

The Role of Sustainable Entrepreneurship and Corporate Social Performance on Social Innovation: the Case of the Private Industrial Sector in Saudi Arabia

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Received: 5 December 2020 / Accepted: 8 April 2021 / Published online: 3 May 2021 © The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2021

Abstract

This study seeks to identify and measure the association linking sustainable entrepreneurship and social innovation, through corporate social performance as a mediating variable. To assess the research model, five determinants of sustainable entrepreneurship are identified which can generate social innovation. The hypothesis test is based on a quantitative approach in which data was gathered through a questionnaire distributed to 180 SMEs in Saudi Arabia. The study applies a structural equation model in order to verify the relative importance of corporate social performance, alongside its mediating effect. The results demonstrate a mediating effect from corporate social performance between sustainable entrepreneurship extrinsic motivation and sustainable entrepreneurship outcome as determinants, and social innovation. This mediating effect seems to be less important for other determinants such as knowledge resource acquirement. The results define a critical pathway for social innovation in order to facilitate its definition and try to operationalize the process of its generation. In fact, this study provides an operationalized approach for social variables.

Keywords Sustainable entrepreneurship \cdot Social innovation \cdot Corporate social performance \cdot Determinants \cdot Structural equation model

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Introduction

Sustainable entrepreneurship (SE) has emerged as a composite concept which integrates sustainability and commercial activity (Schaltegger & Wagner, 2008), generating a new perception of this area and its impacts (Graham, 2010) according to a sustainable development view (Tilley & Young, 2009).

In spite of its importance and its great effect, and based on Wei-Loon et al. (2015), while it is clear that SE is derived from an entrepreneurship process, there is still confusion about its definition and application: especially noting the multidimensionality of different aspects which are relevant to it. This is why this study seeks to present an operational definition of this emergent concept.

Independently of the theoretical limitations related to its definition, sustainable entrepreneurship is becoming critical for business continuity (Belz & Binder, 2017). It is known that continuity deals with profit. In this case, to appreciate the opportunity from this process, it is necessary to refer to performance, and especially to corporate social performance, but more precisely, it is necessary to consider this specific objective for the private sector, which is profit-oriented.

Based on Majid and Koe's definition (2012), sustainable entrepreneurship can be associated with innovative processes for exploiting opportunity, to achieve economic benefits, socially equitable outcomes, benefit for the environment, and equity in preserving cultures. Bell and Stellingwerf (2012) demonstrate that this innovative approach adopted by entrepreneurs and issuing from their sustainability knowledge contributes to the adoption and application of sustainable entrepreneurship. So, it is considered that there is an impact from SE on innovation. A direct association between SE and innovation is difficult to identify from the existent literature. The objective in this study is therefore to demonstrate that this effect exists, and then to identify how it can be stimulated.

Osburg (2013) argues that SE is within the essence of the realization of sustainable innovation, with its different aspects related to sustainability (social, economic and environmental). More precisely, sustainable entrepreneurship represents efforts developed and defined to serve community through the definition of new solutions for new social and ecological challenges, to contribute to economic development as associated with ameliorating life conditions (World Business Council for Sustainable Development, 2012).

This study follows on from Crals and Vereeck (2007), who link this process to industrial companies and present a number of requirements for the success of this synergetic effect, including time and financial resources. Schaltegger and Wagner (2011) explain this continual process as a focused and maintained combination of capabilities to define competitive advantage.

The integrative model developed here will try to provide empirical evidence of such effects: especially when remembering that there is a lack of literature related to the different relationship adopted here.



Literature Review

Sustainable Entrepreneurship

As a composite idea, SE is based on an association between entrepreneurship and sustainability. In fact, Kai and Wüstenhagen (2010) demonstrate that entrepreneurship contributes to the development of sustainable practices. Similarly, Hall et al. (2010) argue that entrepreneurship is the best solution to social and environment problems. The major idea adopted here is the benefit of entrepreneurship for sustainability, leading to the supposition that sustainable entrepreneurship represents activities related to creating a project, idea, business, or any entrepreneurial act which can contribute to the development of sustainability in its three dimensions (Schaltegger & Wagner, 2011).

Schaltegger and Wagner (2011) present an interesting definition of this concept related to the current topic of research, according to which SE is underpinned by basic aspects of entrepreneurship, focusing less on technical and management approaches, and centering the entrepreneur/entrepreneurial group's skillsets and initiative for the achievement of wide commercial success as well as positive social impacts, innovating in ways which benefit society and the environment. This definition insists on the immaterial character of entrepreneurial activities generated by sustainable entrepreneurship with a high social and environmental impact.

Vuorio et al. (2018) reinforce this idea and present an exhaustive approach to different aspects of sustainable entrepreneurship, suggesting a combination of three main entrepreneurship factors comprising social, economic, and environmental entrepreneurship, with an ultimate objective of value creation. This concept can be explained through referring to its nearest equivalents as presented by other researchers. These works talk about "sustainability-driven entrepreneurship" (Majid et al., 2012), "sustainable-minded entrepreneurship" (Gagnon, 2012), and "environmental entrepreneurship" (Krueger, 2005; Schlange, 2006).

