

Article

An Explanatory Study of MBA Students with Regards to Sustainability and Ethics Commitment

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Abstract: (1) Background: The consequences of the recent economic crisis have shown the need for promoting certain key skills in future entrepreneurs to create enterprises that are capable of producing added value, generating employment and remaining solvent or growing in a competitive and highly volatile environment. Therefore, the issue is not simply a matter of creating more businesses, but rather, a model based on organizations with strong sustainable values in the long term. (2) Methods: The originality and new approach of this article is to establish, through an empirical approach, the link between the entrepreneurial skills and environmental and social commitment in times of crisis. Based on the analysis of a questionnaire answered by MBA students and using structural equation modelling, the relation between entrepreneurial skills, social and environment commitment are tested. (3) Results: The statistical analysis proved the existence of a positive relation between entrepreneurs' skills and environmental and social commitment pointing out the importance of sustainability commitment as a source of high added value activities. (4) Conclusion: The paper demonstrates that investing in the promotion of entrepreneurial skills in education systems has positive effects on how future entrepreneurs will manage their firms. Therefore, this sustainably depends on the present education policies.

Keywords: entrepreneurship skills; social commitment; environmental commitment; sustainability; ethics

1. Introduction

The consequences of the recent economic crisis have shown the need for promoting certain key skills in future entrepreneurs to create enterprises that are capable of producing added value, generating employment and remaining solvent or growing in a competitive and highly volatile environment. Such an example is the European Commission's statement, which in mid-2009, already considered that developing an economic, social and educational environment that fostered entrepreneurial skills among young people and that provided a proper environment for entrepreneurship was the main action plan to combat youth unemployment [1]. To that end, countless measures have gone into effect in Spain, with more or less success, starting with Act 14/2013 of Support to Entrepreneurs and Investors (*Ley de Emprendedores*) promoted by the Government of Zapatero and ending with a large number of programs of study and university studies adapted and more oriented to the labor market and entrepreneurship [2–4].

However, in taking a first glance at the media, one may observe that the global economic and financial crisis has resulted in a marked crisis of values, a certain lack of ethics and, in some cases, a significant disregard for the legal, environmental and even social setting [5–9].

International cases, such as Volkswagen (prosecution falsifying pollution levels in some of their models) and Lehman Brothers (product commercialization without any ethical consideration), or national cases, such as Bankia (they sold toxic financial products), highlight that, in times of crisis, certain business leaders place their self-interest above the interests of other stakeholders and, naturally, above those of the general public. They prioritize results based on individual benefits over stakeholder or customer interests, with scarce considerations in terms of sustainability or ethics. This phenomenon is the so-called short-term culture [10–13]. Therefore, the issue is not simply a matter of creating more businesses, but rather, a model based on organizations with strong sustainable values in the long term.

Confronting this dichotomy, the present study aims to clarify the effects of promoting entrepreneurial skills in future leaders and, more precisely, to observe whether, in a crisis environment, negative consequences prevail in the form of short-termism for the future entrepreneur/manager or, on the contrary, whether entrepreneurial skills have a positive effect on the future entrepreneur/manager's perception as regards managerial sustainability, which is defined as the achievement of economic goals that are socially and environmentally responsible [14–16].

A survey was developed and distributed to contrast the present theory. A total of 339 students who had taken a Master's of Business Administration (MBA) in 2013–2014 and 2014–2015 responded to this survey; they were asked about relevant aspects related to entrepreneurial skills, the commitment to the environment and the commitment to society. It is precisely in this respect that the present study adds value to the existing academic literature. [17] emphasize the scarcity of studies relating entrepreneurial skills to social and environmental values in different environments and the lack of articles focused on sustainable entrepreneurship from the perspective of the organizational leader's skills and values instead of the traditional managerial perspective.

