Chapter 1
The Route Towards Sustainable Innovation and Entrepreneurship: An Overview

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Abstract To what extent can the introduction and proactive embracement of proactive corporate environmental strategies, processes and activities lead to more innovative and entrepreneurial firms? Might sustainability be a core issue while attempting to cope with some of the world's main challenges? This chapter presents some insights with regard to sustainable innovation and entrepreneurship, two topics that are receiving increased attention at the academic and managerial levels. Moreover, we underline the key contributions of the different chapters included in this book.

1.1 Introduction

These days the linkages between business spheres and environment protection are becoming increasingly popular, shaping therefore a topic that is conquering the attention of academics (i.e., scholars and researchers working both for public and private institutions), practitioners (i.e., managers and policy makers) and society in general. At the research level it is certain that sustainability has become an incredibly popular topic. In this vein, Google Scholar lists approximately 3,500,000 outcomes for the tag "sustainability"; 2,520,000 results for the tag "sustainable management"; 3,770,000 results for the tag "environmental management"; around 4,090,000 outcomes for the tag "green management"; and over 2,740,000 results for the tag "green innovation". Moreover, there can be identified distinct widespread terms such as "eco", "sustainable", "environmental", and "green", oriented to label

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those managerial efforts intended at decreasing the harmful impacts that organizations exert upon the environment.

In addition, these research topics are being progressively endorsed and supported by academic institutions. Just to mention a few examples, it is noteworthy the continuous progress and the high quality research work that is being carried out by the Organizations and the Natural Environment (ONE) Division of the Academy of Management, which is self-described as a scientific community of fellows devoted to the advancement of research, lecturing, and service at the juncture of organizations and the natural environment. It is also remarkable the work developed by the Group of Research on Organizations and the Natural Environment (GRONEN), which organizes an international conference and doctoral consortium every 2 years in an European setting. Besides, there is an extraordinary proliferation of scientific journals and books—the Scimago Journal Rank (SJR) reveals that there are up to 112 journals within the Renewable Energy, Sustainability and the Environment category—special issues, academic conferences, conference tracks and doctoral dissertations addressing sustainability-related issues.

There may undoubtedly be a broad range of reasons underlying the escalation in the number of publications and the growing interest devoted by the academic community to environmental management and sustainability issues. A clear motive is that plenty of companies are being subject to considerable pressures exerted by governmental policies, international environmental legislation, customers' demands and an accelerated societal environmental awareness. Due to the extremely dynamic and turbulent global business scenario, environmental management is becoming important for companies. Such context is characterized by the presence of harsh environmental regulations, social pressures and the spread of environmental concern. The combined effect of these pressures is leading firms to pay attention and get involved in sustainability activities (Porter & Van der Linde, 1995). A second reason may arise from the fact that an emergent proportion of executives and shareholders are being convinced that there are important business opportunities and benefits linked with being and behaving in a more sustainable manner. Whatever are the factors motivating this boom of the academic literature on the field of sustainable management, the fact is that practitioners are gradually going to need and demand deeper insight and guidelines as to how becoming greener, which could effectively find in such scientific books and journal articles.

The influence exerted by the enterprises' proactive environmental corporate strategies on its business outcomes outlines a research topic that has been extensively examined and debated within the literature on the field of organizations and the natural environment (Albort-Morant, Leal-Millán, & Cepeda-Carrión, 2016). Accordingly, the extent to which organizations might obtain benefits from "greening" its products, services, processes and operations has turned into a pivotal question for plenty of scholars within the strategic management and organizational behavior literature, as illustrated by the substantial volume of empirical studies targeted at examining the ties between the proactive implementation of environmentally-driven or green corporate strategies and financial performance or competitive advantages attainment, as pointed by Aragón-Correa and Sharma (2003).

Coherently with Marcus (2015), green innovations should be comprehended as strategic choices, since in a similar way to any other strategic adoption, they are not free from uncertainty or future prospects that might be more or less likely to finally occur. The path to sustainability is full of challenge and complexity. Yet, it is the role of scientists to shed light upon the set of uncertainties that surround this matter. Therefore, this book, which is entitled "Policies and Practices for Sustainability in Innovation and Entrepreneurship", is aimed at providing the reader with a wide range of insightful theoretical and empirical foundations about whether adopting sustainable innovative managerial practices actually pays off.

