

# The Profitability of Environmental Proactivity in Business Education Institutions: An Investigation of University Administrators

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## ABSTRACT

*Over the last decades, the implementation of an environmentally-proactive behavior has taken on a new priority as part of the environmental planning strategies at higher education institutions. Nonetheless, this trend has exerted a heterogeneous impact on business education centres. Moreover, prior studies have found that administrators' efforts play a crucial role to foster a school climate supportive of environmental proactivity. This paper contributes to investigate how and why universities, i.e., organizations not guided primarily by financial profits, decide to undertake an environmentally-proactive behavior. Specifically, we analyse deans' perceptions in relation to the economic advantages that may be derived out of different levels of environmental proactivity of the centres. To that aim, we draw on a sample of 74 deans. Contrary to our original expectations, results reveal that there are no significant differences in deans' perceptions of the economic advantages from their centres' environmental proactivity.*

**Key words:** Environmental proactivity, profitability, business schools, administrators

## INTRODUCTION

Interest in environmental issues in the business sphere has grown exponentially in recent years (Marcus and Anderson 2006; Sirmon, Hitt, and Ireland 2007; Starik and Heuer 2002; Starik and Marcus 2000; Starik and Rands 1995). The need to integrate an environmentally-proactive approach into all levels of the educational system has taken on a new priority in recent years (e.g. Baxter Powell et al. 2011; Cordano et al. 2012; Ragragio 2003; Teisl et al. 2011). While considerable attention has been placed on environmental sustainability at early ages (e.g. Reid, Payne, and Cutter-Mackenzie 2010), great efforts are especially important to guarantee the integration of an environmentally-proactive strategy into university education institutions (Feng 2012; Hahn, Kolk, and Winn 2010; Wheelless Hammond and Herron 2011; Sriskandarajah et al. 2010). In this sense, some initiatives have been developed by a number of higher education bodies (e.g. Aspen Institute 2009; Aznar Minguet et al. 2011; Harraway et al. 2012; Hegarty et al. 2011; Sammalisto and Arvidsson 2005). However, this interest has been reflected in business education institutions in a very heterogeneous manner (if any).

Prior literature has stressed the positive link between environmental proactivity and financial profits (Darnall, Henriques, and Sadorsky 2008; Hart 1995; Hart and Ahuja 1996; Kassinis and Vafeas 2006). Nonetheless, little is yet known about this influence in organizations not being led by financial targets, such as universities. Moreover, literature has stressed the needs to include administrators' efforts towards

a school climate supportive of environmental proactivity (Ernst 2009; Ongevalle et al. 2011) and to understand the influences of those administrators (Ernst 2012). In this sense, the central questions of how and why universities decide to undertake an environmentally-proactive behavior remain mainly unexplored. To that aim, this study contributes to fill this gap by investigating deans' perceptions in relation to the economic advantages that may be derived out of different levels of environmental proactivity of the centers.

## THEORETICAL BACKGROUND

### The context: Sustainability and management education

Sustainability refers to meeting the needs of the present generation without compromising the ability of future generations to meet theirs (WCED 1987). For example, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has identified the years 2005–2014 as The United Nations Decade of Education for Sustainable Development (UNESCO 2002). In our study, environmental proactivity at business education refers to the incorporation of different practices at business university centres.

### The influence of the environmental proactivity of the school

In the organizations and the natural environment literature, different works have shown how exogenous

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factors influence managers' decisions regarding the natural environment (e.g. *Majumdar and Marcus 2001; Marcus and Geffen 1998; Russo and Fouts 1997*). Contingent factors also influence the relationship between managers' perception and its environmental strategy (*Sharma, Aragón-Correa, and Rueda-Manzanares 2007*).

Additionally, other works have shown how the internal approaches of the organization influence the environmental approach of the functional departments, employees and managers. The collective approach of an organization's members about its environmental approach is known as the organization's environmental strategy. The content of the organizational paradigm affects how issues are interpreted and acted upon within the organization (*Dutton 1993*). This notion of an organizational paradigm can be extended to the way that an organization's decision makers see it with respect to the natural environment (*Meima 1994*).

Organizations vary according to how environmentally proactive they are (*Aragón-Correa 1998*). Meanwhile *Andersson and Bateman (2000)* show that "environmental champions" will have more success in organizations that hold a strong rather than a weak environmental paradigm. *Ramus and Steger (2000)* also show how management support behaviors positively related to employee "ecoinitiatives".

