

Integration between environmental management and strategic planning in the oil and gas sector

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Abstract

For activities that have a high possibility of causing environmental accidents, like in the oil and gas sector, it is reasonable to expect the environmental management to be an important variable within the company's strategic planning. However, this is not always true. In some cases, a change in the companies' attitude, abandoning a reactive position and assuming a proactive one, only happens upon the occurrence of serious environmental accidents with strong repercussion in the media. For the company that was the object of study, these accidents gave rise to deep changes in its environmental management, culminating in investments of approximately US\$ 2.6 billion in environment, health and security, from 2000 to 2004. This was the highest amount to date invested on these areas by an oil company.

This case study seeks to discuss the integration between environmental management and strategic planning in the oil and gas sector over a period of 10 years (from 1995 to 2004) in order to make a contextual analysis of the period before and after the environmental accidents possible.

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1. Introduction

Since the end of the 1980s, the major world corporations have been paying more attention to the environmental issue, whether because of the strictness of regulations or because of the awareness and subsequent demand from society for more commitment to the environment. Besides these legal and social issues, financial specialists foresee that the environmental concerns from large organizations—which are interested in attracting new investors—are going to increase a lot and will be an important distinguishing factor, influencing investors' choices as well as resulting in financial returns. It is interesting to observe that—even if only the financial returns in the December 1993–June 2004 period are considered—companies' stocks included in the *Dow Jones Sustainability Group Index (DJSGI)* had an appreciation of 146% versus 108% of the *Dow Jones* general index (Exame Guide, 2004).

A way of trying to evaluate the importance of the environmental issue within these large organizations is to estimate the interaction level between the environmental management adopted by the company and its strategic planning. The analysis of this interaction becomes even more relevant when the occurrence of serious environmental accidents has a strong repercussion in the media. In 2000, the studied company was responsible for two serious environmental accidents, with a total oil spill of about 5.3 million liters. The accidents made the company change drastically both the strategic plans and, mainly, the environmental management.

Traditionally the oil and gas sector is one of the most harmful activities to the environment. The World Bank, using the database of *Industrial Pollution Projection System (IPPS)*, presents the petrochemical sector as highly risky polluting agent for several types of different pollutants (Young, 2000/2001). We should also remark the high risks of oil and its derivatives spills mainly during pumping and transportation operations. The chart below shows the main polluting gases emissions from the petrochemical sector among others.

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Table 1
Pollutants proceeding from oil activity and others

Pollutant	Industrial sectors
Sulphur dioxide, SO ₂	Metallurgy of not ferrous; oil refinery and petrochemical industry
Nitrogen dioxide, NO ₂	Oil refinery, petrochemical industry and siderurgy
Carbon monoxide, CO and volatile organic composites, COV	Oil refinery, petrochemical industry, siderurgy and chemicals

Source: Adapted from Young (2000/2001).

According to Table 1, we can see the importance of the oil and gas sector in any discussion related to environment preservation. Besides this, in respective literature (Ghobadian et al., 1995; Azzone et al., 1997; Ahmed et al., 1998; Sharma, 2000; Banerjee, 2001; Faulkner et al., 2005), there are still some questions that can be explored such as the integration between strategic planning and environmental management.

Contributing to this discussion, by presenting how environmental management has evolved in 10-year time, its relation and integration with strategic planning before and after serious environmental accidents, the possible effects on the financial performance during this period of the largest Brazilian company and one of the 14 large companies in this sector of the world constitute the relevance of this research. So, the aim of this study is to discuss the integration of the environmental management with Petrobras—Petróleo Brasileiro S/A strategic plans, as well as measure the changes that occurred after the environmental accidents in the 1995–2004 period.

2. The strategic planning and the environmental management

For Anthony and Govindarajan (1998), strategic planning consists of the process through which the programs that will be adopted by the company are selected, and the approximate quantity of resources that the company will reserve for each program is determined in the following years. They also point out that the strategic planning is systematic; there is a process of annual planning, with definite procedures and deadlines. However, the strategic formulation is not systematic. The strategies are always reexamined when opportunities and risks appear.

Strategy can also be understood as a company's "choice and commitment" to its goals and practices. The incorporation of environmental management to strategic planning can be evaluated according to the priority of its implementation, maintenance and update, besides the resources invested on the area (Lee and Rhee, 2007).

The correct implementation of strategic planning shall be capable of foreseeing obstacles and preparing possible solutions before the problem appears. Besides this, it is necessary to monitor its execution so that any conduct

Table 2
Strategic planning advantages and limitations

Advantages	Limitations
It provides a suitable structure for the elaboration of the annual budget	Strategic planning may end up changing into a bureaucratic activity, divorced from strategic thought
It provides an executive improvement tool	
It makes a long-term foresight possible	High executives consume too much time for the elaboration of strategic planning
It aligns the executives with the company's strategy	
It helps in the determination of the short-term necessary steps for the accomplishment of the long-term strategies	It can only be used in companies that are able to make reliable projections of the future

Source: Adapted from Anthony and Govindarajan (2002).

deviation is identified and corrected before creating greater problems. The strategy shall be flexible enough to adapt itself to external scenario changes, by keeping it competitive in the market (Kumar et al., 2006). One of these important scenario changes are the increasing requirements, both legal and from the society itself, regarding the environment preservation.

Among other advantages, the correct use of strategic planning makes it possible for all the employees to understand how they can contribute to the success of the company as a whole. However, when the strategic planning is not correctly implemented and used, it also presents limitations as per table below.

From the points presented in Table 2, some aspects can be pointed out. Regarding strategic planning advantages, a long-term vision and its relation with short-term measures are vital issues for the integration between strategic planning and environmental management, as a great part of the strategic decisions, which have effects both in short and long terms, go through an evaluation of possible effects on the environment preservation, specially in high-risk activities such as oil and gas. Regarding the limitations, the strategic planning transformation into a bureaucratic activity, when integrated with environmental management, makes both simply figurative pieces, without any operational usefulness.

Although the issues related to environment have been the center of several current discussions in the world, there is still a long way to go regarding the relationship between environmental management and strategic planning. Some researches done in the past decade identified the existence of environmental issues influence on companies' strategic planning (Ahmed et al., 1998; Azzone et al., 1997; Ghobadian et al., 1995). However, 10 years later, a research done in the United Kingdom identified the existence of a certain distance between environmental management and the business strategic planning. This distance is more significant than the distance between the creation of environmental management and its implementation.

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