

## Guest Editorial Preface

# Special Issue of Joining Sustainability With Green Economy, Innovation, and Technology: A Paradigm Shift or an Inevitability?

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The porous borders between sustainability, green economy, innovation, and technology are hardly identifiable. The necessary transition towards decarbonized economies is fostering sustainability innovations, understood as inventions in technology, process or market that simultaneously create economic, societal and/or environmental value (Rohrbeck, Konnertz, & Knab, 2013). In this context, innovation is not just about technology anymore, but rather about experimenting with business models to make them more differentiated, segmented and externally aware (Chesbrough, 2007). Unconventional business models that integrate all triple bottom line (TBL) dimensions (economic, social, and environmental, see Elkington, 1998) are needed in response to complex challenges (Schaltegger, Hansen, & Lüdeke-Freund, 2016). However, business model innovation, even if extending beyond firm boundaries, is a necessary but not sufficient condition for sustainability innovation: innovation ecosystems are needed to upscale innovation, entrepreneurship and shared value creation to the market and societal levels (Gomes, Facin, Salerno, & Ikenami, 2018). If low carbon technology innovation is key towards a green economy, technological tracking and tracing capabilities have become key enablers of traceability for sustainability (García-Torres, Albareda, Rey-Garcia, & Seuring, 2019).

As a consequence, the quest for technological and non-technological innovation that translates into greener economies and social and environmental sustainability is taking place on the shifting sands of systemic transformation. However, it is clear that there is no escape from sustainability. During recent years sustainability and green economy have rapidly become more than just subjects for a small club of environment-conscious people. We can affirm that these topics have reached the broad social agenda. This special issue intends to bring new insights to current and new trends through the understanding of the possible combinations among sustainability, green economy, innovation, and technology. The systemic nature of this endeavor is reflected in the diversity of the six papers that compose this issue, all of them connected to more than one topic, developed across different sectors (retail or construction), presenting regional and urban perspectives, national and international approaches, and ultimately contributing to a varied and holistic analysis.

We understand sustainability as a new language which planes and space challenge conventions and request a reinvention of the fragmented approaches to growth and welfare. A full view of business ethics requires balancing social, environmental, and economic responsibilities, which can be extraordinarily challenging as the aim is not only to achieve a holistic harmony among all the dimensions, but also to provide a blueprint for shaping daily decision-making. Within this framework, sustainability is defined as the ability to positively manage and coordinate environmental, social and economic demands, ensuring responsible, transparent, ethical and ongoing success of individuals, organizations, society and the planet (de Villiers, Rouse, & Kerr, 2014; García-Torres et al., 2019; MacDonald, Clarke, Huang, & Seitanidi, 2019).

Thus understood, sustainability has an instrumental dimension as an antecedent of competitiveness. Sustainable management it may bring short-term improvements in terms of both efficiency gains (e.g., through eco-efficient technologies) and increased effectiveness (e.g., securing access to raw materials or mitigating environmental risks). However, it is also essential to highlight that the question of sustainability must be considered in the long run; and therefore, the organizational actions must take into account their impact on the future, and not only their immediate effect (Carvalho, Ferreira, & Silva, 2019). Organizations can shape their solutions independently, or follow a collaborative approach, for example participating in multi-stakeholder and/or cross-sector partnerships, which may incorporate the knowledge and resources of various stakeholders from different sectors to address a shared agenda (MacDonald et al., 2019). United Nations' Sustainable Development Goals (SDGs), illustrate the need for this collaborative approach.

The paper about sustainable management may provide a good picture of past, present, and future concerns on this topic through a multilevel analysis of emerging sustainable management literature. Although this paper has a positive and visible perspective, the article about internationalization and sustainable competitiveness in construction shows a less positive approach. It argues that sustainability can be considered critical to obtain financial returns with the implemented good practices, but in fact it is more a buzzword than a real concern in the sector.

Recent publications (MacDonald et al., 2019) recommend that organizations reinvent connections and try to find innovative solutions in order to develop an organization's ethical responsibility regarding the three TBL dimensions while, at the same time, overcoming potential tensions and developing synergies. Some authors indicate social entrepreneurship as a new working model that encourages sustainability innovation (Ferreira, Fernandes, Peres-Ortiz, & Alves, 2017; Mato-Santiso & Rey-Garcia, 2019). The paper about social entrepreneurship included in this special issue may provide useful hints along this new path, through the understanding of the most significant differences among a social enterprise and a social entrepreneur.