### Financial influence

Paying attention to stakeholders' interest in environmental issues enables organizations to increase financial profitability (*Berman et al 1999; Hart 1995; Ogden and Watson 1999*). Deans may be familiar with the potential of environmental issues to increase reputation and legitimacy of organizations that properly deal with these issues (*Hart 1995*). Reputation and legitimacy may be useful tools to look for extra financial support for the centre via regular funding from the university, external funding when providing expertise or sponsoring centre events, or increased attention from potential students. Hence, deans who are very interested in the financial objectives may be more willing to incorporate an environmentally-proactive strategy in their centers.

Even in organizations that do not aim to achieve higher profitability, financial issues may be particularly important. For example, deans manage a budget that serves to meet the equipment needs of their faculty, to pay guests' expenses or to provide a travel budget to the departmental scholars. The importance given by the deans to financial issues may depend on multiple factors (e.g. the characteristics of the decision maker, the context, the professors' needs, the lack or abundance of budget). In any event, an interest in financial issues will make the deans more interested in issues that can influence the financial situation of the centre.

## METHODOLOGY

### Samples

The deans are responsible for managing the centre and coordinating the implementation of the different environmental practices to be held at the centre. Hence, we sent a written questionnaire to 164 deans of business and engineering education schools in 69 Spanish universities in order to learn their perceptions regarding the economic benefits that a proactive environmental strategy could provide to the centre. The final sample comprised 74 deans of 46 different universities (a response rate of 45 % of deans surveyed). This rate of response can be considered as highly satisfactory in comparison with the usual response rates in these studies. Furthermore, no significant differences were found in the size of the universities that responded to the questionnaire. Additionally, no significant differences were found in the replies to the questionnaire in the first round in relation to the third round, or between online or postal replies.

The researchers also followed a detailed pattern in the work (*Podsakoff et al. 2003*) to reduce as much as possible the potential risk of common method biases. First, the researchers guaranteed anonymity to respondents and explicitly stated in the survey that there were no right or wrong answers and that the respondents should answer the questions as honestly and sincerely as possible. This was to reduce anxiety in respondents to provide what they might perceive to be socially desirable or appropriate responses. The top role of the respondent and the lack of hierarchical or funding relationship with the authors also helped to prevent any bias. Second, ambiguous scales were avoided by drafting clear, precise and concise questions. When necessary, clarification was provided about the definitions of terms with which respondents might be less familiar. Third, the researchers varied the scale anchors and format in the questionnaire. This way, the method biases caused by commonalities across measures were minimized.

### Measures

#### *Proactivity of the school*

The researchers measured the environmental proactivity of the school by asking the dean to evaluate 13 items which captured environmental practices and their degree of implementation in the centre (see **Figure 1**). These items were measured using a Likert scale from 0 to 6 points in which higher scores meant a higher degree of proactivity. As mentioned above, the researchers classified the schools into three groups according to their degree of environmental development. The three groups were formed according to a confidence interval on the mean at 95 %. The schools whose environmental proactivity

*Dependent variable: Perceived economic advantages.*

Evaluate (by means of a Likert scale from 0 to 6, being 0 the lowest level) to what extent each of the following factors are advantages that could be derived from a more proactive environmental strategy in your centre.

1. Reduction and improved cost control.
2. Improvement of the general management of the centre.
3. A higher enrolment of students attracted by the developments carried out in the centre.

*Independent variable: Environmental proactivity of the school.*

Assess (by means of a Likert scale from 0 to 6, being 0 the lowest level) your intentions in relation to the development of the following environmental practices in your centre.

1. Existence of specific containers for recycling paper in the building.
2. Systematic use of recycled paper in the communications and in the centre's offices.
3. Selective collection program for toner cartridges of printers and copiers.
4. Installation of sensors for automatic adjustment of the different climate zones.
5. Existence of automatic lighting of common areas to avoid wastage.
6. Existence of automatic watering points in common areas to avoid wastage.
7. Contracting suppliers that have certified environmental management systems.
8. Encouraging the purchase of computers and electronic equipment that are more environmentally friendly (e.g. eco-labels or with a lower energy consumption).
9. Own system generating renewable energy (e.g. solar or wind power).
10. Promotion of sustainable transport by the centre (e.g. parking priority for car sharing or car parks reallocated to bicycles).
11. Compulsory measures of advanced environmental management for the cafeteria of the centre.
12. Program to reduce the environmental impact of laboratories or computer rooms.
13. Program to reduce the use of toxic chemicals or the toxicity of them in the cleaning service.

Figure 1. Deans' questionnaire.

Note: the researchers are presenting here an English version of the items; original questionnaire was written and administered in the language of the respondents.

was below this confidence interval were classified as low-proactivity centres, schools above this range were labelled as high-proactivity centres and finally, centres whose average score was within the confidence interval were classified as having an average proactivity.