It is clear that there are a variety of definitions in the existent literature but with one common element related to durability in entrepreneurship. Also, this variety of definitions can be associated with the existence of different approaches to sustainable entrepreneurship (Fichter & Tiemann, 2020; Terán-Yépez et al., 2020). An environmental approach is found (Boons & Lüdeke-Freund, 2013) which is represented by the concept of eco-entrepreneurship (Rodgers, 2010) with reference to an entrepreneurial activity-oriented environmental (Schaltegger, 2014). An innovative approach is also defined proportionally to sustainable entrepreneurship and points to the existence of sustainable innovation addressed to a very large part of society (Schaltegger & Wagner, 2011), taking into account economic, ecological, and social issues (Boons & Lüdeke-Freund, 2013).

Another vision of SE implies the concept of preservation of the different elements to guarantee life's continuity and future in terms of economic and non-economic outputs for the person, society, and economy (Muñoz & Cohen, 2018). Cohen and Winn (2007) associate this concept with an entrepreneurial opportunity



to create and generate new goods or benefits for the whole community and on different levels. In this same conceptual field, Belz and Binder (2017) consider SE as an operational vector which aims to recognize and exploit opportunities in order to effect action on the ecological and social environment (Muñoz & Cohen, 2018).

Finally, it should be noted that SE needs a stimulator to become operational, and in general, this is represented by the identification of a problem on an economic or ecological level which needs to be resolved by the definition of a specific solution, represented by innovation in the majority of cases (Eller et al., 2020).

Based on this analysis, it is concluded that SE is associated with social innovation, and this impact seems to be indirect due to the existence of other external elements.

Corporate Social Performance

Corporate social performance (CSP) can be defined as a concept focusing on the responsibility of the firm toward different stakeholder groups, including its personnel, wider communities, and as additional to the more conventional responsibility to satisfy those with a financial stake in the firm (Turban & Greening, 1996). According to this definition, CSP is a large and determinant concept covering two levels of analysis: internal and external. Wood (1991) considers CSP as multidimensional, and Garcia et al. (2017) consider it to encompass various social facets of the chosen activity, action, and policy set applied for managing stakeholders.

According to those definitions, it is clear that CSP differs from corporate social responsibility (CSR). While CSR implies practices and policies to generate social benefits (Matten & Moon, 2008), CSP is related to the results of these organizational practices (Clarkson, 1995). To simplify, CSR represents activities, and CSP deals with their results (Salazar et al., 2012). For Carroll (1979), CSP must be regulated in order to establish rules such as the necessity for evaluation, the existence of social questions, and a philosophical response. As observed, the literature on these concepts is interrelated. This research seeks to present CSP as an output issuing from sustainable entrepreneurship. Moreover, as detailed below, this requires measurement and, at this level of analysis, will be evaluated through different factors available from environmental and social databases, as put forward by Xie et al. (2019)

Salazar et al. (2012) relate CSP to the quality and effectiveness of programs adopted by organizations, and for this study, this point is important because it permits this quality to be assessed through consumer needs in sustainable development. In other words, CSP will be considered to exist if the initial problem (social, environmental, or economic) which stimulates the sustainable entrepreneurship process in the beginning is resolved and there is satisfaction of the needed element.

Effectively, to assess CSP, in the data collection process, the practices and scales as recommended by Fiandrino et al. (2019) are adopted.



Social Innovation

Szegedi et al. (2016) explain that the new orientation toward social innovation stems from a need to find solutions for emergent social, environmental, and demographic problems which are unsatisfied by technical innovation defended by an economic perspective:

"Social innovations are new solutions (products, services, models, markets, processes etc.) that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources. In other words, social innovations are both good for society and enhance society's capacity to act" (Grice et al., 2012).

Tardif (2005) considers social innovation to be a novel response for the well-being of individuals and/or communities. It is characterized by its social character and its objective associated with positive social issues. Moreover, Fontan (2004) states that social innovation involves processes which are multifaced and have multiple dimensions, to produce the new or rework what currently exists, with the aim of producing social change at different levels.

Several authors define the concept of social innovation simply by giving a social dimension to innovation (Fontan, 2004) across a new economic approach (Lévesque, et al., 2001) and socio-economic approach (Benko & Lipietz, 2000). Fontan et al. (2003) argue that rather than seeking how innovation works, it is necessary to ask how the new practices induced by innovation can be converted to make the community able to innovate.

