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## Editorial

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## 1 Introduction and theoretical underpinnings

The pursuit of sustainable business practices is gaining momentum among organisations that increasingly aim to integrate their performance in the social, environmental, and economic spheres into their competitive strategies (Elkington, 1998). Sustainability orientation is no longer a question of compliance or ethics, but an increasingly critical factor to achieve competitive advantage (Porter and Kramer, 2011).

Sustainability, encapsulated by the overarching framework of the Sustainable Development Goals (SDGs), has evolved into a central theme resonating across a wide spectrum of sectors worldwide (World Bank, 2019; SDG, 2021). Its influence has permeated the realms of industry, academia, the legal sphere, and the agendas of policymakers, reflecting its profound implications for global development and well-being (Arora et al., 2018; Stephan et al., 2018; Carlsen and Bruggemann, 2022).

Within this expansive discourse, the pivotal role of innovation emerges as a linchpin, drawing attention due to its transformative potential in fortifying sustainability efforts. Innovation, in its multifaceted forms, serves as the driving force that not only adapts to the sustainability agenda but also catalyses its advancement. Companies with innovation capabilities could integrate key resources of their firms for developing sustainable related-innovations (Hill et al., 2015). The assessment of innovation and firm performance is central to the literature (Seclen-Luna and Morales, 2022; Vendrell-Herrero et al., 2023). Most of the literature on this topic has focused on the manufacturing sector, while studies on sustainable-related innovation in the services sector remain scarce (Arranz et al., 2022).

The role of innovations and new technologies affect the form in which manufacturers implement innovation. This includes crossover topics on business model innovation and information and communication technologies (Barquet et al., 2013; Opazo-Basáez et al., 2022). However, organisations strive to develop new digitalisation capabilities of their offers and create new value propositions to compete, turning technological knowledge into an intangible asset that generates differentiating resources and capabilities (Siachou et al., 2021; Vendrell-Herrero et al., 2022). The digitalisation capabilities of companies can be observed when they digitise their production processes, their business model, and their products or services (Seclen-Luna et al., 2024a).

Within the Latin American context, the nexus of innovation and sustainability assumes a distinctive character. This dynamic region grapples with a unique amalgamation of different variables, as socio-economic challenges, and environmental imperatives (Ibrahim et al., 2023; Segovia-Hernández et al., 2022). The role of moderating and mediating variables can explain some of the heterogeneities found in the empirical literature, especially in Latin American countries (Grazzi et al., 2016; Seclen-Luna et al., 2023; Taveira et al., 2019). Innovations tailored to these circumstances are vital to navigating the region's intricacies and driving sustainability efforts.

Innovations, purposefully crafted to prioritise sustainability, cascade through Latin America's business ecosystem, orchestrating profound shifts in supply chains, ushering in new institutional paradigms, enhancing community welfare, propelling regional development, and furnishing nations with the capacity to champion sustainable ideals. The symbiotic relationship between sustainability and innovation, corroborated by extensive academic research (Seclen-Luna et al., 2021b), underscores not only the intrinsic value of this alliance but also charts a trajectory toward heightened economic prosperity. Nonetheless, the translation of the vision of a more sustainable world into concrete realities is a multifaceted endeavour. Less developed nations in Latin America chart distinctive trajectories, often at a pace divergent from their developed counterparts. These more advanced economies have borne witness to the gradual evolution of innovative, sustainability-focused enterprises over time. Acknowledging these disparities, collaborative synergies involving organisations, educational institutions, and governments become instrumental (Aguinis et al., 2020). These partnerships catalyse the implementation of inventive, multidisciplinary strategies aimed at addressing sustainability challenges on both regional and global scales, thus charting a transformative course toward a more sustainable and resilient Latin America (Schmitt and Seclen-Luna, 2022).

The purpose of this special issue aims at exploring theoretical, conceptual, and practical areas of innovation and sustainability to enhance firm competitive advantage in the context of Latin American countries. Consistent with the context, the summons extended to various scholars within the region to impart their scholarly contributions and insights concerning the nexus between innovation and sustainability within the industrial milieu has yielded commendable outcomes.

