Business School

WORKING PAPER SERIES

Working Paper

2014-075

Proactive CSR: Analytical Hierarchy Process And Empirical Assessment In The French Context

Mohamed Akli Achabou
Sihem Dekhili
Linda Prince

http://www.ipag.fr/fr/accueil/la-recherche/publications-WP.html

IPAG Business School
184, Boulevard Saint-Germain
75006 Paris
France

IPAG working papers are circulated for discussion and comments only. They have not been peer-reviewed and may not be reproduced without permission of the authors.

Proactive CSR: Analytical Hierarchy Process And Empirical Assessment In The French Context

Mohamed Akli Achabou, IPAG Business School, France
Sihem Dekhili, HuManiS (EA 1347), EM Strasbourg Business School, France
Linda Prince, IPAG Business School, France

ABSTRACT

The main objective of this research is to study the determinants of the environmental commitment in France. 25 companies responded to a survey. The results show that the regulation constitutes a relevant vector of the environmental commitment of companies but it comes in a second order after the customer satisfaction. The search for legitimacy with the customers seems to be fundamental for the enterprises' survival.

Keywords: Environmental commitment, Financial performance, Customer satisfaction, Corporate social responsibility (CSR).

1. INTRODUCTION

Protecting the environment has become a major concern in recent years with public opinion increasingly sensitive to environmental issues and consumers tending to prefer brands with a strong ethical commitment. The latter select environmentally-friendly products not only because they are a healthier option, but also because it helps to protect the environment (Fraj & Martinez, 2006; Tucker *et al.*, 2012).

For companies, environmental issues are now an accepted part of strategic management practice. We speak about sustainable companies, in other words, businesses that look for partnership-oriented governance based on the theory of stakeholders, and a multifaceted strategic management practice that covers economic, social, cultural and environmental issues, etc. (Bansal & Roth, 2000; Martinet & Payaud, 2008). Environmental regulations in France are considered strict but are relatively flexible compared to other countries where they are seen as more stable (Wijen & Tulder, 2011).

Proactive corporate social responsibility (CSR) involves business practices adopted voluntarily by firms that go beyond regulatory requirements in order to actively support sustainable economic, social and environmental development, and are thus supposed to make a broad and positive contribution to society (Torugsa *et al.*, 2013).

Twenty-five French firms were surveyed as part of our research, which attempted to answer the following question: in a difficult economic context, can environmental commitment be considered as the way for firms to develop a new growth model or is it simply a response to stricter legislation?

The rest of the paper is organised as follows: the second part reviews the literature and introduces the factors that may justify the introduction of an environmentally-focused approach. The third section describes the methodology employed. The fourth section highlights our main findings and discusses them. Finally, the fifth section concludes.

2. REVIEW OF THE LITERATURE

The studies at our disposal highlight the strategic positions adopted by firms (Table 1) and/or the drivers behind their environmental commitment (Table 2).

Table 1: Typology of strategic positions adopted by firms

Author	Strategic position
Sethi (1979)	Defensive / Reactive / Proactive
Clarkson (1995)	Reactive / Defensive / Accommodating / Proactive
Buysse & Verbeke (2003)	Reactive / Pollution prevention / Environmental leadership
De Abreu (2011)	Dormant / Reactive / Defensive / Innovative

Table 2: The factors behind the environmental commitment of firms

Author	Drivers of environmental commitment
Paulraj (2009)	Compliance with the legislation, creation of a competitive advantage, ethical considerations, natural catastrophes, management initiative.
Gherib & M'hissen (2010)	Pressure from stakeholders (shareholders, the government, clients…), creating a competitive edge, company management ethics, cost reductions, similarities with quality management, a stimulating environment.
Clarkson *et al.* (2011)	Productive efficiency, reputation, increasing competitors' production costs by impacting on the industry's environmental standards.

The literature stresses the fact that there are three major determinants of environmental commitment: compliance with regulations, a search for legitimacy and greater competitive edge (Table 3).