Phills et al. (2008) consider that social innovations are actions which address issues in society with greater effectiveness, efficiency, and sustainability than pre-existing approaches to those issues, and from which value creation occurs which benefits social stakeholders over private agents. Meanwhile, Djellal and Gallouj (2012) present fundamental characteristics of social innovation, the first of which is target. They confirm based on Cloutier (2003) that this target can be individual, territorial, or also a company which is seeking the development of its performance. These researchers insist on the immaterial aspect of social innovation generated through a specific process and stakeholders. They identify actors and their own process of generating social innovation. In fact, these processes are often developed locally and in informal way by a variety of actors to solve a social problem.

Based on this, social innovation is considered here to connect with an innovative social activity which responds to needs or desires which the social actor formulates. This action can be related to an organization or community and can modify the social structure. In general, such innovation is related to cultural orientations and new methods of managing social relationships and is exercised to change individual and collective habits.

Added to this, to identify social innovation, its main components must be defined: this type of innovation is a solution for a social problem to a specific target according to a process and must generate social profit as a determinant objective.



Hypothesis

As stated at the beginning of this paper, sustainable entrepreneurship aims to create value through different levels, economic, social, and environmental. To achieve this objective, entrepreneurs adopt a new orientation based on sustainability in terms of products and processes, to address issues in society and the environment (Hall et al., 2010).

Bell and Stellingwerf (2012) indicate that sustainable practices motivate entrepreneurs to achieve their sustainable objective to be a sustainable enterprise because they become able to contribute to solutions for environmental and social problems.

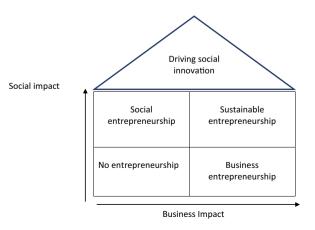
Schaltegger and Wagner (2011) demonstrate that sustainable entrepreneurship assists in addressing environmental and social issues by achieving business success and developing sustainably via company activities which show entrepreneurship. Added to this, they report that sustainable entrepreneurship forms a basis for sustainable innovation which generates added value for society and stakeholders. This reflects the definition of social innovation.

To assess this hypothesis, a knowledge approach and competencies can be adopted. Here, Shevchenko et al. (2016) argue that the development of sustainability as claimed by all stakeholders requires the development of specific competencies. Raderbauer (2011) in this case considers that sustainability knowledge exists and permits entrepreneurs to communicate effective sustainability practices to their consumer and community.

Senge (1990) confirms the link connecting sustainable entrepreneurship with innovation through definition of a specific sustainable entrepreneur profile characterized by the development of creative acts in these individuals' professional life.

Cohen et al. (2004) define sustainable entrepreneurial activities as the key to the success of social objectives in general and social improvements required by stakeholders; it should be mentioned here that the environmental aspect is integrated within this mechanism, but the main interest of this study is the social field. In reference to knowledge, it can be confirmed that the use of sustainable knowledge is effective when the sustainable transition is successful and growth is achieved (Horisch, 2015).

Fig.1 The impact-driven approach of entrepreneurship. Source: Osburg (2013)





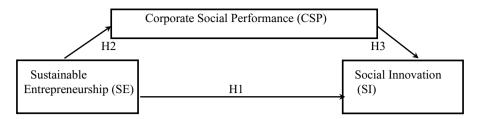


Fig. 2 Research model

Oppenheim et al. (2007) report the development of a corporate sustainability and corporate social performance that are related to innovative activities. Moreover, Carroll (2015) confirms the effect of CSP on corporate ethics and citizenship, management and sustainability for the stakeholder groups who define the sustainable entrepreneurship process as described earlier. Figure 1 presents here can summarize the general idea developed here.

As presented in Fig. 1, a sustainable entrepreneurship corresponds to high business impact and a high societal impact. In this study, high business impact will be viewed through corporate social performance generated by a sustainable entrepreneurship which will ameliorate the level of social innovation. Fig. 2 traces the research model in an operational manner.

Based on the previous analysis, three main hypotheses can be adopted. The main objective is related to the mediating effect of CSP between sustainable innovation and social innovation. So, it is suggested that sustainable entrepreneurship, via specific activities, stimulates corporate social responsibility and generates a higher level of social innovation because it permits the social entrepreneur to better understand the environment and social needs, leading them to try to innovate in order to reduce social problems or issues.

Methodology

The methodology is based on quantitative approach, by the development of a questionnaire distributed to 180 employees, stakeholders and suppliers related to the industrial private sector in Saudi Arabia. The administration of the questionnaire took place through a combination of different strategies depending on the situation: face to face if access was easy and possible, or by mail, and in this case, it was necessary to we were obliged to continue the collection process as needed in order to get data. This process was continued for 3 months.

Definition of the sample and its size relied on specific characteristics such as experience, level of education, and age. These elements were identified through the literature review as control variables.

The data collected was analyzed through SPSS 16.0, with a descriptive analysis performed to understand sample composition, added to an exploratory approach to verify the multidimensionality and implicit composition of the variable.