MBA students present a suitable profile for performing this type of study, because their academic background is very diverse, and additionally, once they finish their studies, they typically perform tasks in which entrepreneurial skills are very present [18], either because some of the MBA students decide to create their own business or because they tend to be employees occupying executive positions. The analysis of aspects related to skills and entrepreneurial initiative has already been explained in prior studies with MBA students [19–22].

This article makes a series of original contributions to research conducted in different ways. First, the study analyzes the impact of entrepreneurial skills on the disposition to begin a sustainable business venture. Second, it also analyzes a group destined to be an essential part of the future business sector: MBA students. Third, it performs an empirical study in a crisis environment. Fourth, the study incorporates a methodological novelty by utilizing a second-order construct that adds the primary entrepreneurial skills to the model to contrast. Fifth and finally, it introduces future lines of research that, to date, have not been addressed and may provide useful and necessary information for a proper definition of the public policies intended to promote the creation of sustainable enterprises.

The rest of the article is organized as follows. Section 2 offers a literature review regarding entrepreneurial skills and sustainability. Section 3 describes the methodology through an empirical study. Section 4 presents a quantitative analysis. The last section of this document is devoted to the analysis of the obtained results, the conclusions based on the empirical study and the proposals for future lines of research.

2. Literature Review

2.1. Entrepreneurial Skills in a Crisis Environment

Economic crises are a recurring subject in economics [23]. They are characterized by periods of limited growth, recession or stagnation of the GDP (gross domestic product), with consequences in the distribution of resources and a range of social effects [24].

During the years 2008 and 2009, the global economy experienced its most severe financial crisis since the 1930s [25–27]. This recession led to the collapse and government bailout of some of the most important financial institutions in Europe and the U.S., in some cases, forcing the partial nationalization of these institutions, in addition to the reformulation of the main monetary and fiscal policy programs and the adoption of structural measures [28,29].

The effects of this crisis have been thoroughly studied in the literature, although there is no consensus on establishing how the economic crisis affects entrepreneurial activities. According to [24], the crisis situation may act as an agent of change for discovering new opportunities and generating innovation. However, for other authors, such as [30], crisis situations negatively affect entrepreneurial attitude, reducing the recognition of new opportunities and the investment in innovation; therefore, one of the characteristics observed is the decline in entrepreneurship in these moments of crisis [31].

Other studies regarding the crisis conclude that, in times of deep recession, businesses adopt a series of internal measures to maintain their profitability [32] and ensure their long-term survival. Some of the internal measures described by [32] are imitated by entrepreneurs who create enterprises in times of crisis [33].

In addition to the internal measures, several external factors favor the creation of enterprises in certain areas and cities, such as policies supporting entrepreneurial initiative [34]

To outline policies that foster entrepreneurship [4], one must be aware of basic competences, so that entrepreneurs can perform their role efficiently. In this context, a thorough understanding of such skills helps guide educational policies and curricula, taking into account the growing weight of the subjects and content related to the entrepreneur's skills and the entrepreneurial projects not only in business schools and economics and business faculties, but also in the field of science [2,3,21].

Due to the increasing significance of entrepreneurship in the educational system, the question that arises is which entrepreneurial skills are required and which educational approach is the best. In one of his most cited studies on entrepreneurial skills, [18] concludes that, for the entrepreneur to be successful in an entrepreneurial initiative process, he or she does not require a single skill, but a set of skills that should show a certain balance amongst them. Amongst these required competences, three major entrepreneurial skills, recognized by the academic literature, can be distinguished. [35] propose three basic skills that are necessary to perform a successful entrepreneurial task. One skill is the competency of alertness, which measures the entrepreneur's ability to recognize new business opportunities where others cannot identify them. The second is the creative competency, which measures the ability to provide a different and innovative approach when faced with a new problem; and finally, there is self-consciousness, which is a competency of self-criticism and the ability to evaluate your own ideas and the ideas of others with the aim of improving.