Table 3: Implementing the determinants of an environmental commitment

Determinants	Measurement variables
Competitiveness	Improving performance Shareholders requirements Competition
Legitimacy	Customer requirements Image improvement
Compliance with legislation	Regulations

All of these variables were applied to the French context in the empirical section of our study. The French context is characterised by significant change and continually tougher environmental regulations. This leads us to question whether regulatory changes can explain such environmental commitment, and to what extent competitiveness and legitimacy impact on the decision.

Complying with the legislation

Legislation plays a coercive role, but also generates cooperative behaviour (Aggeri, 1999). Business organisations that have adopted a proactive strategy view regulations as a baseline and often go further in order to benefit from new opportunities, identify new environmental stakes and meet the public's expectations (Akın Ates *et al.*, 2012). Buysse and Verbeke (2003) believe that taking into account environmental issues beyond what is required by the legislation can help a business to improve its alignment with the increasing awareness shown by stakeholders concerned with these issues.

A search for legitimacy

Porter and Van der Linde (1995) argue that businesses which have adopted proactive behaviour are more innovative and entrepreneurship-oriented, and more technologically sophisticated and socially responsible, and this gives them an edge in consumers' minds. Firms strive to meet their stakeholders' demands, particularly those of consumers, while looking for ways to improve their brand image (Akın Ate *et al.*, 2012; Menguc *et al.*, 2010, Cacioppe *et al.*, 2007).

Improving competitiveness

A study conducted by Ameer and Othman (2012) on 100 multinational firms committed to an environmental strategy reported an improvement in earnings.

Schaltegger and Synnestvedt (2002) consider there is no mechanical link between environmental performance and economic performance. They suggest that whenever an environmental strategy is introduced, economic performance will often decline in the short term. However, developing eco-friendly technologies can reduce marginal costs, which helps to reverse this trend.

Sekerka and Stimel (2011) argue that during a recession, the decision to increase (or reduce) direct investment in environmental issues results from a compromise between the financial and competitive risks at stake. Companies that opt for a shareholder logic are more likely to reduce their investment compared to companies that follow a stakeholder logic. Only direct investment considered as important, which helps to reduce costs, or R&D investment, may be retained.

3. METHODOLOGY

Measuring the determinants of environmental commitment

In a first attempt to identify the variables that impact on the decision to adopt an environmental strategy, a review of the literature led us to identify six variables: legislation, competition, improving technical and/or financial performance, shareholders' demands, clients' demands, and enhancing brand image. Following this, a questionnaire comprising closed-ended questions was designed and the responses were analysed using the Analytical Hierarchy Process (AHP).

AHP is a multi-criteria analysis method, developed by Saaty (1980), that can be applied in many different contexts such as activity planning, resource allocation, provisions, etc. (Leung *et al.* 2011). It helps us to measure and synthesise a multitude of factors in a hierarchical

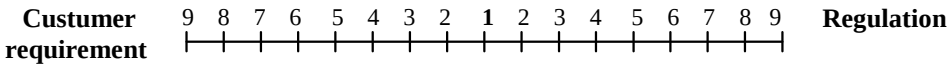
fashion (Bhagwat and Sharma, 2007; Barker and Zabinsky, 2011; Ishizaka *et al.*, 2012). The method deconstructs the decision-making process into a number of factors, leading decision-makers through a sequence of paired comparisons arranged according to a scale that comprises units from 1 (indifference) through 9 (absolute preference), at the same time including the reciprocals (1/X) by which reverse comparisons may be assessed.
The number of comparisons (N) needed to complete an AHP analysis is calculated as follows:

$$\mathbf{N = n*(n-1)/2}$$

Here, ***n*** is the number of variables to be compared.

We retained six environmental commitment determinants for our study, which, when combined, resulted in fifteen different scales proposed to the respondents (Figure 1).

Figure 1: *Example of a numerical scale using combinations of sets of pairs*



AHP was applied to classify the variables according to their degree of importance in strategic decision-making. The surveys based on sustainable development indicated that the social desirability problem can play a substantial role. Using the AHP method helps to offset this problem by offering respondents many different combinations of determinants.