The next section summarises the academic contributions compiled in this special issue. The final section presents conclusions as well as future research directions based on key findings.

## **2 Contributions of articles to this special issue**

Notably, nine exemplary scholarly articles have been garnered, classifiable based on their focus, encompassing either a singular nation or multiple nations within the region, as well as their sectoral orientation, which may encompass an examination of individual sectors or a multifaceted analysis spanning across diverse industrial domains.

In the first instance there are four papers analysing a country and a particular industrial sector. Firstly, Maldonado-Guzmán presents 'Barriers affects application of lean practices and financial performance in Mexican manufacturing SMEs'. The article aims to analyse the status of the application of lean practices and their barriers and financial benefits in manufacturing companies. For this purpose, the author applied a PLS-SEM analysis technique on a sample of 240 manufacturing SMEs in Mexico. The results reveal that technical and human barriers affect the application of lean practices and financial performance. In turn, lean practices also affect the financial performance of SMEs.

Secondly, Sánchez-Henríquez et al. present 'Limits of open innovation: bridging the gap between technological and non-technological innovation'. The authors try to extend the study of open innovation to non-technological (organisational and marketing)

innovations. Specifically, the paper looks to respond if the effect of external knowledge sources on innovation is contingent on the type of innovation an organisation pursues. To test that assumption empirically, the authors used data from three consecutive waves of the Chilean Innovation Survey (2011, 2013, 2015), covering the 2009–2014 period and 3,977 firms. The technique of analysis was the generalised estimating equations (GEEs). The results demonstrate that external knowledge sources have a u-shape relationship with technological innovations but a positive relationship with non-technological innovations.

Thirdly, Pinzón-Castro et al. present ‘Eco-innovation drivers really improve firm performance? Sustainable performance mediating role in Mexican automotive industry’. In this article, the authors investigate the influence of eco-innovation practices on sustainable performance and firm performance using a PLS-SEM methodology on a sample of 460 companies in the automotive industry in Mexico. Their results show evidence that eco-innovation practices significantly positively influence both the sustainable and business performance of the analysed firms.

Fourthly, Seclen-Luna et al. present ‘Innovation in KIBS firms: the effects of innovation activities, employees’ level of education, and the sources in the supply chain’. This paper tries to identify the effects of innovation activities, employees’ level of education, and interplay in the supply chain in the innovation performance (portfolio) of knowledge-intensive business services (KIBS). The authors use a sample of 311 Peruvian KIBS firms with data gathered from the National Innovation Survey and apply a LOGIT model. The results show that not all innovation activities positively affect innovation, it depends on the type of innovation; the hiring of graduated personnel is linked with organisational innovation, and the interplay with customers, suppliers, and competitors has no present positive results concerning the adoption of innovations. So, KIBS firms are oriented to bring solutions into markets, and do not collaborate for their own sustainability innovation.

Next, this special issue contains two papers analysing a country but in multiple industrial sectors. On the one hand, Blanco-Mesa and León-Castro present ‘Innovation in strategic planning through fuzzy methodologies: a study of the industrial context of Bogota, Colombia during COVID-19’ by analysing the strategic planning in the industrial context of Bogota, Colombia, during COVID-19, looking to understand precisely how the companies act based on a crisis. The methodology was based on the Bonferroni ordered weighted average (OWA) operator and the Pitchat algorithm. The authors found that all the sectors find an essential scope in marketing, a less critical scope in formalisation, and some specific differences depending on the sector.

On the other hand, Milesi et al. present ‘Technological learning in natural resources-based activities: the role of idiosyncratic knowledge and knowledge intensive business services’. The paper discusses the relationship between productive specialisation and technological capabilities accumulation, specifically whether it is possible to follow a path towards a more knowledge-intensive economy while maintaining the current sectoral specialisation based on natural resources-based activities in the Argentinian economy. By analysing three case studies, seeds, non-conventional oil and gas, and wind energy, the paper discusses the role of idiosyncratic knowledge in natural resources-based activities innovation as a source of technological capabilities accumulation and sustainable innovation.