The available empirical evidence shows that students who possess such entrepreneurial skills generally obtain more rapid entry into the job market than those who do not possess them, added to the fact that their positions match their academic and competency-based profile, reducing youth unemployment generated by the economic crisis [4].

Therefore, based on the existing literature, the following hypotheses are proposed:

H1: Creativity is a part of the basic competencies that an entrepreneur should possess, and therefore, it has a direct and positive effect on entrepreneurial skills.

H2: Alertness is a part of the basic competencies that an entrepreneur should possess, and therefore, it has a direct and positive effect on entrepreneurial skills.

H3: Self-consciousness is a part of the basic competencies that an entrepreneur should possess, and therefore, it has a direct and positive effect on entrepreneurial skills.

2.2. Sustainability

Sustainability references the transformation of an organization's management model towards the achievement of economic goals in a socially- and environmentally-responsible manner [14,16].

Management is not any more about trying to maximize profits. Some practices by managers during the financial crisis without taking into account environmental and ethical considerations have been overwhelmingly rejected by the society. There is an increasing demand for leadership and management that considers social objectives and includes in the definition of the company aims some related to the environment. Through their innovations and business practices, businessmen and entrepreneurs with a profound sensitivity to sustainability have an impact on greater social awareness about other ways of managing and determining organizational goals [17]. The introduction of environmentally-responsible objectives and social aims into their business facilitates long-term sustainability and has positive effects on customers and society. Therefore, the term sustainable entrepreneurship has been introduced to refer to entrepreneurs who incorporate these concerns into their way of acting.

Sustainable development is characterized by activity that is less focused on models of management and technical procedures and more oriented toward personal initiative and the individual or entrepreneurial group skills to achieve corporate success and social change through social and environmental innovation [14,36]. Therefore, in addition to their entrepreneurial skills, sustainable entrepreneurs should possess an environmental and social consciousness [37]. The combination of entrepreneurial skills and environmental and social commitment enables sustainable entrepreneurs to consider their professional life as a creative act [38]. In addition, these entrepreneurs possess the capacity to modify and prioritize organizational goals so that social and environmental objectives become a relevant part of the organizational objectives. Consequently, sustainable entrepreneurship is performed by innovative businesses that offer products and services with social and environmental benefits to a specific portion of the market who value these benefits [39], for example green consumers [40].

Sustainable entrepreneurship includes both social and environmental aspects, and both have been analyzed by the existing academic literature. On the one hand, the literature on social entrepreneurship defines it as the achievement of social objectives and its financing [41–49], thus contributing to solving social problems and creating value for society [17]. On the other hand, the literature on environmental entrepreneurship defines it as the search for profitable business opportunities that solve environmental problems [50–54]. Both social and environmental entrepreneurs have effects that go beyond their business, playing the role of social change agents, as well.

This type of entrepreneurship has recently emerged as a managerial initiative that contributes to sustainable development, including both social and environmental aspects [55–59].

However, contrary to the above-mentioned literature regarding sustainability, there are certain studies that state that, in times of crisis, short-term goals related to personal survival prevail over ethical, social or environmental aspects [10–13].

Therefore, based on the contribution made by most of the existing literature, future managers should possess entrepreneurial skills and environmental and social commitment, which contribute to the sustainability of the firm. Accordingly, the following hypotheses are proposed:

H4: The entrepreneurial skills possessed by entrepreneurs have a direct and positive effect on their environmental commitment.

H5: The entrepreneurial skills possessed by entrepreneurs have a direct and positive effect on their social commitment.

To summarize, Figure 1 displays the model to be contrasted. The model suggest the existence of a relation between entrepreneurial skills that can be understood as a combination of at least three

different skills (creativity, alertness and self-consciousness); and environmental and social commitment by entrepreneurs and managers. The existence of such a relation would be important because firm performance and community welfare increase when firms make a decision and define strategies including these two dimensions.