This book, which is composed of nine chapters—excluding this first introductory chapter—aims to become a reference work that provides the readers with an accurate source of inspiration and solutions to their troubles concerning the ongoing challenge of improving the management of sustainability issues. All these questions, which are closely linked to the methods of obtaining and distributing different products and services, are within the framework of entrepreneurship and represent new business possibilities by rearranging or changing the different productive factors (Schumpeter, 1934) or discovering new opportunities (Shane & Venkataraman, 2000).

1.2 Theoretical Background

Organizational innovativeness is commonly assumed to play an important role in the achievement and maintenance of competitive advantages and organizational performance. Previous investigations emphasize innovation as a critical condition for firms that seek the embracement of technological advances, sustained growth, the exploration of new markets, the adaptation to customers' needs and requests, and definitively the attainment of sustainable competitive advantages and the enhancement of their business performance (Jiménez-Jiménez & Sanz-Valle, 2006). Several scholars believe that innovations occur after some novelty, fresh or original idea is obtained with regard to firms' products, services or processes (Damanpour & Gopalakrishnan, 1998; Zaltman, Duncan, & Holbek, 1973). On the other hand, there can be found some research works pointing out that the mere generation of these novel or new ideas is not enough to be properly considered innovation, but such idea yet requires to be effectively developed and applied to commercial ends (Escorsa & Valls, 1997). Thus, there has traditionally existed some controversy with regard to the proper thought of organizational innovation, since while some authors place it at the initial steps, others advocate for its location at the implementation or final phase.

Following Beise and Rennings (2005), and as a field of opportunities (Shane & Venkataraman, 2000), sustainable innovations entail a broad set of novel or enhanced processes, practices, methods, systems, products and services oriented to elude or minimize an organization's environmental impact. Chen, Chang, and Lin (2014) define "green innovation" as organizational innovations that comprise the design, elaboration and perfection of sustainable products, services or processes. Such

innovations may include from technological innovations involved in energy saving, the reduction of pollution and residuals, waste recycling, or more sophisticate designs. Sustainable innovations have turned into an essential strategic tool for firms aiming to face the sustainability challenge and to remain competitive within their context due to the increasing popularity of environmental trends (Chen, Chang, & Wu, 2012).

Firm innovativeness and entrepreneurship happen to be two notions that frequently develop rather interrelated in the literature. Since innovation commonly stands as an essential condition or prerequisite within the entrepreneurial process, a company's competence to foster and mature fruitful innovative ideas might lead us to consider this link a recursive relationship. Furthermore, Drucker (1985) claims that entrepreneurship and innovation jointly constitute key drivers underlying economic advance and superior performance that explain the success of organizations and society in general.

Peris-Ortiz (2009) coins the term "corporate entrepreneurship" to denote the competence inherent to a firm's collection of executives and staff who cooperate and make decisions aiming to foster entrepreneurship, organizational learning and innovation at the corporate level. Such capability is linked to the aptitude to ascertain or generate business opportunities; the faculty to exploit these prospects on the basis of social networks and institutional capital (Audretsch & Monsen, 2008); and the process of organizational regeneration that permits and enables constant innovative development. Besides, Albort-Morant and Rey-Martí (2015) use the term "entrepreneurial capital" to refer to the firms' members that continually innovate and assume risks with the determination of contributing to their companies' advance. Thus, it seems that as proposed by Schumpeter (2000), innovation and entrepreneurship are often two sides of the same coin. This author suggests that one of the key features of entrepreneurs deals with the capability to combine already existing resources in creative ways. Hence, the introduction of disrupting changes might be difficult to be fully assigned to firm innovativeness or entrepreneurial capacity isolatedly.

Academic authors have declared that the innovative activity of entrepreneurship helps as a dominant energy in the advance of an environmentally and socially sustainable economy. However, empirical research on the topic has not evolved at the same pace as business action and the interest of individuals and governments in the phenomenon. Thus, additional empirical research is still needed on the relationship between entrepreneurship and sustainable development that sheds light upon the complexities of the phenomenon (Dean & McMullen, 2007).

