Education in Corporate Sustainability in Postgraduate Studies in Economic and Administrative Sciences in Latin American Universities, the Perception of Students, Professors and Entrepreneurs

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ABSTRACT

Education in sustainability does not only mean including environmental contents in the subjects of the different subjects, it also entails another series of more global changes in the conception of the educational process, the development of knowledge and skills must take place both within companies and the universities, because the needs of the company in terms of knowledge and capabilities in corporate sustainability are not yet satisfied. Universities are lagging behind other sectors of society such as companies in the process of incorporating sustainability.

The objective of this research is to analyze corporate sustainability training in postgraduate courses in economic and administrative sciences at Latin American universities, through research that integrates qualitative and quantitative instruments, in order to identify the gap between supply and demand. The qualitative instruments correspond to in-depth interviews with businessmen and professors and, those quantitative, refer to surveys of students from these universities, as well as the relationship between companies and universities in Latin America: what is the status of training in sustainability in Latin American universities, from the perspective of entrepreneurs, teachers and students?

Keywords: Sustainability, Training, Corporate

INTRODUCTION

The new social framework, installed in the universe of uncertainty (Imbernon et al., 2002) represents an important challenge when establishing processes of revision and change in higher education institutions, in their organizational culture (Tomas, 2001), in this context we start from the idea that sustainability is a dynamic concept that includes the search for sustainable development, viable and equitable in the long term. Higher education institutions are dedicated to the training of future professionals, to research, to the dissemination of knowledge, to the creation and development of culture and to the generation of a critical conscience; These institutions are facing a new challenge due to the key role they represent in the search for answers to one of the most important social challenges that are posed to the new century: environmentally and socially sustainable human development (Geli, 2002, p. 11). One of the main barriers to its incorporation into higher education is precisely associated with the novelty of the concept and the underlying difficulty of giving it a rigorous treatment and taking it to the classroom in a didactic way (Doh & Tashman, 2014). In the process of incorporating sustainability into society, universities are lagging behind companies (Lozano, Lozano, Mulder, Huisingsh, & Waas, 2013) and, apparently, this phenomenon would be better documented in industrialized countries than in the emerging countries (Leal-Filho, Manolas, & Pace, 2015). The development of knowledge and skills must take place both within companies and universities, but there is a gap between supply and demand, as the company's needs in terms of knowledge and capabilities in corporate sustainability are still not met (Gitsham & Clark, 2014).

In Latin America, where companies incorporate corporate sustainability slowly and universities
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do the same, but with less known results. In this region, the offer of training on sustainability has had a lot of emphasis on the environmental dimension, especially during the last 15 years (Molano-Niño & Herrera-Romero, 2014). This gap is what we want to analyze in this investigation in the case of the relationship between Latin American companies and universities: what is the status of sustainability training in Latin American universities, from the perspective of entrepreneurs, teachers and students?

The objective of this research is to analyze corporate sustainability training in postgraduate courses in economic and administrative sciences in Latin American universities, through research that integrates qualitative and quantitative instruments, in order to identify the gap between supply and demand. The qualitative instruments correspond to in-depth interviews with entrepreneurs and professors and, those quantitative; refer to surveys of students of these universities.

THEORETICAL FRAMEWORK

The declaration of the Decade of Education for Sustainable Development (2005-2014), (UNESCO 2005), whose goal is the construction of a world in which everyone has equal access to education, through which to learn values, lifestyles, and coherent behaviors for a sustainable future and for the positive transformation of society. In this sense. The concept of corporate sustainability has the ambition of giving coherence to ethics, social responsibility and sustainable development in the business sphere (Polanco, 2016).

These documents coincide in pointing out that higher education is a key tool to move towards an environmentally and socially sustainable human development; which means that the university must train professionals capable of using their knowledge, not only in a scientific context, but also to respond to environmental problems and social needs, making decisions and carrying out actions consistent with the values of sustainability (Lozano, 2006; Novo, 2009). Corporate sustainability, seen as an integrating concept, implies the creation of value for the internal and external interest groups of the company. This implication leads business schools to think not only of their students, professors and managers, but also of multiple actors in society and the State (Leal-Filho, Manolas, & Pace, 2015). Although there is no standardized definition, corporate sustainability tends to be considered in terms of the company's present and future performance (Montiel & Delgado-Ceballos, 2014, Whitteman, Walker, & Perego, 2013, Schneider & Meins, 2012). On the one hand, the present performance is a problem of minimalization of economic, environmental and social impacts, which combines the welfare of society and the environmental quality of sustainable development, with the financial performance of the business (Linnenluecke & Griffiths, 2010 Hanh, Figge, Pinkse, & Preuss, 2010). On the other hand, future performance is a question of governance where the political and ethical position of the company is at stake, as well as its strategy, structure and organizational culture (Amini & Bienstock, 2014, Baumgartner, 2014, Linnenluecke & Griffiths, 2010).

