "Sustainable Business Research Week" (also known as "Sustainable Business Week"), held at the Escuela Técnica



Superior de Ingeniería de Sistemas Informáticos (School of Computer Systems Engineering) at Universidad Politécnica de Madrid, Spain, on the 4th and 5th of March 2024. The insights and connections made during this event have been instrumental in shaping the direction and outcome of our study.

## References

Alonso-Martinez, D., De Marchi, V. and Di Maria, E., 2021. *The sustainability performances of sustainable business models*. *Journal of Cleaner Production*, 323, p.129145.

Bakker, R.M. and McMullen, J.S., 2023. Inclusive entrepreneurship: A call for a shared theoretical conversation about unconventional entrepreneurs. *Journal of Business Venturing*, 38(1), p.106268.

Benyus, J.M., 1997. Biomimicry: Innovation inspired by nature.

Bocken, N.M., De Pauw, I., Bakker, C. and Van Der Grinten, B., 2016. Product design and business model strategies for a circular economy. *Journal of industrial and production engineering*, 33(5), pp.308-320.

Brey, P. and Dainow, B., 2023. Ethics by design for artificial intelligence. *AI and Ethics*, pp.1-13.

Brown, J., 2010. *The world café: Shaping our futures through conversations that matter*. ReadHowYouWant. com.

Ciepley, D., 2013. Beyond public and private: Toward a political theory of the corporation. *American Political Science Review*, 107(1), pp.139-158.

Cohen, B.A. (2017) 'How should novelty be valued in science?', *eLife*, 6. doi:10.7554/elife.28699.

Cole, R.J., 2012. Regenerative design and development: current theory and practice. *Building Research & Information*, 40(1), pp.1-6.

- Cooperrider, D. (2008). *Sustainable innovation*. BizEd, 7(4), 32-38.
- Cucino, V., Lungu, D.A., De Rosis, S. and Piccaluga, A., 2023. Creating value from purpose-based innovation: Starting from frailty. *Journal of Social Entrepreneurship*, pp.1-29.
- Dixson-Declevé, S., Gaffney, O., Ghosh, J., Randers, J., Rockstrom, J. and Stoknes, P.E., 2022. *Earth for All: A survival guide for humanity*. new society Publishers.
- Ehrlich, P.R. and Ehrlich, A.H., 2013. *Can a collapse of global civilization be avoided?*. Proceedings of the Royal Society B: Biological Sciences, 280(1754), p.20122845.
- Feuls, M., Hernes, T., & Schultz, M. (2024). Putting distant futures into action: How actors sustain a course of action toward distant-future goals through path enactment. *Academy of Management Journal*, (ja), amj-2022.
- Freeman, R.E. and Phillips, R.A., 2002. Stakeholder theory: A libertarian defense. *Business ethics quarterly*, 12(3), pp.331-349.
- Friedman, H.H. and Friedman, L.W. (2009) 'Bigotry in academe: Disciplinary elitism', SSRN Electronic Journal [Preprint]. doi:10.2139/ssrn.1398505.
- Fuller, R., Landrigan, P.J., Balakrishnan, K., Bathan, G., Bose-O'Reilly, S., Brauer, M., Caravanos, J., Chiles, T., Cohen, A., Corra, L. and Cropper, M., 2022. Pollution and health: a progress update. *The Lancet Planetary Health*, 6(6), pp.e535-e547.
- Gatti, L., Seele, P. and Rademacher, L., 2019. *Grey zone in–greenwash out. A review of greenwashing research and implications for the voluntary-mandatory transition of CSR*. *International Journal of Corporate Social Responsibility*, 4(1), pp.1-15.
- George, G., McGahan, A.M. and Prabhu, J., 2012. Innovation for inclusive growth: Towards a theoretical framework and a research agenda. *Journal of management studies*, 49(4), pp.661-683.
- Gibson-Graham, J.K., 2008. Diverse economies: performative practices for other worlds'. *Progress in human geography*, 32(5), pp.613-632.