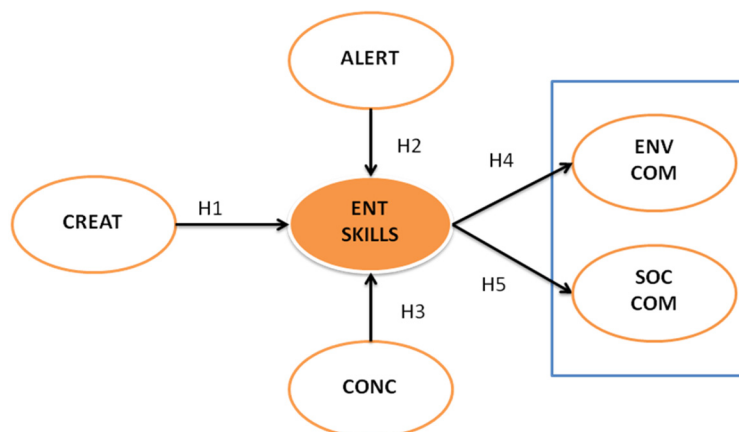


Figure 1. Model to be contrasted. CREAT, creativity; CONC, self-consciousness; ENV, environment; ENT, Entrepreneurial; SOC, social; COM, commitment.

3. Methodology

3.1. Sample and Data Collection

With the aim of contrasting the hypotheses noted above, a sample of 339 students who obtained a Master's in Business Administration (MBA) at Spanish universities during the 2013–2014 and 2014–2015 academic years has been analyzed. In the academic literature regarding entrepreneurship, it is commonplace to utilize MBA students as study subjects because these students have chosen studies that allow them to hold managerial and decision-making positions, and they are supposed to embark on entrepreneurial efforts for themselves or for others. As examples of the academic literature using MBA students to contrast the entrepreneurial hypotheses, the authors who can be cited include [19,20]. In terms of academic studies, work experience and scope of employment, the main characteristics of the students in the sample are displayed in Table 1.

Table 1. Profile of survey respondents.

Variable	N = 339
Age: mean	38
Education level:	
- University degree/Bachelor's degree	78.59%
- Master's or Ph.D.	18.24%
- Other	3.17%
Work experience:	
- <1 year	10.03%
- Between 1 and 5 years	19.77%
- Between 5 and 10 years	54.62%
- >10 years	15.58%
Current job:	
- Executive team	65.49%
- Entrepreneurs/other	34.51%

These students completed a survey composed of different items that intended to value the different skills that an entrepreneur should possess, in addition to the social and environmental commitment of each respondent, all in accordance with the relevant academic literature in this area. The design of the survey took into account prior surveys documented by the academic literature. Answers to the questions are established according to a 7-point Likert scale with values ranging from 1–7, 7 being the highest degree of identification with the proposed question. Table 2 displays the mean values for the different questions that help define the three skills under consideration and social and environmental commitment.

Table 2. Measures of the variables that form the model.

Dimension	Code	Definition	Average
Alertness	ALERT1	Frequent interactions with third parties to acquire new information	4.51
	ALERT2	I pay attention to new business opportunities	4.66
	ALERT3	I actively search for new information	5.00
	ALERT4	I maintain ongoing contact with resource centers (chambers of commerce, business incubators, etc.)	4.23
Creativity	CREAT1	My point of view is often different from that of others	4.78
	CREAT2	I often provide new ideas and approaches for different problems	4.75
	CREAT3	I see relationships between parts that are apparently unrelated	4.62
	CREAT4	I am good at connecting different points of view	4.27
Self-Awareness	CONC1	Detecting business opportunities is inherent to my personality	4.84
	CONC2	I have an intuition regarding potential opportunities	3.59
	CONC3	I can distinguish between profitable and unprofitable opportunities	4.63
Social Commitment	SOC COM1	I strongly believe in job preservation and the positive effect of a good work environment	5.81
	SOC COM2	I believe businesses should offer equal compensation to people who perform the same task	5.41
	SOC COM3	Businesses should be committed to their community	4.86
Environmental Commitment	ENV COM1	I do not understand a business that does not have a sustainable environmental approach	5.14
	ENV COM2	Employees should be trained and encouraged to promote positive environmental initiatives	4.66
	ENV COM3	I believe in environmental marketing	4.54
	ENV COM4	Businesses should quantify environmental savings and costs	5.37