THE CONCEPT OF CORPORATE SUSTAINABILITY IN EDUCATION

We believe that a clear line of advance is to consolidate the concept of corporate sustainability. Perhaps it has a too "green" bias, but, we think it will be more difficult to detach Corporate Social Responsibility from its effect linked to social programs than to give new contents to the concept of corporate sustainability (especially in the social and economic aspects).

For, the Dow Jones Sustainability Index "Corporate sustainability is a business approach that seeks to create long-term value for shareholders by taking advantage of opportunities and effectively managing the risks inherent in economic, environmental and social development." That is, from the beginning it is linked to core business activities, not other peripheral elements. One of the main barriers to the incorporation of sustainability in higher education is precisely the difficulty of giving a rigorous treatment to the concept and being able to take it to the classroom in a didactic way (Doh & Tashman, 2014). The economic and administrative sciences seem to be disadvantaged in this process compared to others such as engineering and environmental sciences (Lozano & Young, 2013; Watson, Lozano, Noyes, & Rodgers, 2013), due to the resistance to change of traditional institutions and the mentality of students (Lourenço, 2013).

There are multiple proposals to overcome these barriers of incorporation of corporate sustainability in the level of training, among
which we highlight the relationship with interest groups and the curriculum, because of its importance for our research. The company is ratified as the great ally of universities in general and business schools in particular (Barber, Wilson, Venkatachalam, Cleaves, & Garnham, 2014, Alcaraz & Thiruvattal, 2010), however there are alternative proposals for relationships that charge importance given the nature of the new issues evoked.

These practices have a theoretical basis that must also be specified in the curriculum. The existence of these theoretical bases is found in the 170 articles consulted by Montiel &Delgado-Ceballos (2014), the most recurrent being the theory of interest groups (18%), the institutional theory (17%) and the theory of resources and capacities (10%). The remaining 42% is based, for example, on strategic planning and social capital, or on empirical evidence through case studies. These results coincide largely with those obtained by Doh and Tashman (2014): stakeholder theory (26%), institutional theory (13%), resource and capacity theory (12%), no theory (9%), Ethics (7%), Corporate Social Performance (6%), Industrial Ecology (6%), Systems Theory (4%), The Triple Account (4%), among others.

The company, the different faculties of the university and the State continue to be key interest groups, but it is also strategic to relate with organizations of the third sector, including the natural environment and future generations.

**Education on Sustainability: Latin American Context**

In the process of incorporating sustainability into society, universities are lagging behind companies (Lozano, Lozano, Mulder, Huisingsh, & Waas, 2013) and, apparently, this phenomenon would be better documented in industrialized countries than in the emerging countries (Leal-Filho, Manolas, & Pace, 2015).

It is essential that the universities work more in integral profiles and in connection with the companies, for the conformation of curricula, according to what they demand and with the global challenges that we have in terms of sustainability. This is the case, for example, of Latin American countries, where companies incorporate corporate sustainability slowly and universities do the same, but with less known results. An indicator of the incorporation of sustainability in the company is adherence to international standards. The countries of the Americas that lead the adhesion to international standards such as the United Nations Global Compact, the Global Reporting Initiative (GRI) and Accountability are in their order the United States, Brazil, Argentina, Colombia, Canada and Mexico. However, the development of knowledge and skills must take place both within companies and universities, but there is a gap between supply and demand, as the company's needs in terms of knowledge and skills are not yet met. Corporate sustainability (Gitsham & Clark, 2014). The results of the analysis highlight some characteristics of environmental education in higher education.

One is, the present in teaching, research and extension (social projection). In another, it is commonly found that the intention is the formation of a new ethics, in the same way the disciplinary multi-inter-trans proposals predominate, although with weak conceptual frameworks. Finally, although there is a tendency towards curricular innovation (from the complexity and the systemic vision), the fragmented vision of reality and the curricula centered on the disciplinary predominate.