*Perceived economic advantages*

The perceived economic advantages were calculated by using a variable comprising three items related to improvements in student demand, revenue or cost reduction measures, also by means of a 7-point Likert scale.

## RESULTS AND DISCUSSION

The researchers first checked that the potential common source variance is not a problem for the analyses and conducted Harman's single-factor test by an exploratory factor analysis (EFA) with all items in the study. It indicated that there was no single factor.

The measures enabled us to classify the schools into three groups according to their degree of environmental development. The three groups were formed according to a confidence interval on the mean at 95 %. The schools whose environmental proactivity was below this confidence interval were classified as low-proactivity centres, schools above this range were labeled as high-proactivity centres and finally, centres whose average score was within the confidence interval were classified as having an average proactivity.

A descriptive analysis of the results is obtained (**Table 1**). An ANOVA analysis ( $F = 0.98$ ,  $Sig = 0.38$ ) shows that there are no significant differences in deans' perceptions of the economic advantages from the development of proactive environmental strategies in their centres (**Table 2**).

## CONCLUSIONS AND RECOMMENDATIONS

Earlier literature has stressed the importance of an adequate environmental education for ensuring



Table 1. Mean, standard deviations and confidence interval for the deans' sample.

Variable		n	Mean	s.d.	Confidence interval for the mean (95 %)	
					Lower bound	Upper bound
Perceived economic advantages	Low Environmental Proactivity	28	3.56	1.20	3.09	4.03
	Medium Environmental Proactivity	19	3.26	1.26	2.66	3.87
	High Environmental Proactivity	27	3.75	1.06	3.33	4.17
	TOTAL	74	3.55	1.17	3.28	3.83

Table 2. ANOVA for the deans' data.

Variable		Sum of squares	Degrees of Freedom	Quadratic mean	F	P
Perceived economic advantages	Inter-groups	2.68	2	1.34	.98	.38
	Intra-groups	97.16	71	1.37		
	TOTAL	99.84	73			

subsequent green behaviors (*Orozco and Zafaralla 2011*). In the educational sphere, environmental planning strategies cover the implementation of practices aimed at providing an adequate environmental education for those becoming the future business leaders of society. University administrators are called to be active and ongoing supporters of reform for a successful implementation of environmental proactivity into higher education (*Thathong 2010*).

Nonetheless, literature suggests there is little research regarding factors that predict or strengthen administrators' support for the implementation of environmentally-proactive strategies at their centres (*Ernst 2012*). Furthermore, in the case of Spain, with a medium-level of environmentalism, this lack is more notable. Hence, this study is aimed at filling this gap by investigating the perceptions of university deans in relation to the economic advantages that may be derived out of different levels of environmental proactivity of the centres. Deans do not differ in their perceptions about the economic advantages that may be derived out from an environmentally proactive behavior by university centres.

Nonetheless, the researchers are aware that this study presents some limitations which may, in turn, constitute fruitful areas for future research. The first emerges from the sample composition, relying on business and engineering schools. Previous literature has found out that students who major in business, economics, management, and forestry are likely to have lower pro-environment scores than students in other majors (*Leal Filho et al. 2012*). A second limitation arises from the transversal nature of the data, covering just one single period. Thus, aside from complementing our investigation with additional samples, the possibility of working with data on the temporal evolution of the topic at different universities might also be particularly attractive. The third limitation may be raised by the fact of considering administrators' perceptions, rather than measured influences.

Finally, this study also provides an opportunity to line out some recommendations for university regulators. While

prior literature has shown that being green provides an economic benefit to organizations (*Aragón-Correa et al. 2008; Clarkson et al. 2011*), deans seem not to fully perceive such an impact. Deans from centers with different levels of environmental proactivity do not perceive significant differences in the economic advantages derived from such a green behavior. The researchers believe this fact may be explained by the non-profit oriented nature of the public universities analysed, in which the achievement of economic advantages does not constitute the main aim of the organization. Thus, the people in charge of taking environmental decisions at centre level (i.e. deans) do not perceive financial issues as the main aim of the organization. Henceforth, university regulators should promote programs aimed at leading a 'change of mind' and making centres' administrators aware of the economic advantages that may be obtained from an environmentally proactive behavior, especially at the current economically-constrained times that are directly affecting the budget assigned to public universities.

Public universities, although not having financial issues as the main aim of their organizations, should not neglect the importance of strengthening the integration of environmental proactivity as an integral part of their environmental planning strategies.

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