3.2. Measures

The literature review has helped determine the variables that compose the model to contrast; thus, the different items have been grouped in Table 2, measuring each variable according to the items detailed below:

- Alertness (ALERT): frequent interactions with third parties to acquire new information; being alert to new business opportunities; and active search for information and ongoing contact with resource centers related to entrepreneurship, such as chambers of commerce, business incubators, universities, Research Results Transfer Offices, etc.
- Creativity (CREAT): the diversity of approaches when facing a situation; the emergence of new ideas for different problems; the ability to relate parts with no apparent connection; and the ability to connect different points of view.

- Self-consciousness (CONC): the inherent ability to recognize business opportunities; intuition regarding potential opportunities; and the ability to distinguish between profitable and unprofitable opportunities.
- Social commitment (SOC COMM): the belief in job preservation and the positive effects on the work environment; equal pay for equal work; and the commitment of the business to the community where it operates.
- Environmental commitment (ENV COMM): training and encouraging employees to promote positive environmental initiatives; the belief in environmental marketing; and quantifying business environmental savings and costs.

4. Results

The statistical analysis was divided into two distinct parts. Through a factor analysis of the survey variables, the first part aimed to determine the different dimensions that formed the model to contrast. Once the dimensions were defined, the second part aimed to test the validity of the proposed model through structural equations. The work performed in each of these parts is detailed below.

4.1. Factor Analysis

Based on an exploratory factor analysis (EFA), the variables that best explained each of the dimensions that form the model were selected. In addition, as indicated in the literature [60], the variables with values lower than 0.5 were eliminated from the model. As a result of this first analysis, it can be observed that the variables were grouped into five different dimensions.

Once the composition of the dimensions was determined, each dimension was subjected to a confirmatory factor analysis (CFA) to refine each construct. Drawing from this analysis, several factors were eliminated because they did not surpass the threshold value of 0.7 demanded by the literature, reducing the model to 18 factors and five dimensions. These dimensions were subjected to analysis through Cronbach's alpha, which in all cases surpassed the required value of 0.7 [61].

The penultimate stage for this first part was an analysis of the consistency, reliability and convergent validity of the dimensions. In all cases, the internal consistency surpassed 0.6 [62]; the average variance extracted (AVE) surpassed 0.5; and convergence validity was confirmed based on [63].

The results and main statistics from this first part may be observed in Table 3:

Table 3. Factor analysis of the dimensions. AVE, average variance extracted.

Dimension	Code	CFA	Internal Consistency and Reliability Statistics
Alertness	ALERT1	0.767	Cronbach's alpha: 0.828 Composite reliability: 0.878 AVE: 0.642
	ALERT2	0.803	
	ALERT3	0.812	
	ALERT4	0.822	
Creativity	CREAT1	0.756	Cronbach's alpha: 0.809 Composite reliability: 0.871 AVE: 0.629
	CREAT2	0.784	
	CREAT3	0.816	
	CREAT4	0.815	
Self-Awareness	CONC1	0.781	Cronbach's alpha: 0.812 Composite reliability: 0.829 AVE: 0.618
	CONC2	0.776	
	CONC3	0.802	
Social Commitment	SOC COM1	0.763	Cronbach's alpha: 0.821 Composite reliability: 0.837 AVE: 0.631
	SOC COM2	0.808	
	SOC COM3	0.812	
Environmental Commitment	ENV COM1	0.796	Cronbach's alpha: 0.808 Composite reliability: 0.867 AVE: 0.620
	ENV COM2	0.777	
	ENV COM3	0.785	
	ENV COM4	0.791	

Finally, once the dimensions were defined and tested, a final discriminant validity analysis was conducted, demonstrating in all cases that each construct was more related to its own dimensions rather than to the dimensions of the other constructs. Table 4 shows the statistics that confirm this situation.