One of the central issues in the relationship between entrepreneurship and sustainable development is the paradox of the normative pretensions of entrepreneurship as a solution to the challenges of sustainable development versus research in environmental and welfare economics. This paradox underscores the extent of the limits of sustainable business action. In fact, the claims of sustainable entrepreneurs contrast with certain theoretical propositions accepted or recognized in the economic literature. That is, the public and non-exclusive nature of environmental resources can generate conflicts between individual and social objectives and incen-

tives, all of which can be manifested in the emergence of egoistic entrepreneurial behaviors that deteriorate societal and ecological conditions. The advice of this paradox is that green entrepreneurship can be controlled to situations where individual and social interest and reasons are aligned under the current system of economic institutions. In contrast, in the absence of such conditions, sustainable entrepreneurship would fail to exist and fulfill its normative implications (Pacheco, Dean, & Payne, 2010). These authors "*view sustainability challenges as a prisoners' dilemma problem wherein entrepreneurs face a potential competitive disadvantage when pursuing costly sustainable actions, as such costs may not be borne by competitors. We refer to this entrepreneurial predicament as the "green prison": wherein entrepreneurs are compelled to unsustainable behavior by the process of competition, given that sustainable actions are punished, rather than rewarded*" (Pacheco et al., 2010, p. 465).

Thus, the firms' introduction and proactive embracement of proactive corporate environmental strategies, processes and activities may lead them to become more innovative and entrepreneurial. Within an economic context increasingly concerned about environmental issues, a novel and interesting source of competitive advantage is derived from the recognition that customers value those organizations that make significant efforts to develop an efficient environmental management and to interact with the environment in a responsible manner (Leal-Rodríguez, Leal-Millán, & Ariza-Montes, 2016).

1.3 Overview of Book Contents

This book includes ten chapters related to sustainability and innovation in an entrepreneurship framework. Jointly, the chapters in this book reflect varied approaches. They examine the theme using different theoretical backgrounds and different methodologies. Individually, each chapter offers rich insights regarding the phenomenon they examine.

Chapter 2 undertaken by Gema Albort-Morant, Silvia Martelo-Landroguez and Antonio L. Leal-Rodríguez, *Fostering a Relationship Learning Context as a Driver of Green Innovation Performance and Green Customer Capital*, analyzes the combined effects of promoting a relationship learning context on green innovation performance and green customer capital. This chapter develops a research model that links relationship learning, green innovation performance and green customer capital. Partial Least Squares (PLS) path-modeling, a variance-based Structural Equation Modeling technique is used to test and validate the research model and hypotheses. The results suggest that firms should make and endeavor and invest resources in enhancing their relational capital. Besides, in order to create green customer capital it is advisable that firms are able to transform this relationship learning into green innovative outcomes.

Chapter 3, *Smart Cities, Innovation and Sustainability: Which Role for Cities in Fostering "Green" Entrepreneurship?* by Claudia Ghisetti, studies the link between

entrepreneurship and institutional conditions in the case of smart cities. She discusses that green entrepreneurship might be linked to being localized in a smart city. The chapter presents a newly collected dataset on a smart city for the Emilia-Romagna Region in Northern Italy. The results suggest that Poles and administrative centres face significantly higher smart levels, and the contiguity to a centre influences its smartness.

Chapter 4, *How Cultural Beliefs and the Response to Fear Appeals Shape Consumer's Purchasing Behavior Toward Sustainable Products* by Nuria Rodríguez-Priego and Francisco J. Montoro Ríos. This study examines how cultural beliefs and other cognitive processes related with the response to fear appeals can contribute to explain why consumers choose to purchase goods produced by sustainable companies. For this purpose, it tested the Cultural Cognition Theory and the Protection Motivation Theory as determinants of consumers' purchasing behavior. Results show that the more egalitarian and the less hierarchical individuals are, the more they will reward sustainable companies. Besides, consumer's behavior toward the companies is determined by their perception of environmental threat and their perceived response efficacy.