In the specific case of Brazil, for example, the incorporation of sustainability in business schools is a rather reactive phenomenon with barriers, which has increased considerably since 2005, with greater emphasis on scientific research than teaching. Although there is also a process of transition towards sustainability in the schools and faculties of economics and administration, at the graduate level, marked by the initiative of professors with power, the role of the company and the industry in the provision of information and in the identification of research topics and opportunities for exchange with civil society organizations (Chiappetta-Jabour, Sarkis, & Lopes de Sousa, 2013).

In Colombia, little relevant information is found in the scientific databases mentioned above. However, it is possible to specify that the process of incorporating sustainability, particularly in business schools, would be provided with an appropriate regulatory framework to evaluate the quality of undergraduate and postgraduate programs.

The cases of the National Autonomous University of Mexico (UNAM), which have created programs related to the subject, offer a bachelor's and master's degree in Management in Social Responsibility and Sustainable Development, with an integral perspective of social development and human rights, economic
growth, management labor and care of the environment, although it offers doctorate and other specialized alternatives with incorporation to the environmental, Sustainability, and renewable energies.

**RESEARCH METHODOLOGY**

The methodology followed in the study integrates the quantitative and the qualitative perspective. The quantitative methodology forms a descriptive-exploratory and evaluative structure, with a complex survey design that includes the cross-information of different key agents for the central purpose (teachers, businessmen, students), and the variance obtained after applying the questionnaire to the experimental groups. It is about describing the initial starting situation in relation to environmentalization in the university curricula.

The main objective of this research, on corporate sustainability training in postgraduate programs in economic and administrative sciences of different Latin American universities, from the perception of students, professors and entrepreneurs, with the analysis of the demand for the level of training in sustainability, the characteristics of the offer and the opportunity for improvement in the level of training in universities, the most representative universities of the different LA countries are chosen, according to our estimation, the students who are studying the different graduate programs and programs are defined object of study, likewise the professors holders of the subjects related in the study. It is detailed, a base of entrepreneurs in various fields of action, in each LA country, to apply interviews and instruments necessary for the analysis of the results of the investigation.

87 businessmen from cities in Latin America are interviewed, (The name of the companies and entrepreneurs is not divulged for confidentiality), with the location of the participating universities with the help of an interview guide in which the following aspects are investigated:

- Training in sustainability and its relationship with strategy, structure and corporate culture: competitiveness, productivity, brand management, relationship with stakeholders, evaluation and control, work teams.
- Business needs on sustainability training

**Table 1. Number of entrepreneurs interviewed by economic activity in Latin America**

<table>
<thead>
<tr>
<th>Economic Activity</th>
<th>Number of Business</th>
<th>People Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods</td>
<td>18</td>
<td>Colombia, Chile, Argentina</td>
</tr>
<tr>
<td>Building</td>
<td>12</td>
<td>Brazil, México, Panamá</td>
</tr>
<tr>
<td>Distribution</td>
<td>16</td>
<td>Perú, México, Chile</td>
</tr>
<tr>
<td>Finance and insurance</td>
<td>14</td>
<td>Colombia, Brazil, Perú</td>
</tr>
<tr>
<td>Pharmaceutical chemist</td>
<td>14</td>
<td>México, Argentina, Brazil</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>13</td>
<td>Chile, México, Colombia</td>
</tr>
<tr>
<td></td>
<td>87</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** prepared by the authors based on interviews with businessmen

On the other hand, 56 professors are interviewed with a second interview guide in which they inquire about the subjects under their responsibility, which are related to sustainability in the following aspects:

- Curriculum, competence: epistemology, training problem;
- Sustainability and the objective of training: professional, investigative;
- Methodology: hermeneutics, analytics, practice;

These professors are assigned to 7 universities in cities of Latin America, participants in the study and provide their services in postgraduate programs in economic and administrative sciences, (the name of the professors is not divulged for confidentiality either).

**Table 2. Professors, universities, postgraduate and participating subjects.**

<table>
<thead>
<tr>
<th>Universidad</th>
<th>Posgrado</th>
<th>Subject</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Chile</td>
<td>Magister in Economic Analysis</td>
<td>Economic growth, economic integration and development</td>
<td>9</td>
</tr>
<tr>
<td>Federal University of Mine Gerais Brazil</td>
<td>Master's degree in economics</td>
<td>Economic development, Economy and environments</td>
<td>10</td>
</tr>
<tr>
<td>Buenos Aires’ University</td>
<td>Master's degree in economics</td>
<td>Economic development, Theory and policies of stabilization in semi-industrialized economies</td>
<td>8</td>
</tr>
</tbody>
</table>
In this sense we carry out an analysis of the preconceptions of the University teaching staff regarding the introduction of the variable "training in sustainability" in teaching and research, and a study of the current situation of the programs of the subjects of the different study plans of the University. Postgraduate studies in economic and administrative sciences of participating universities. Finally, 124 students from the Latin American universities mentioned above are surveyed.