Table 4. Discriminant validity.

	Alert	Creat	Conc	Soc Com	Env Com
Alert	0.801 *				
Creat	0.488	0.793 *			
Conc	0.315	0.311	0.786 *		
Soc Com	0.598	0.402	0.546	0.795 *	
Env Com	0.253	0.411	0.186	0.304	0.787 *

* Square root of the AVE in the diagonal.

4.2. Contrast of the Model

Via EQS 6.1 software (Multivariate Software, Inc., Temple City, CA, USA) and utilizing the robust model of structural equations, the validity of the proposed model was tested, confirming its aptitude through the observation of the main statistics. According to the literature, [64] establish that having three statistics available among the recommended values is sufficient to test the validity and the explanatory ability of the defined models in accordance with this methodology. This model surpasses the minimum requirements, proving the model's robustness and explanatory power. Table 5 shows the results for the main statistics and their ideal values according to the literature.

Table 5. Main statistics.

Statistics	Result	Ideal Value
χ^2 /degrees of freedom	2.730	<3
BB-NFI (Bentler–Bonnet normed fit index)	0.863	>0.8
BB-NNFI (Bentler–Bonnet non-normed fit index)	0.919	>0.9
CFI (comparative fit index)	0.921	>0.9
RMSEA (root mean square error of approximation)	0.082	<0.06

* Satorra–Bentler-scaled chi-square.

To conclude the section regarding the results and as a summary, Figure 2 represents the model and the statistics of the causal relationships derived from this model.

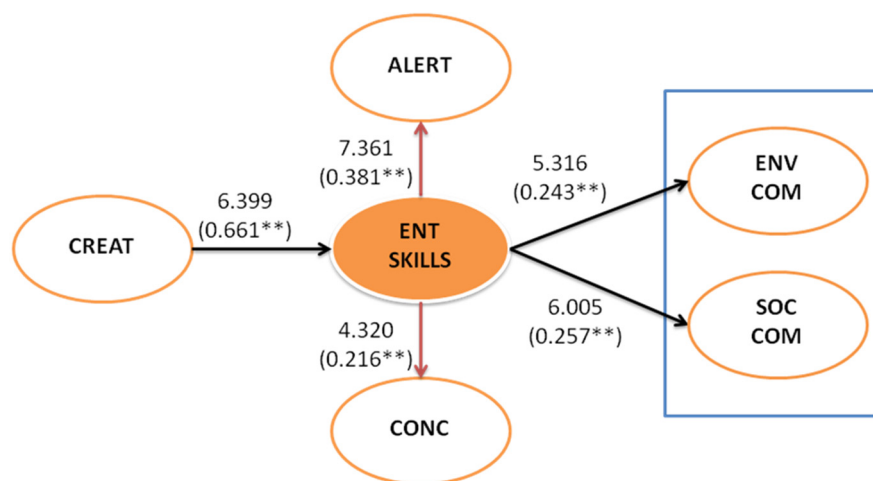


Figure 2. Standardized solution of the causal model. ** p -value significant at the 0.05 level.

5. Analysis of the Results and Conclusions

The statistical analysis validates all of the hypotheses proposed in the present study. First, it is important to highlight that, as suggested by [35], entrepreneurial skills, *i.e.*, creativity, alertness and self-consciousness, have a strong presence in future entrepreneurs, mainly the skills of creativity and awareness. The obtained results prove the validity of Hypotheses H1, H2 and H3 and reaffirm the results obtained in other works, such as that by [24]. Future business leaders who were trained in times of crisis possess a greater ability to detect new business opportunities that were most likely not previously considered [37]. In addition, the present study seems to indicate that the subjects of the study have developed an inherent ability to solve problems and face difficult situations by applying differential perspectives as a consequence of an adverse environment. It seems logical that, in a crisis environment where adversities prevail over good news, any actor who works efficiently in this environment can develop the required skills to confront these problems. In this manner, creativity prevails as a basic entrepreneurial skill in hostile environments.