Chapter 5 by Macarena Pérez-Suárez and Daniel Antón, *Sustainable Social Management: The Case of Co-operative*, aims to reveal the situation of cooperatives with respect to sustainability. Despite the global situation regarding the need to enhance energy efficiency, the manner in which these co-operatives take it into account is not clearly shown. Consequently, this research provides a series of effective measures for CO_2 emission mitigation and energy efficiency improvement. Thus, the aim was to understand the sustainable responsibility of co-operatives by means of CO_2 emission evaluation and their sources. The outcomes reveal the scarce concern of companies about the energy consumption and their environmental impact. In this sense, co-operatives must optimise the social management of defined environmental practices to comply with the considered ethical behaviour.

Chapter 6, *Improving Environmental Management Systems by ISO 9001 in the Spanish Hospitality Sector* by Aurora Martínez-Martínez, Juan Gabriel Cegarra-Navarro and Alexeis García-Pérez. This paper examines the relevance and importance of an ISO 9001 certification as an enabler of Nonaka and Takeuchi's SECI model and the processes of reusing and updating the environmental knowledge of an organisation. The adoption of ISO 9001 exercises a moderating effect on environmental management practices. Therefore, the study has direct implications for management practices.

Chapter 7 by Marco Bettiol, Valentina De Marchi and Eleonora Di Maria, *Social Entrepreneurship and Upgrading in Emerging Economies: The Indian Case of Industree and Its Brand Mother Earth* aims to analyze the possibility to realize production system delivering high social, environmental and economic performance in the context of emerging economies. They provide an in-depth analysis of an Indian successful firm, specialized in the production and retail of home and fashion industries which successfully improved social and environmental conditions along its value chain through the social entrepreneurship approach.

Chapter 8, *The Relationship Between Revenue and Environmental Responsibility: A Causal Study Using Reputation in the Hotel Industry* by José Manuel Mariño-Romero, Ana María Campón-Cerro, José Manuel Hernández-Mogollón and José Antonio Folgado-Fernández. The authors focused on determining to what extent hotels' consciousness of environmental responsibility generates a positive impact on profitability, as represented by RevPAR, a performance metric specific to the hotel industry. The results reveal that environmental sustainability has a significant positive impact on RevPAR and that reputation acts a mediating factor in this context. Thus, hotel companies need to bear in mind that corporate social responsibility policies regarding the environment are not an undesirable cost but rather an investment that ensures long-term, sustainable financial returns.

Chapter 9, by Carolina Afonso, Diana Gavilan, Jesús García-Madariaga and Helena Martins Gonçalves, *Green Consumer Segmentation: Managerial and Environmental Implications from the Perspective of Business Strategies and Practices,* aims to better explore the importance of green consumer segmentation and its implications from a management point of view. The authors analyze which variables better characterize green consumers in order to propose a theoretical framework to enable and support organizations to better understand green consumer profile. It also enables managers and marketers to target and develop better marketing strategies for these segments.

The last chapter (Chap. 10), *How Strong Might Be a Carbon Tax on Electricity Consumption to Reach Spanish H2020 Targets?* by J.M. Cansino, M.A. Cardenete, M. Ordóñez and R. Román, evaluates the cumulative impact (2014–2020) that a tax on electricity consumption would have on it consumption in Spain in the period 2014–2020. The main conclusions and practical implications that can be derived from this chapter are: (1) the introduction of an electricity consumption tax (ECT) without tax recycling has an inflationary impact, an important welfare loss; (2) the introduction of the new tax (ECT) with tax recycling and tax neutrality requires a small reduction in employer-paid Social Security contributions and generates only a slight increase in consumer prices and a loss of household welfare less than the revenue generated by the new tax; and (3) the introduction of the new tax (ECT) with price stability leads to a decline in employer-paid Social Security contributions.

1.4 Conclusions

Sustainability, entrepreneurship and innovation are concepts closely linked to each other, and analyzing issues at their interface is crucial to understanding the best practices and policies for sustainable social and economic development. While pertinent for managers, practitioners, academics and society in general, it broadly draws on the most up-to-date research, making it also a valued source for academics studying entrepreneurship and innovation and networks and the wide array of sustainability strategy issues they raise.