### Table 3. Participating students and universities

<table>
<thead>
<tr>
<th>Universidad</th>
<th>Estudiantes</th>
<th>Porcentaje</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universidad de Chile</td>
<td>16</td>
<td>13%</td>
</tr>
<tr>
<td>Universidad Federal de Mina Gerais Brazil</td>
<td>25</td>
<td>20%</td>
</tr>
<tr>
<td>Universidad de Buenos Aires</td>
<td>18</td>
<td>14.5%</td>
</tr>
<tr>
<td>Universidad del Andes</td>
<td>16</td>
<td>13%</td>
</tr>
<tr>
<td>Universidad Cooperativa de Colombia</td>
<td>17</td>
<td>13.6%</td>
</tr>
<tr>
<td>UNAM, Universidad Nacional Autónoma de México</td>
<td>21</td>
<td>17%</td>
</tr>
<tr>
<td>Universidad César Vallejo de Perú</td>
<td>11</td>
<td>8.8%</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Source:** prepared by the authors based on student interviews.

In order to establish their perception of the following aspects of sustainability training, concepts are related:

- The concept: relationship between sustainability and ethics, the environment, the economy and society.
- Training in sustainability: programs and seminars held in graduate school on the subject.
- Professional practice: importance of sustainability training for professional practice, with the impact of the company on society and the environments, competitiveness, productivity and quality of work.

### Analysis of Results

#### Analysis of Sustainability Education

Training in sustainability is associated in this work with the needs of companies in the process of incorporating corporate sustainability. The characteristics of this process would define what the company demands in terms of resources and capacities, that is, for example, in terms of knowledge and administrative processes for the creation of long-term value (Lozano, Carpenter, & Huisingh, 2015; Montiel & Delgado-Ceballos, 2014).

In this order of ideas, a common factor emerges in the entrepreneurs interviewed regarding the concept of sustainability: interaction between the company and its environment in the economic, environmental and socio-cultural aspects. That is, for them sustainability seems to be seen as a new paradigm of a company where financial information is complementary to other variables such as corporate governance and the socio-environmental performance of the business.

Several discoveries were impressive, but perhaps one of the most striking is that, although companies recognize that issues around sustainability are relevant and will be more important in the future to be competitive. The perception is that in the day to day they still do not translate into profitability.

There is a lack of updating and flexibility in the curriculum of most HEIs and postgraduate...
courses, with the exception of a minority of public national universities in Latin America and a few quality private ones. These findings are consistent with other studies in which it is observed that entrepreneurs often see sustainability as a difficult business opportunity due to multiple barriers (Chen, 2014, Musson, 2012, Ageron, Gunasekaran, & Spalanzani, 2012).

The World Bank's advice that teachers become knowledge entrepreneurs working as consultants has had devastating effects on research and training in sustainability, but entrepreneurs think otherwise.

Research and postgraduate studies should serve, in the first place, the demands of society and not exclusively to corporate or market interests. In this context, the main characteristic of the demand would be a level of human talent training with new skills to overcome barriers: relational competences to create trust and legitimacy with the interest groups both internal and external to the company and technical skills to manage in a holistic supply chain and production. Next, we analyze the perception of professors and students against the level of sustainability training at the LAC universities, object of study.

**Characteristics of Sustainability Education**

The universities of the developed countries and their higher Education systems are in an advantageous situation due to their financial resources. However, HEIs in LAC can support each other, through various forms of cooperation with out subordination.

Teachers' perception of sustainability training would help to illustrate what universities offer (curriculum, training objective, methodology and didactics), while students' perception of this offer would help them examine their status in terms of competencies acquired and professional practice. In any case, efforts aimed at including curricular contents where this dimensional vision of sustainability is exceeded are not common, except in some postgraduate programs in Economics and Administration, which approach the holistic vision, complexity and interdisciplinarity in an incipient manner. of the concept (Doh & Tashman, 2014; Lozano & Young, 2013; Lozano & Peattie, 2011). In effect, some professors maintain that the knowledge that encompasses sustainability can be social responsibility, environmental management, sustainable administration, among others; courses that ratify the sustainability practices identified by Lozano (2012).