Everything seems to indicate that educational policies, such as reorienting programs of study and public policies for entrepreneurial development, have at least managed to maintain the main entrepreneurial skills in business leaders and future entrepreneurs, despite the adverse effect that the crisis could cause on these individuals, as noted in the literature [4,65–68].

However, the main contribution of the present study lies in the fact that it confirms that entrepreneurial skills are positively related to a greater environmental commitment and socially responsible management. The statistical analysis validates Hypotheses H4 and H5, which assert the existence of a positive relationship between entrepreneurial skills and entrepreneurs' social and

environmental commitment. Therefore, it is clear that future leaders bet on sustainability as a business model and that the crisis did not make them eliminate these two ethical values from their business scope. The present study cannot claim that the crisis was beneficial or detrimental to social and environmental commitment, given that the methodology applied and the available data do not allow such an analysis. However, the study can affirm that the crisis has not affected these basic values and can also affirm that entrepreneurial skills have a positive effect on management as regards business ethics.

Environmental commitment and a business that takes into account social aspects represent significant positive externalities and are aligned with a growing opinion trend in favor of another type of resource management, wherein general interests prevail over self-interest. It involves a social commitment demanded by a growing fraction of the population, for whom consumers or workers value a business commitment beyond the generation of profits. The increasing significance of corporate social responsibility is a clear example of this trend.

The obtained results allow for certain recommendations that can guide decisions on educational policies and continuing training. On the one hand, there is the need for programs of study and teaching methodologies that take into account the promotion of entrepreneurial skills, in addition to the necessary reflection on the social and environmental implications of the different types of management. On the other hand, in the current context of continuous change, growing youth unemployment and economic crisis, continued training becomes a relevant tool. The opportunity cost associated with the use of these resources implies the need for managerial efficiency. The results of this study suggest that training in entrepreneurial skills could improve students' abilities to find a job or start a business venture [4] and also helps them to manage businesses following the values demanded by our society. Consumers are demanding from companies that the firm has behaved considering its environmental and social impact [69], but also, there is an increasing number of rules and new regulations that push in favor of this commitment (World Business Council for Sustainable Development, 2000 [70]). The balance between regulation and consumers' demands depends on the cultural and social context. Europe is a clear example with some common regulations according to the European Union regulation, but different pressure from consumers depending on the country.

Public policies will increasingly take into account the UN sustainable development goals. Entrepreneurs have to consider that our cities and communities must be sustainable, be aware of the climate change effects of our decisions in terms of productive process and consumer behavior and the importance of reducing social inequalities, for instance facilitating access to new technologies, or education to everyone, or to promote gender equality inside the organizations. The way we teach our future managers needs to include that they learned how to take into account these items in their decision-making process. These development goals do not only apply to education, the industrial policy designed to support the growth of small and medium-sized companies also will consider the contribution of these firms to the goals of common society.

This study invites future studies on the subject. For example, it might be interesting to add other constructs to the model, more precisely in its final section, analyzing the effect of entrepreneurial skills not only on social and environmental commitment, but also on the commitment to quality management practices, fulfilling the triple bottom line business model. Another possibility might be to segment the sample by gender or source study to detect possible differences between sub-samples.

Finally, it is important to note that this study is subject to the limitations of the methodology employed. The main limitation resides in the fact that the surveys were conducted in a certain area; thus, it might be difficult to extrapolate the results to other countries due to the different economic situations or legal environments.

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Conflicts of Interest: The authors declare no conflict of interest.

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