Sample

Following a pre-test conducted with three companies, an e-questionnaire was sent out to 70 companies of different sizes (from 1 to 61,000 employees) from different business sectors (banking and insurance, automobile, electrical equipment, agriculture, etc.). We contacted project and production managers, and follow-up reminders were sent both by e-mail and over the phone. Out of the 70 companies surveyed, 25 gave a positive answer to our request, a response rate of nearly 36%. However, only 18 questionnaires were fully included in the study (seven firms only partially completed the questionnaire as their environmental strategy was insufficiently developed). The companies that responded to the survey are included in Table 4.

Table 4: Sample population

Name	Sector of activity	Number of employees (2012)
FACE VERTE	Services	1
MAUD N'MILES	Traditional manufacturing of reusable nappies	1
CITEASEN	Communication	8
E4	Plastic and metal products distribution	20
E5	Retail and lathe manufacturing	20
LIBRAIRIE LDE	Services	21
MORGANE	Services	26
E8	Telecom infrastructures	27
E9	Territorial and economic development	30
E10	Industrial maintenance	44
E11	Pharmaceutical industry	45
E12	Agriculture	150
LUFKIN FRANCE	Mechanical engineering	230
L&L PRODUCT	Automobile industry	280
E15	Banking and insurance	1000
E16	Automobile industry	1200
PARKEON	IT systems (design and manufacturing)	1200
E18	Kitchen equipment	1500
E19	Automobile industry	1300
E20	Energy	2020
E21	Telecoms	2500
E22	Consulting services	10000
HAGER	Electrical appliances	11000
E24	Connector industry	35000
FAURECIA	Automobile equipment	61000

Note: E4, E5, E8, E9, E10, E11, E12, E15, E16, E18, E19, E20, E21, E22 and E24 are companies that wished to preserve their anonymity.
E4, E5, *librairie*, *Morgane*, E9, E11 and E19 are companies that partially completed the survey and whose environmental strategy does not appear to have been fully developed.

Our sample is representative of the French manufacturing industry, including firms of different sizes across industrial sectors: thirteen small businesses with under 250 employees, eight medium-sized firms with 250 to 5000 employees and four large organisations with over 5000 employees.

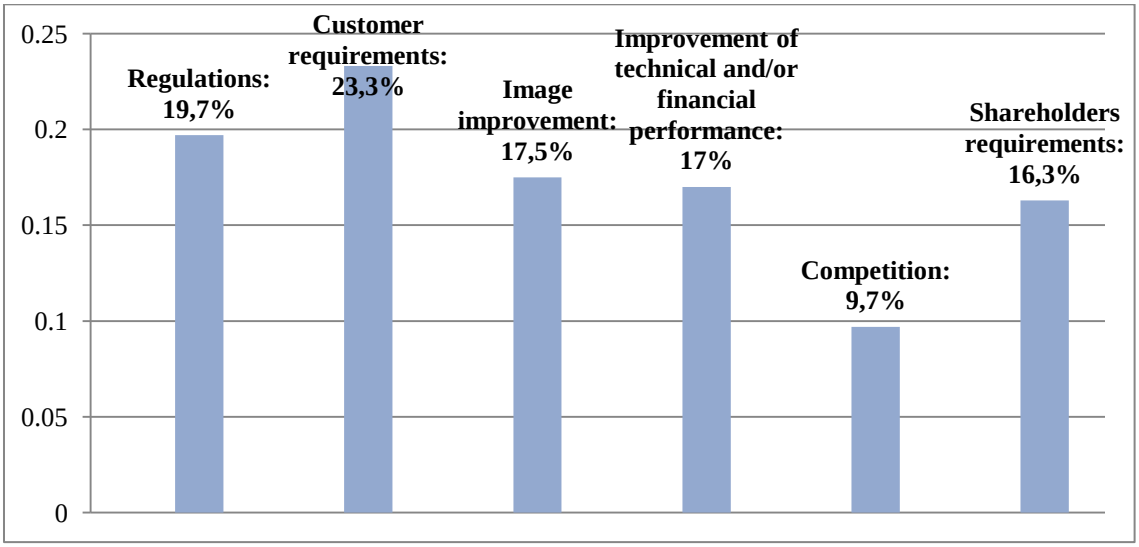
4. FINDINGS AND DISCUSSION

The survey answers were analysed using the software Expert Choice 11. The results obtained have been summarised in Figure 2 (for further details, see appendix 1).