Results and Discussion

The mediating effect was then addressed using Amos 16. A test related to the measurement model was performed, added to a structural analysis to verify the mediation effect developed in this study. It is important to remember that SE is treated as an independent variable, CSP as mediating variable, and SI as a dependent variable. To verify the mediating effect, following the recommendations of Baron and Kenny (1986), the link between SE and CSP in the first step must be verified, then the relation between SI and CSP, and in the last test step, the link between SE and CSP, which must be ameliorated by the existence of CSP if this is effectively a mediating variable.

To measure SE, it is necessary to refer to Dai et al. (2018). SE as independent variable is represented by the five determinants SEIM, SEEM, SEOR, KRA, and SEO, which respectively represent: sustainable entrepreneurship intrinsic motivation, sustainable entrepreneurship extrinsic motivation, sustainable entrepreneurship opportunity recognition, knowledge resources acquirement, and sustainable entrepreneurship outcome. All items were developed by Dai et al. (2018) except for those attached to SEOR, which were derived from Chandler and Jansen (1992, cited in Dai et al., 2018). The items for each determinant are detailed in Table 1.

Social innovation (SI) is considered through 25 items developed by Bulut et al. (2013) and detailed in Table 2. As item 25 did not align with the study context, this was deleted based on the pre-testing stage.

CSP, being a multidimensional concept, will be evaluated through three dimensions: CSP of employees, community, and suppliers available, appreciated by adopting a binary tool to measure these variables (0 if No and 1 if Yes) (Garcia et al., 2017). Table 3 presents items related to this variable (the dependent variable).

As discussed below, an exploratory factor analysis (EFA) was performed using 16.0. A principal component analysis was established using rotation (Varimax

Construct	Dimension	Items	Loafing	Variance	Alpha
Sustainable entrepreneurship (SE)	Sustainable Entrepreneurship Intrinsic Motivation (SEIM)	SEIM 1 SEIM 2 SEIM 3	0.47 0.51 0.55	Deleted	Deleted
	Entrepreneurship Extrinsic Motivation (SEEM)	SEEM 1 SEEM 2 SEEM 3 SEEM 4 SEEM 5 SEEM 6	0.58 0.61 0.71 0.77 0.80 0.60	11%	0.87
	Knowledge Resources Acquirement (KRA)	KRA 1 KRA 2 KRA 3	0.51 0.66 0.78	18%	0.71
	Sustainable Entrepreneurship Outcome (SEO)	SEO 1 SEO 2 SEO 3	0.77 0.64 0.41	Deleted	Deleted

Table 1 Dimensions of the independent variable, SE



Table 2	Items	for	the	dependent
variable				

Construct	Items	Loading	Alpha
Social Innovation	SI 1	0.55	0.71
(SI)	SI 2	0.78	
	SI 3	0.66	
	SI 4	0.67	
	SI 5	0.53	
	SI 6	0.58	
	SI 7	0.63	
	SI 8	0.77	
	SI 9	0.48	
	SI 10	0.51	
	SI 11	0.75	
	SI 12	0.81	
	SI 13	0.59	
	SI 14	0.69	
	SI 15	0.65	
	SI 16	0.54	
	SI 17	0.59	
	SI 18	0.49	
	SI 19	0.57	
	SI 20	0.48	
	SI 21	0.71	
	SI 22	0.73	
	SI 23	0.46	
	SI 24	0.41	

rotation). The results reported for each construct are represented separately (Tables 1, 2, and 3).

For all scales, communalities are greater than 0.6, and items with a low contribution were deleted (1 item for SI, 2 for sustainable entrepreneurship) in line with the recommendations of MacCallum et al. (2001). The Kaiser–Meyer–Olkin (KMO), which represents the adequacy of the sample for variables, was calculated. In relation to this, Hair et al. (2014) set a range of 0.7 as acceptable. Added to this, explained variance is measured and discussed in terms of percentages up to 60%, as discussed by Hair et al. (2014).

The component analysis factor reveals that sustainable entrepreneurship is represented by only three axes. The first, at 17%, represents knowledge acquirement (KA). The second is entrepreneurship extrinsic motivation (SEEM), with 11%, and the third is sustainable entrepreneurship opportunity recognition (SEOR), at 8%. The remainder of the dimensions was deleted because they did not seem to be representative for the sample. The Cronbach's alphas related to these dimensions are shown in Table 1 and are all accepted.



Construct	Variable	Dimension	Nature of Variable	Frequencies
CSP	CSP employees	CSPE 1	0/1	1: 23% 0: 77%
		CSPE 2	0/1	1: 10% 0: 80%
		CSPE 3	0/1	1: 34% 0: 66%
		CSPE 4	0/1	1: 41% 0: 59%
		CSPE 5	0/1	1: 14% 0: 86%
	CSP supplier	One dimension	0/1	1: 30% 0: 70%
	CSP community	One dimension	Quotient between total spending and the number of employees	

Table 3 Description of the mediating variable

Social innovation (SI) is unidimensional. Only one axis is retained, which represents 26% of the total variance explained, while the others represent only an average of 1%. At this level, items related to this axis are maintained, and the rest are deleted. The underlined items in Table 1 are all deleted.