The pressures exerted by governmental policies, international environmental legislation, customers' demands and an accelerated societal environmental awareness, have turned entrepreneurship and sustainability relations into an inextricable question. Although there are situations—markets or industries—in which green sustainability can be a "green prison", this is the path of entrepreneurial behaviour for the future.

We expect this book links academic research and draws on practitioner experience to offer a comprehensive understanding of how and why Policies and Practices for Sustainability in Innovation and Entrepreneurship are not only indispensable fields of study but also the very foundations for social and economic behaviour.

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References

Albort-Morant, G., Leal-Millán, A., & Cepeda-Carrión, G. (2016). The antecedents of green innovation performance: A model of learning and capabilities. *Journal of Business Research, 69*(11), 4912–4917.

Albort-Morant, G., & Rey-Martí, A. (2015, July). The development of ICTs and the introduction of entrepreneurial capital. In Annual conference of the global innovation and knowledge academy (pp. 84–92). Springer. DOI: 10.1007/978-3-319-22204-2_8.

Aragón-Correa, J. A., & Sharma, S. (2003). A contingent resource-based view of proactive corporate environmental strategy. *Academy of Management Review, 28*(1), 71–88.

Audretsch, D., & Monsen, E. (2008). Entrepreneurship capital: A regional, organizational, team and individual phenomenon. In International handbook of entrepreneurship and HRM (pp. 47–70). Retrieved at https://www.econbiz.de/archiv1/2009/63919_entrepreneurship_capital.pdf.

Beise, M., & Rennings, K. (2005). Lead markets and regulation: A framework for analyzing the international diffusion of environmental innovations. *Ecological Economics, 52*(1), 5–17.

Chen, Y. S., Chang, C. H., & Lin, Y. H. (2014). The determinants of green radical and incremental innovation performance: Green shared vision, green absorptive capacity, and green organizational ambidexterity. *Sustainability, 6*(11), 7787–7806.

Chen, Y. S., Chang, C. H., & Wu, F. S. (2012). Origins of green innovations: The differences between proactive and reactive green innovations. *Management Decision, 50*(3), 368–398.

Damanpour, F., & Gopalakrishnan, S. (1998). Theories of organizational structure and innovation adoption: The role of environmental change. *Journal of Engineering and Technology Management, 15*(1), 1–24.

Dean, T. J., & McMullen, J. (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. *Journal of Business Venturing, 22*(1), 50–76.

Drucker, P. F. (1985). The discipline of innovation. *Harvard Business Review, 63*(3), 67–72.

Escorsa, P., & Valls, J. (1997). *Tecnología e Innovación en la empresa. Dirección y Gestión*. Sl, Barcelona, Spain: Edicions de la Universitat Politecnica de Catalunya.

Jiménez-Jiménez, D., & Sanz-Valle, R. (2006). Innovación, aprendizaje organizativo y resultados empresariales: un estudio empírico. *Cuadernos de Economía y Dirección de la Empresa, 29*, 31–55.

Leal-Rodríguez, A. L., Leal-Millán, A., & Ariza-Montes, J. A. (2016). Innovación social y ambiental: el papel de la innovación verde en el equilibrio rentabilidad-sostenibilidad. *Revista de fomento social, 281*, 177–182.

Marcus, A. A. (2015). *Innovations in sustainability*. Cambridge, England: Cambridge University Press.

Pacheco, D. F., Dean, T., & Payne, D. S. (2010). Escaping the green prison: Entrepreneurship and the creation of opportunities for sustainable development. *Journal of Business Venturing, 25*, 464–480.

Peris-Ortiz, M. (2009). An analytical model for human resource management as an enabler of organizational renewal: A framework for corporate entrepreneurship. *International Entrepreneurship and Management Journal, 5*(4), 461–479.

Porter, M. E., & Van der Linde, C. (1995). Green and competitive: Ending the stalemate. *Harvard Business Review, 73*(5), 120–134.

Schumpeter, J. A. (1934). *The theory of economic development*. Cambridge, MA: Harvard University Press.

Schumpeter, J. A. (2000). *Entrepreneurship as innovation*. Retrieved at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1512266.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*, 217–226.

Zaltman, G., Duncan, R., & Holbek, J. (1973). *Innovations and organizations* (Vol. 1973). New York: Wiley.