Following, we have two papers that analyse several countries in multiple industrial sectors. Firstly, Basañez-Zulueta et al. present ‘The B2B relationship in industrial companies from the position of hidden champions: knowledge-intensive services for

small business'. This paper explores how 'hidden champions' drive innovation in their local territories through knowledge-intensive activities, uncovering the challenges SMEs face in accessing these services and showing the dynamic of the competitiveness of territories driven by dynamic SMEs. The qualitative approach of the article, based on two territories, the Basque Country (Spain) and the Department of Antioquia (Colombia), helps to understand that hidden champions can act as knowledge intensive business services to benefit SMEs in the area and territory where they are located.

Secondly, Peña et al. present 'Exploring the influence of digitalisation on the formalisation process of informal businesses: a comparative strategic management in China and Peru'. This article studies the influence of digitalisation as a new strategic variable for the formalisation process of informal businesses. The methodological approach is based on a comparative strategic management (CSM) framework in Peru and China businesses. The authors try to identify the factors that drive the formalisation process in heterogeneous contexts. The findings demonstrate significant similarities and differences in the formalisation process's economic, institutional, and strategic environments between both countries.

Finally, one paper shows a particular study of 18 Latin American countries with a regional perspective. Rojas-Cabezas et al. present 'Green management, perceived barriers to sustainability, and innovation performance in Latin American SMEs'. It examines the relationship between green management, perceived barriers to sustainability, and innovation performance in Latin American SMEs. Using a structural equation modelling methodology based on a primary dataset of 5,716 managers from 18 Latin American countries, the study finds that green management positively relates to SMEs' the innovation performance of SMEs in Latin America. However, perceived barriers to sustainability partially mediate this positive relationship.

The collection of scientific papers that responded to the call for this special issue constitutes a significant contribution to the entire region. These papers not only offer valuable scientific insights into the interplay between innovation and sustainability across various industrial sectors but also provide a potential avenue for extrapolating experiences that can be emulated in countries sharing common contextual, industrial, and developmental characteristics.

### **3 Direction for future research**

The topic of this special issue and their contributions hold many opportunities for future research, some of which we highlight below.

In order to understand in depth, the relationships between innovation and sustainability in industrial Latin American contexts, it is necessary to analyse how different 'green strategies' such as lean practices, eco-innovation practices, affects firm performance – economic, environmental, and social goals in a combinative way (Elkington, 1998). Furthermore, to achieve these goals, recent studies show that to develop sustainable-related innovation, it is not based on a single source, integrating the vision of the firm's customers, suppliers and other agents are critical. So, firms tend to rely on multiple sources of knowledge (Frigon et al., 2020; Moya-Fernández and Seclen-Luna, 2023). Despite this, external knowledge sourcing literature that demonstrates how it promotes sustainable innovation is still scarce (Rauter et al., 2019).

In that sense, understanding how diverse agents from the innovation ecosystems interact to favour the generation of innovations is necessary. For example, explore in a deeper way the role of ‘hidden champions’ – manufacturing firms offering advanced services on innovation and competitiveness in territories. Lastly, advancing the knowledge about the interaction between different context levels and the sustainable innovation performance should be considered. All previous arguments, must consider expanding the discussion about innovation in natural resources-based activities since the Latin American context is dependent on this, and on the business formalisation process due to there being a high proportion of firms in transition to formality, perhaps the digitalisation and innovation strategies could be key factors, in addition to recognising the factors that facilitate or limit sustainable innovation.

## Acknowledgements

The guest editors thank journal Editor-in-Chief Marco Opazo-Basáez for his support during the editorial process of this special issue. They are also thankful to the anonymous referees whose valuable and most constructive comments contributed significantly to improve the papers included in this issue.

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