In Figure 2, we can see that the companies' desire to meet the 'clients' demands' is the main driver of environmental commitment for businesses, with a response rate of 23.3%. Legislation comes second, with a response rate of 19.7%. These results can be attributed to the increasingly stringent European legislation regarding the environment. In third position we find the 'enhancing brand image' variable, with a relatively large ratio of 17.5%. This appears to support the idea that environmental issues are now a major marketing tool used by companies to improve their image with consumers who are highly sensitive to environmental

issues. We then find a financial motivation in the form of 'improving technical and/or financial performance'. The 'competition' variable ranked the lowest, with little impact on the decision to demonstrate commitment to the environment.

Figure 2: Determinants of environmental commitment in the companies surveyed



Our findings confirm the importance of legislation in the decision of firms to opt for responsible strategic behaviour. However, this factor is not the most important as it came second after 'meeting clients' demands'. As Corbett *et al.* (2005) noted, compliance with legislation is no longer the main driver for companies, which must prove to their clients and to the public in general that they take environmental issues seriously and will go to all necessary lengths to improve their performance in this regard.

The findings are also consistent with the conclusions of the study by Menguc *et al.* (2010) which indicated that in countries where the concept of proactive environmental behaviour is well established (developed countries), the role of legislation has declined, giving more power to other stakeholders.

On the other hand, legislation can play a very important role in markets where this is a recent concept (emerging countries). A study by De Abreu (2011) correlates with this conclusion, highlighting the key role that legislation plays in Brazil: all of the 27 companies surveyed adopted an '*environmental champion*' strategy although the development of responsible practices is also highly motivated by the legislation in force. The market orientation recently pursued by Brazilian firms leads them to place greater emphasis on the image they project to society at large.

Another study finding highlights the important role of clients' demands as well as the attempt to enhance a company's image by choosing to adopt responsible environmental behaviour. In making this choice, companies seek to establish legitimacy with clients who are highly sensitive to environmental issues. This finding was in line with the conclusions by Benoit-Moreau *et al.* (2010) who suggested that communicating on environmental commitment generates a number of benefits. At *corporate* level, it enhances the reputation and legitimacy of the company's operations. At *commercial* level, it helps to nurture the brand image and

resources while developing its differentiation, as well as loyalty and motivation among the company's employees.

Our findings also suggest that disparities persist if we take the size of the companies into account. This echoes the conclusions reached by Gonzalez-Benito & Gonzalez-Benito (2006) who observed that the drivers behind a company's commitment to an environmental strategy may vary according to their characteristics and their size in particular. Disparities persist between large companies and smaller ones, especially in terms of strategic orientation in the area of sustainable development (Russo & Perrini, 2010). Our study suggests that it is in fact smaller firms that seem to attach greater importance to their clients' demands.

5. CONCLUSION

Today, many factors thrust a company into an extremely dynamic competitive environment: new environmental regulations, new norms, growing pressure from stakeholders, as well as the demand for new and cleaner technologies (Bansal and Roth, 2000; Albino *et al.*, 2012). The main focus of our research was to identify the drivers behind the environmental commitment of companies and to ascertain the extent to which legislation informs decision-making in this regard. The study conducted in France showed that legislation remains an important factor in the promotion of good environmental practice for business organisations across all sectors, but it does not carry as much weight as it used to. A search for legitimacy among stakeholders, especially consumers, has become the new driver of environmental commitment for firms in general.

REFERENCES

Aggeri, F. 1999. Environmental policies and innovation: A knowledge-based perspective on cooperative approaches. *Research Policy*, 28: 699-717.