The multidimensionality of CSP is confirmed, and the use of the indicators related to this variable must be considered. The descriptive analysis demonstrates that the sample allows the use of four indicators. Only one indicator was deleted, which is corporate social responsibility for community. This indicator was not recognized by the respondents in this study.

At this point, it is necessary to examine the reliability of each construct through Cronbach's alpha, which must be above 0.7 (Nunnally, 1978). Its values range from 0.801 to 0.911 and so demonstrate reliability.

The next step was the confirmatory factor analysis by AMOS 24 to assess the convergent validity of constructs toward (AVE) which must exceeds 0.5 as recommended by Fornell and Larcker (1981).

After this, a structural equation model was used to analyze date and hypothesis test. This method was selected for multiple reasons. First, the model contains several variables measured by a great number of items, and this method can provide interesting results for this type of concept (Hair et al., 2014). Second, one step of this analysis is based on the assessment of a measurement and structural model with a specific fit index and at the same time. Third, the limited number of respondents is better analyzed through this method based on variance compared with covariance on reduced size.

Table 4 Fit index

Chi-square	ddl	RMSEA	GFI	RMR	CFI
38.90	17	0.075	0.96	0.041	0.96



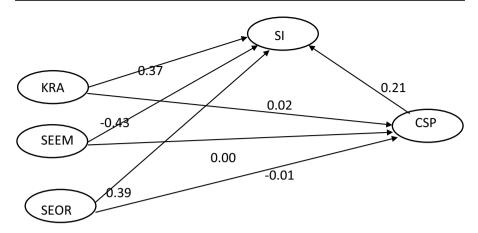


Fig. 3 Structural equation model results

In other words, a measurement model was tested to understand the quality of different scales used to measure variables as a first step. After this, the structural model was addressed, based on the hypothesis presented and conceived in the first part of this paper through a deep literature review. The hypothesis is accepted if p value <0.05.

The quality of the structural model is assessed by R square which for SI was 0.559, for SE was 0.305, and for CSP 0.432, each being > 0.1 as per the recommendations of Hair et al. (2014).

The fit index related to this structural model is presented in Table 4.

The majority of values are significant; the goodness of the structural model can be accepted. Figure 3 shows the results of the structural test and the robustness of different relationships (hypothesis).

H1.1 and H1.2 predict the existence of a positive and significant effect between SE dimensions and SI. Only two dimensions related to sustainable entrepreneurship seems to be significant in this model: entrepreneurship extrinsic motivation (SEEM) and knowledge resources acquirement (KRA). Indeed, a positive link was found between structural SEEM (β =0.34, p<0.001), KRA (β =0.37, p<0.01), and SI (β =0.21, p=0.047) on CSP.

However, SEOR is not significantly linked to SI, and the effect seems to be negative (p > 0.05). H1.3 is rejected. H3 is accepted, and the link between CSP and SI is significant. The problem is with hypothesis 2, which integrates SE and CSP. This link exists, and it is significant, but not strong enough. Only knowledge resources acquirement (KRA) as a dimension of SE affects CSP. This may be related to the importance of resource exploitation to define performance. Added to this, the results confirm the importance of RBV theories related to the role of intangible resources such as knowledge on performance.

The mediation effect is verified in four steps, as recommended by Baron and Kenny (1986). In addition, a non-parametric bootstrapping approach as defined by Hair et al. (2014) helped to verify the mediating effect.



Here, the effect of SE on SI must be tested without consideration of CSP. In this case, the structural model is representative (β =0.401, p<0.001). The CSP is then integrated into this relationship, and it is assumed that it will absorb the direct impact identified previously (Hair et al., 2014).

Mediation is accepted, and H4 is confirmed. Total mediation exists for KRA, and partial mediation between SEEM and SI is also relevant.

Figure 3 summarizes the structural equation model results. The mediating effect offered by CSP is confirmed for KRA and SEOR. This means that there is an indirect effect between SE and SI through CSP.

This research aims to highlight the effect of corporate social performance on social innovation through sustainable entrepreneurship. It is suggested that sustainability actions can guarantee a high level of corporate social performance and so stimulate social innovation to address social needs and problems. In this regard, this study can be considered as among primary research interested in social innovation through a quantitative-social measure. The mediating effect of the CSP is verified and seems significant. The findings, in general, converge with a societal approach of innovation.

Conclusion and Policy Implications

The objective here was to study and understand the link between sustainable entrepreneurship and social innovation through corporate social performance. In doing this, a new issue was addressed related to an integrative approach between three main values: sustainable, social, and corporate. Usually, performance is considered as a final output of the majority of research, but in this case, it was considered as a mediating variable which permits the transition from sustainability to social aspects. Here, there was an attempt to make entrepreneurial action as durable as possible: to generate performance and innovation at the social level, as one of the most important elements related to the sustainable development.