- Grant, C., 1991. Friedman fallacies. *Journal of Business Ethics*, 10, pp.907-914.
- Griva, A., Mitroulia, M. and Armakolas, S., 2024. STRATEGIC MANAGEMENT OF THE SILVER ECONOMY: A EUROPEAN PERSPECTIVE. *European Journal of Management and Marketing Studies*, 9(1).
- Gümüşay, A. A., & Reinecke, J. (2024). Imagining Desirable Futures: A call for prospective theorizing with speculative rigour. *Organization Theory*, 5(1), 26317877241235939.
- Jackson, T., 2021. *Post growth: Life after capitalism*. John Wiley & Sons.
- Jones, T. M., Si Wicks, A. C. 1999. Convergent stakeholder theory. *Academy of Management Review*, 24: 206-221
- Kaplan, M., Sanchez, M. and Hoffman, J., 2017. *Intergenerational pathways to a sustainable society* (pp. 141-162). Cham: Springer International Publishing.
- Kirchherr, J., Reike, D. and Hekkert, M., 2017. Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, conservation and recycling*, 127, pp.221-232.
- Lam, J.C., Walker, R.M. and Hills, P., 2014. Interdisciplinarity in sustainability studies: a review. *Sustainable Development*, 22(3), pp.158-176.
- Piao, R.S., de Vincenzi, T.B., da Silva, A.L.F., de Oliveira, M.C.C., Vazquez-Brust, D. and Carvalho, M.M., 2023. How is the circular economy embracing social inclusion?. *Journal of Cleaner Production*, 411, p.137340.
- Raworth, K., 2017. *Doughnut economics: Seven ways to think like a 21st-century economist*. Chelsea Green Publishing.
- Schaltegger, S., Hansen, E.G. and Lüdeke-Freund, F., 2016. Business models for sustainability: Origins, present research, and future avenues. *Organization & environment*, 29(1), pp.3-10.

Scherer, A.G. and Voegtlin, C., 2020. Corporate governance for responsible innovation: Approaches to corporate governance and their implications for sustainable development. *Academy of Management Perspectives*, 34(2), pp.182-208.

Scherer, A.G. and Palazzo, G., 2007. Toward a political conception of corporate responsibility: Business and society seen from a Habermasian perspective. *Academy of management review*, 32(4), pp.1096-1120.

Scherer, A.G., Palazzo, G. and Matten, D., 2014. The business firm as a political actor: A new theory of the firm for a globalized world. *Business & society*, 53(2), pp.143-156.

Sharpe, B., Hodgson, A., Leicester, G., Lyon, A. and Fazey, I., 2016. *Three horizons: a pathways practice for transformation*. *Ecology and Society*, 21(2).

Ünal, E., Urbinati, A., Chiaroni, D. and Manzini, R., 2019. Value Creation in Circular Business Models: The case of a US small medium enterprise in the building sector. *Resources, conservation and recycling*, 146, pp.291-307.

Van Opstal, W. and Borms, L., 2023. Startups and circular economy strategies: Profile differences, barriers and enablers. *Journal of Cleaner Production*, 396, p.136510.

Velter, M.G., Bitzer, V., Bocken, N.M. and Kemp, R., 2020. Sustainable business model innovation: The role of boundary work for multi-stakeholder alignment. *Journal of Cleaner Production*, 247, p.119497.

Veral, E.S., 2021. Döngüsel ekonomi: engeller, stratejiler ve iş modelleri. *Ankara Üniversitesi Çevre Bilimleri Dergisi*, 8(1), pp.7-18.

Vickers, I., Lyon, F. and Sepulveda, L., 2024. Collective Capabilities for Organizational Democracy: The Case of Mutual Social Enterprises. *British Journal of Management*.

Zaman, A.U., 2015. A comprehensive review of the development of zero waste management: lessons learned and guidelines. *Journal of Cleaner Production*, 91, pp.12-25.