Akın Ates, M., Bloemhof, J., Van Raaij, E., & Wynstra, F. 2012. Proactive environmental strategy in a supply chain context: the mediating role of investments. *International Journal of Production Research*, 50 (4): 1079-1095.

Albino, V., Balice, A., Dangelico, R.M., & Iacobone, F.A. 2012. The effect of the adoption of environmental strategies on green product development: a study of companies on world sustainability indices. *International Journal of Management*, 29 (2): 525-538.

Ameer, R., & Othman, R. 2012. Sustainability practices and corporate financial performance: A study based on the top global corporations. *Journal of Business Ethics*, 108: 61-79.

Bansal, P., & Roth, K. 2000. Why companies go green: A model of ecological responsiveness. *Academy of Management Journal*, 43 (4): 717-736.

Barker, T., & Zabinsky, Z. 2011. A multicriteria decision making model for reverse logistics using analytical hierarchy process. *Omega*, 39: 558-573.

Benoit-Moreau, F., Larceneux, F., & Parguel, B. 2010. La communication sociétale entre opportunités et risqué d'opportunisme. *Décision Marketing*, 59: 75-78.

Bhagwat, R., & Sharma, M. 2007. Performance measurement of supply chain management using the analytical hierarchy process. *Production Planning & Control*, 18(8): 666-680.

Buysse, K., & Verbeke, A. 2003. Proactive environmental strategies: a stakeholder management perspective. *Strategic Management Journal*, 24: 453-470.

Cacioppe, R., Forster, N., & Fox, M. 2007. A survey of managers' perceptions of corporate ethics and social responsibility and action that may affect companies' success. *Journal of Business Ethics*, 82: 681-700.

Clarkson, P., Li, Y., Richardson, G., & Vasvari, F. 2011. Does it really pay to be green? Determinants and consequences of proactive environmental strategies. *J. Account Public Policy*, 30: 122–144.

Corbett, C., Montes-Sancho, M., & Kirsch, D. 2005. The financial impact of ISO 9000 certification in the United States: An empirical analysis. *Management Science*, 51(7): 1046-1059.

De Abreu, M. 2011. Effects of Environmental Pressures on Company Sustainability Strategies: An Interview Study among Brazilian Manufacturing Firms. *International Journal of Management*, 28 (3): 909-925.

Fraj, E., & Martinez, E. 2007. Ecological consumer behavior: an empirical analysis. *International Journal of Consumer Studies*, 31 (1):26-33.

Gherib, J., & M'hissen, I. 2010. Engagement environnemental et taille de l'entreprise : une lecture à travers la théorie néo-institutionnelle, Communication présentée à la *XIXème Conférence de l'AIMS*, Luxembourg.

González-Benito, J., & González-Benito, O. 2006. A review of determinant factors of environmental proactivity. *Business Strategy and the Environment*, 15 (2): 87-102.

Ishizaka, A, Pearman, C, & Nemery, P. 2012. AHPSort: an AHP-based method for sorting problems. *International Journal of Production Research*, 50 (17): 4767-4784.

Leung, X., Wang, F., Wu, B., & Busser, J. 2011. Park users' quality evaluation : applying an analytical hierarchy process for managers', *Managing Leisure*, 16 (2) : 142-160.

Martinet, A., & Reynaud, E. 2004. Entreprise durable, finance et stratégie. *Revue Française de Gestion*, 30 (152): 121-136.

Menguc, B., Auh, S., & Ozanne, L. 2010. The interactive effect of internal and external factors on a proactive environmental strategy and its influence on a firm's performance. *Journal of Business Ethic*s, 94: 279-298.

Paulraj, A. 2009. Environmental Motivations: a Classification Scheme and its Impact on Environmental Strategies and Practices. *Business Strategy and the Environment*, 18: 453-468.

Russo, A., & Perrini, F. 2010. Investigating Stakeholder Theory and Social Capital: CSR in Large Firms and SMEs. *Journal of Business Ethics*, 91: 207-221.

Saaty, T. 1980. *The Analytic Hierarchy Process*. New York.