The originality of this work compared to previous research is in the adequacy between three heterogeneous variables: the first is related to entrepreneurship and durability, while the second is relevant to performance and social aspects, and the last is attached to innovation and social aspects. In general, researchers in innovation are looking for a foundation to generate innovation. In the current case, this foundation is available through performance: not economic, but social performance and corporate social performance between the organization and the society. This can make a great difference because this process is auto controlled: to be durable, it is essential to generate profit and ensure perpetual communication with social improvement to satisfy new needs, in this case, and based on the findings, it is recognized that a guarantee of performance in a corporate sense with relation to society can push forward social innovation through evidence.



This research presents a deeper understanding of the entrepreneurial mechanism and innovation in social terms. The empirical findings demonstrate that a synergetic effect exists in spite of the apparent divergence between the variables selected in the conceptual model. Moreover, a new consideration of performance as a mediating variable is confirmed. This provides a new insight for performance experts in revising the determinant character of this concept. While this new conception is approached through specific concepts, it is revealed that performance can be enlarged to combine a social effect more important than the restrictive economic aspect within the organization. Performance at this level of analysis has external and internal aspects. The general results can be summarized as follows: an entrepreneurial activity can be sustained for a long time where social aspects are integrated into the vision in terms of shared (corporate) performance and innovation.

In terms of managerial implications, the study provides directives for decision-making on corporate vision. First, it is necessary to integrate a sustainable approach into entrepreneurial behavior in order to maximize outputs. In this sense, the appropriate entrepreneurial activity must be chosen, considering sustainable development dimensions. Second, the performance generated by this entrepreneurial activity must be correlated with social performance through a common interest between organization and society. So, economic performance in itself becomes one of the different types of performance measures, but the main reference is still social performance, because if it is properly defined, economic performance will be evident. Third, this combination integrates sustainable development objectives at the level of the organization, society, and economics in terms of different mechanisms which vary from economic to social. Fourth, organizations looking to improve performance effectiveness have to change their frame of reference in making decisions: a shifting perspective on social objectives and needs must be integrated from the beginning: it is a necessity, not simply an option.

In spite of this, this research presents some limitations. First, the number of respondents needs to be enlarged in order to maximize the opportunity for application and generalization of results. Thus, the size and nature of the sample could be revisited. Second, the scales used for measuring the variables could be improved through qualitative research, to generate more appropriate and updated item from another perspective. Third, integrating control variables such as sector of activity, size, and experience into the research could provide new evidence and in fact would lead to more interesting classifications of sustainable entrepreneurship because the nature of the contribution may depend on other criteria, or certain criteria may be more important in some contexts. Nevertheless, some variables may exist which can mediate and/or moderate the effect of sustainable entrepreneurship and social innovation.

These variables will be incorporated into further studies to investigate an ameliorative process in this field of research, as discussed in this study. Finally, a crosscultural study or a comparative study could shed light upon hidden facets of this idea.