Universities, both public and private, must be of Public service. The increase in the privatization of HEIs in Latin America and the Caribbean and the increase in pseudo-for-profit universities affects the development of strategies for improving the curricula. Most of the analyzed subjects guide the training towards professional practice, few of them do it towards research. That is why analytical methodologies and teaching tools predominate such as the classroom project and the case study. In the few subjects oriented towards research, didactic difficulties are observed in order to move from theory to practice, especially when recourse is had to classroom projects.

This finding is common in Latin America, where didactic proposals have been documented aimed at solving problems with a tendency to curricular innovation, but where the fragmented vision of reality and curricula centered on the disciplinary predominate (Molano-Niño & Herrera -Romero, 2014).

The perception of the students, professors and businessmen surveyed, respondents, reflects that there is a statistically significant relationship between training and the importance given to professional practice, with 58.8% (Table 4): students with the highest level of training in sustainability They perceive, in turn, a higher level of importance of this training in professional practice. Teachers estimate the importance with 62.5% of the total surveyed, the most striking case is the perception of employers, with 64.3%, on the importance of training in sustainability for profesional practice.

Finally, the table shows the importance of training in sustainability in professional practice, with the highest percentage in perception. The statistical relationship of the medium and low levels establishes, is significant, but with lower percentages in the level of perception, establishing the importance in the approach of the topic of sustainability in the curricula, (Table4). The offer of Education on sustainability in the LAC universities, is characterized by a postgraduate course aimed at profesional practice and with a marked dimensional approach to sustainability, where the holistic vision, complexity and interdisciplinarity of the concept are incipiently addressed.
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Table 4. Contingency table: Training in sustainability vs Professional practice

<table>
<thead>
<tr>
<th>Importance of training in Sustainability for professional practice</th>
<th>Perception of training in Sustainability</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Postgraduate students</td>
<td>Teachers</td>
</tr>
<tr>
<td>high</td>
<td>66</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>53.2%</td>
<td>62.5%</td>
</tr>
<tr>
<td>Half</td>
<td>38</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>30.6%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Low</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>16.1%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Supply-Demand, in Training for Universities.

The region has attracted several foreign higher education institutions, with and with out profit, including cross-border higher education. The rapid increase of Foreign Institutions of ES (coming from the US, Europe and other countries of the region) is observed. region) with diverse modalities: mainly in factors of environmental economy and sustainable development.

Table 5. Contingency T: Sustainability education vs. Academic curricula

<table>
<thead>
<tr>
<th>Importance of Sustainability education in academic curricula</th>
<th>Perception of education in Sustainability</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Postgraduate students</td>
<td>Teachers</td>
</tr>
<tr>
<td>high</td>
<td>83</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>66.9%</td>
<td>69.6%</td>
</tr>
<tr>
<td>Half</td>
<td>35</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>28.2%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Low</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>4.8%</td>
<td>10.7%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Asymptotic significance level (likelihood ratio) = 0.044

Source: prepared by the authors based on the survey

In the previous table we can observe the high level of perception, in students and teachers, about the importance of the level of training in sustainability in the curricula, 66.9% and 69.6%, but when observing the perception of entrepreneurs, there is little importance they reflect 47.1%. This scenario is unlikely in the short term because there is a gap between supply and demand in sustainability training, marked mainly by the lack of conceptual clarity and the underlying difficulty of implementation. Large companies have partially solved this problem by resorting to international standards, as they add meaning to sustainability and legitimize the company vis-à-vis interest groups. The problem has been partially solved given that these instruments still have difficulties in adapting to the specificities of the business (Polanco, Ramírez, & Orozco, 2016).

CONCLUSION

The postgraduate programs must serve, in the first place, the demands of society and not exclusively to corporate or market interests. On the other hand, with out investing in higher education, excellence and competitiveness in the knowledge society are not achieved or maintained. The assertion of Professor Rodrigo Lozano and his collaborators in the context of the industrialized countries is also valid (Lozano, Lozano, Mulder, Huisingsh, & Waas, 2013): in the process of incorporating sustainability into society, universities are lagging behind with respect to companies.

The universities -both public and private- must be of Public service. The increase in the privatization of HEIs in Latin America and the Caribbean and the increase in pseudo-for-profit universities affects the development of strategies for improving the curricula. There is a gap between supply and demand, where the technical and relational skills necessary for human talent to incorporate sustainability into the company are still rare in the training...
objectives of the programs of the universities studied. In addition, barriers such as the lack of conceptual clarity and the lack of capacity to evaluate the process of incorporating sustainability into the company, are opportunities for universities that are not yet visible in their offer of the level of training.

REFERENCES


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