Although there is no internationally approved definition of green economy, according to the United Nations a green economy can be concisely defined as a resilient economy that delivers a better quality of life for all within the ecological limits of the planet, and with greater concern with social equity, environmental risks, and the scarcity of natural resources (Allen & Clouth, 2012). As part of the green economy, there is an ongoing transformation in market and consumer behavior – the green market - planning at improving the lives of people, communities, society, and the natural ecosystem (Guyader, Ottosson, Frankelius, & Witell, 2019). With green product markets growing at a noteworthy rate, companies pursue market opportunities in the production and promotion of environmentally sensitive goods and services (Baziana & Tzimitra-Kalogianni, 2016; Diamantopoulos, Schlegelmilch, Sinkovics, & Bohlen, 2003). Market conversion contains a transformation of the productive method, and thoughts of sustainability bring additional complexity (Vickers & Lyon, 2014). Although the green market entails a change in market and consumer behavior, as consumers increasingly tend to choose more sustainable and healthy products, first and foremost it is a change of the productive process, making it more sustainable, with less impact on the environment, with lower energy cost and carbon footprint, and with higher levels of social responsibility (Diamantopoulos et al., 2003; Vickers & Lyon, 2014).

The change in consumer behavior is mobilizing consumers to put pressure on business about environmental issues (Alamsyah & Muhammed, 2018), and an accurate profile of the green consumer cannot be constructed without considering environmental consciousness (Diamantopoulos et al., 2003). The paper about consumer perception of corporate social responsibility is an accurate analysis of consumers' perceptions through brand labels. It brings up important insights about consumer behavior, suggesting that a better communication of the socially responsible attributes of the private labels and a better focus on attributes that are most valued by the consumers may improve consumers' perceptions about CSR and increase brand equity.

Across the special issue it becomes evident that green economy and sustainability are, more than ever, closely linked to innovation, and technological change is involved in a particularly relevant relationship with sustainable innovations (Longoni & Cagliano, 2018). However, in order to grow an organization's ethical responsibility regarding the three dimensions of the triple bottom line and to overcome potential tensions and boost synergies between sustainability goals, organizations must seek innovative solutions (Longoni & Cagliano, 2018). Both technological and management innovation facilitate new methods of producing, managing, or doing business, targeting unexploited markets and redefining current production and marketing strategies. At the same time, novelty-centered and efficiency-centered business model design play a moderating effect on the relationship among green product innovation and firm performance (Ma et al., 2018), underlining the argument that innovation and technology can accelerate processes, but at the same time can also pose a challenge. The absence of basic IT can be a major limitation, as illustrated by the paper about SDG and their relation with the role of Information and Communication Technologies (ICTs). This article exemplifies how the SDG are being located in some urban areas, and how ICTs are being used to support these localization procedures in a broader context.

Absorbing influences from all the previously mentioned topics, juxtaposing them and challenging traditional notions, circular economy arises. It can be considered as a node or a network that links the topics targeted by this special issue, propelling new solutions adjusted to the demanding current contexts. There are some good examples of how unwanted items such as clothes or furniture, just to give some few examples, can be re-circulated from where they are no longer wanted to consumers who need them. Of course, this approach requires different involvements, but at the same time presents distinctive solutions based on the green resource integration process of recirculating (Guyader et al., 2019).

## **CONCLUDING REMARKS**

Society needs organizational models and processes that coordinate, allocate and deliver resources, goods, and services in an equitable, sustainable, and efficient way. Some will seek for transformative business models in the nonprofit or social economy sector, other will look for more pragmatic and instrumental solutions in the business sector, and others will suggest public sector as the adequate area to present shared solutions. Therefore, there is a significant potential for further development of innovative business models that can be enhanced through a greater engagement with social inclusion and the right combinations of sustainability, green economy, innovation, and technology; ultimately aiming at the creation of a better overall environment. If there is little consciousness amongst the mainstream about these topics, perhaps it is because they have not been treated, until now, in widely articulated perspectives. We expect this special issue can be a concrete answer to this gap.

It seems fundamental to juxtapose sustainability, green economy, innovation and technology through an organizational lens, and this approach can be considered as an interesting path to future research. However, the global scope of sustainability challenges - such as climate change or the loss of biodiversity - entails that they are not actionable at the organizational level. Also, barriers to a greener economy may seem insurmountable in the absence of effective innovation ecosystems that encompass multiple stakeholders, technological and non-technological innovation, and cross-sector

collaboration. If the inevitable is to be avoided, individuals, organizations and society in general need to actively engage in building a paradigm shift towards sustainability.

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