Schaltegger, S., & Synnestvedt, T. 2002. The link between 'green' and economic success: environmental management as the crucial trigger between environmental and economic performance. *Journal of Environmental Management*, 65: 339-346.

Sekerka, L., & Stimel, D. 2011. How durable is sustainable enterprise? Ecological sustainability meets the reality of tough economic times. *Business Horizons*, 54: 115-124.

Torugsa N., O'Donohue W. & Hecker R. (2013). Proactive CSR : An empirical analysis of the role of its economic, social and environmental dimensions on the association between capabilities and performance. *Journal of Business Ethics*, 115: 383-402.

Tucker, E., Rifon, N., Lee E.M. & Reece B. (2012). Consumer receptivity to green ads. *Journal of Advertising*, 41 (4): 9-23.

Wijen, F., & Van Tulder, R. 2011. Integrating environmental and international strategies in a world of regulatory turbulence. *California Management Review*, 53 (4): 23-46.

Appendix 1: Results by company

	Variable weight						
	Regulation	Custumer requirement	Image Enhance-ment	Improvement of technical/ financial performance	Competition	Demands of shareholders	**Total variable weight and RI**
FACE VERTE	*0,162*	*0,471*	*0,227*	*0,079*	*0,031*	*0,031*	1 (100%) *RI= 0,06*
Maud n'Miles	*0 ,044*	*0,229*	*0,229*	*0,229*	*0,244*	*0,025*	1 (100%) *RI= 0*
CITEASEN	*0,042*	*0,446*	*0,114*	*0,124*	*0,242*	*0,031*	1 (100%) *RI= 0,06*
E 8	*0,033*	*0,132*	*0,560*	*0,113*	*0,101*	*0,061*	1 (100%) *RI= 0,04*
E 10	*0,044*	*0,375*	*0,042*	*0,072*	*0,202*	*0,265*	1 (100%) *RI= 0,05*
E 12	*0,442*	*0,075*	*0,168*	*0,202*	*0,074*	*0,039*	1 (100%) *RI=0,05*
LUFKIN FRANCE	*0,190*	*0,465*	*0,135*	*0,094*	*0,053*	*0,063*	1 (100%) *RI= 0,04*
L§L PRODUCT	*0,052*	*0,184*	*0,080*	*0,298*	*0,082*	*0,303*	1 (100%) *RI=0,02*
E 15	*0,033*	*0,132*	*0,560*	*0,113*	*0,101*	*0,061*	1 (100%) *RI= 0,04*
E 16	*0,396*	*0,058*	*0,035*	*0,399*	*0,055*	*0,058*	1 (100%) *RI=0,01*
Parkeon	*0,055*	*0,53*	*0,068*	*0,290*	*0,051*	*0,483*	1 (100%) *RI=0,01*
E 18	*0,139*	*0,053*	*0,286*	*0,077*	*0,122*	*0,324*	1 (100%) *RI= 0,07*
E 20	*0,379*	*0,085*	*0,091*	*0,383*	*0,038*	*0,025*	1 (100%) *RI= 0,08*
E 21	*0,030*	*0,077*	*0,165*	*0,116*	*0,056*	*0,556*	1 (100%) *RI=0,06*
E 22	*0,063*	*0,216*	*0,047*	*0,282*	*0,083*	*0,359*	1 (100%) *RI=0,05*
HAGER	*0,443*	*0,241*	*0,128*	*0,047*	*0,036*	*0,106*	1 (100%) *RI=0,07*
E 24	*0,358*	*0,207*	*0,104*	*0,109*	*0,104*	*0,119*	1 (100%) *RI=0*
FAURECIA	*0,492*	*0,224*	*0,115*	*0,044*	*0,087*	*0,039*	1 (100%) *RI=0,06*
Mean value	**0,197**	**0,233**	**0,175**	**0,17**	**0,097**	**0,163**	1 (100%)

RI : Ratio of inconsistency. It is estimated that in a decision problem involving less than nine factors, the ratio of inconsistency must be below a threshold of 10%.