References

- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182
- Bell, J. & Stellingwerf, J. (2012). Sustainable entrepreneurship: the motivations and challenges of sustainable entrepreneurs in the renewable energy industry. Master's Thesis, Jonkoping International Business School, Jonkoping. Sweden
- Belz, F. M., & Binder, J. K. (2017). Sustainable entrepreneurship: a convergent process model. *Business Strategy and the Environment*, 26(1), 1–17
- Benko, G., & Lipietz, A. (2000). La richesse des régions. Presses Universitaires de France
- Boons, F. & Lüdeke-Freund, F. (2013). Business models for sustainable innovation: state-of-the-art and steps towards a research agenda. *Journal of Cleaner Production*, 45, 9–19. Retrieved from https://doi.org/10.1016/j.jclepro.2012.07.007
- Bulut, C., Hakan, E., & Duygu Seckin, H. (2013). Social innovation and psychometric analysis. Procedia - Social and Behavioral Sciences, 82, 122–130
- Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. Academy of Management Review, 4(4), 497–505
- Carroll, A. B. (2015). Corporate social responsibility (CSR) is on a sustainable trajectory. *Journal of Definition Management*, 5, 132. https://doi.org/10.4172/2167-0374.1000132.
- Chandler, G. N., & Jansen, E. (1992). The founder's self-assessed competence and venture performance. *Journal of Business Venturing*, 7(3), 223–236
- Clarkson, M. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. Academy of Management Review, 20(1), 92–117
- Cloutier, J. (2003). Qu'est-ce que innovation sociale? Cahiers du CRISES, Collection Working papers, no.0314. Centre de recherche sur les innovations sociales
- Cohen, B., & Winn, M. I. (2007). Market imperfections, opportunity and sustainable entrepreneurship. *Journal of Business Venturing*, 22(1), 29–49. https://doi.org/10.1016/j.jbusvent.2004.12.001
- Cohen, D. A., Dey, A., & Lys, T. (2004). Real and Accrual-Based Earnings Management in the Pre- and Post-Sarbanes Oxley Periods. *The Accounting Review*, 83. https://doi.org/10.2139/ssrn.813088.
- Crals, E., & Vereeck, L. (2007). Sustainable entrepreneurship in SME's. Theory and Practice
- Dai, S., Xue, H., Jiang. Y., Zhang, W. & Zhang, X. (2018). Sustainable entrepreneurship team scale development: a complex systems perspective. Sustainability, 10, 4199. https://doi.org/10.3390/su10114199
- Djellal, F., & Gallouj, F. (2012). Innovation sociale et innovation de service: première ébauche d'un dialogue nécessaire. *Innovations. Cahiers d'économie de l'innovation*, 2(38), 37–66
- Eller, F. J., Gielnik, M. M., Wimmer, H., Thölke, C., Holzapfel, S., Tegtmeier, S., & Halberstadt, J. (2020). Identifying business opportunities for sustainable development: longitudinal and experimental evidence contributing to the field of sustainable entrepreneurship. *Business Strategy and the Environment*, 29(3), 1387–1403. https://doi.org/10.1002/bse.2439
- Fiandrino, S., Devalle, A., & Cantino, V. (2019). Corporate governance and financial performance for engaging socially and environmentally responsible practices. *Social Responsibility Journal*, 15(2), 171–185
- Fichter, K., & Tiemann, I. (2020). Impacts of promoting sustainable entrepreneurship in generic business plan competitions. *Journal of Cleaner Production*, 267, 122076. https://doi.org/10.1016/j.jclepro. 2020.122076
- Fontan, J. M. (2004). Innovation et société: pour élargir l'analyse des effets territoriaux de l'innovation. Géographie, économie, société, 2(6), 115–128
- Fontan, J. M., Klein, J. L., & Lévesque, B. (2003). Reconversion économique et développement territorial: le rôle de la société civile. Presses de l'Université du Québec
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50
- Gagnon, M. A. (2012). Sustainable minded entrepreneurs: developing and testing a value-based framework. *Journal of Strategic Innovation and Sustainability*, 8(1), 9–25
- Garcia, E. A., Sousa-Filho, J. M., & Gama Boaventura, J. M. (2017). The influence of social disclosure on the relationship between corporate financial performance and corporate social performance. Accounting and Finance Review, 29(77), 229–245



- Graham, P. J. (2010). Testimonial entitlement and the function of comprehension. In A. Haddock, A. Millar, & D. Pritchard (Eds.), *Social Epistemology*. Oxford: Oxford University Press
- Grice, J. C., Davies, A., Robert, P., & Norman, W. (2012). The Young Foundation social innovation overview. A deliverable of the project: the theoretical, empirical and policy foundations for building social innovation in Europe" (TEPSIE), European Commission-7th framework Programme. Brussels: European Commission, DG Research
- Hair, J. F., Hult, G. T., Ringle, C., & Sarstedt, M. (2014). A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications
- Hall, J. J. K., Daneke, G. A. G., & Lenox, M. J. M. M. J. (2010). Sustainable development and entrepreneurship: past contributions and future directions. *Journal of Business Venturing*, 25(5), 439–448
- Horisch, J. (2015). The role of sustainable entrepreneurship in sustainability transitions: a conceptual synthesis against the background of the multi-level perspective. *Administrative Sciences*, *5*(4), 286–300. Retrieved from https://doi.org/10.1016/j.jclepro.2012.07.007
- Kai, H., & Wüstenhagen, R. (2010). Greening Goliaths versus emerging Davids—theorizing about the role of incumbents and new entrants in sustainable entrepreneurship. *Journal of Business Venturing*, 25, 481–492
- Krueger, N. F. (2005). Sustainable entrepreneurship: broadening the definition of opportunity. 19th National Conference of United States Association for Small Business and Entrepreneurship (USASBE), California, USA
- Lévesque, B., Bourque, G. L., & Forgues, E. (2001). La nouvelle sociologie économique. Desclée de Brouwer
- MacCallum, R. C., Widaman, K. F., Preacher, K. J., & Hong, S. (2001). Sample size in factor analysis: the role of model error. *Multivariate Behavioral Research*, *36*, 611–637
- Majid, I. A., & Koe, W. L. (2012). Sustainable entrepreneurship (SE): a revised model based on triple bottom line (TBL). *International Journal of Academic Research in Business and Social Sciences*, 2(6), 293–310
- Majid, I. A., Kamaludin, M. H., Saad, M. S. M., & Aziz, N. A. (2012). Sustainability-driven entrepreneurship: the mediating effect of opportunity-based management structure on the relationship between entrepreneurial orientation and environmental sustainability management of SMEs: a conceptual framework. European Journal of Business and Management, 4(13), 148–155
- Matten, D., & Moon, J. (2008). "Implicit" and "explicit" CSR: a conceptual framework for a comparative understanding of corporate social responsibility. Academy of Management Review, 33(2), 404–424
- Muñoz, P., & Cohen, B. (2018). Sustainable entrepreneurship research: taking stock and looking ahead. Business Strategy and the Environment, 27(3), 300–322. https://doi.org/10.1002/bse.2000
- Nunnally, J. (1978). Psychometric methods. (3rd ed.). McGraw-Hill
- Oppenheim, J., Bonini, S., Bielak, D., Kehm, T., & Lacy, P. (2007). Shaping the new rules of competition: UN Global Compact Participant Mirror. McKinsey & Company
- Osburg T. (2013). Sustainable entrepreneurship: a driver for social innovation. In: Weidinger C., Fischler F., Schmidpeter R. (eds), *Sustainable Entrepreneurship. CSR*, *Sustainability*, *Ethics & Governance*. Berlin: Springer
- Phills, J. A., Deiglemeier, K., & Miller, D. T. (2008). Rediscovering social innovation. Stanford Social Innovation Review, 6(4), 33–43
- Raderbauer, M. (2011). The importance of sustainable business practices in the Viennese accommodation industry. Master's Thesis, University of Exeter
- Rodgers, C. (2010). Sustainable entrepreneurship in SMEs: a case study analysis. Corporate Social Responsibility and Environmental Management, 132(March), 125–132. Retrieved from https://doi. org/10.1002/csr.223
- Salazar, J., Husted, B. W., & Biehl, M. (2012). Thoughts on the evaluation of corporate social performance through projects. *Journal of Business Ethics*, 105(2), 175–186
- Schaltergger, S., & Burrit, R. (2014). Measuring and managing sustainability performance of supply chain: review and sustainability chain management framework. Supply Chain Management, 19(3), 232-241.
- Schaltegger, S., & Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: categories and interactions. *Business Strategy and the Environment.*, 20, 222–237
- Schaltegger, S., & Wagner, T. (2008). Types of sustainable entrepreneurship and conditions for sustainability innovation: from the administration of a technical challenge to the management of an entrepreneurial opportunity. In R. Wüstenhagen, J. Hamschmidt, S. Sharma, & M. Starik (Eds.), Sustainable Innovation and Entrepreneurship. (pp. 27–48). Edward-Elgar.



- Schlange, L. E. (2006). What drives sustainable entrepreneurs? 3rd Applied Business and Entrepreneurship Association International (ABEAI), Conference, Kona, Hawaii
- Senge, P. M. (1990). The fifth discipline: the art and practice of the learning organization. Doubleday/ Currency
- Shevchenko, A., Levesque, M., & Pagell, M. (2016). Why firms delay reaching true sustainability. *Journal of Management Studies*, 53(5), 911–935
- Szegedi, K., Fülöp, G., & Bereczk, A. (2016). Relationships between social entrepreneurship, CSR and social innovation: in theory and practice. World Academy of Science, Engineering and Technology International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering 10(5)
- Tardif, C. (2005). Complémentarité, convergence et transversalité: la conceptualisation de l'innovation sociale au CRISES. Cahier du CRISES
- Terán-Yépez, E., Marín-Carrillo, G. M., del Pilar Casado-Belmonte, M., & de las Mercedes Capobianco-Uriarte, M. (2020). Sustainable entrepreneurship: review of its evolution and new trends. *Journal of Cleaner Production*, 252, 119742. https://doi.org/10.1016/j.jclepro.2019.119742
- Tilley, F., & Young, W. (2009). Sustainability entrepreneurs: could they be the true wealth generators of the future? *Greener Management International*, 55, 79–92
- Turban, D., & Greening, D. (1996). Corporate social performance and organizational attractiveness to prospective employees. *Academy of Management Journal*, 40(3), 658–672
- Vuorio, A. M., Puumalainen, K., & Fellnhofer, K. (2018). Drivers of entrepreneurial intentions in sustainable entrepreneurship. *International Journal of Entrepreneurial Behavior and Research*, 24(2), 359–381
- Wei-Loon, K., Roaimah, O. & Juan, R. S. (2015). Factors influencing propensity to sustainable entrepreneurship of SMEs in Malaysia. Global Conference on Business & Social Science-2014, GCBSS-2014, 15th & 16th December, Kuala Lumpur, Procedia - Social and Behavioral Sciences, 172(2015), 570–577
- Wood, D. J. (1991). Corporate social performance revisited. Academy of Management Review, 16(4), 691–718. https://doi.org/10.5465/AMR.1991.4279616
- World Business Council for Sustainable Development (2012). Annual review, Greece
- Xie, J., Nozawa, W., Yagi, M., Fujii, H., & Managi, S. (2019). Do environmental, social, and governance activities improve corporate financial performance? *Business Strategy and the Environment*, 28(2), 286–300

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