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BARRIERS TO THE ADOPTION OF PROACTIVE ENVIRONMENTAL STRATEGIES IN POLISH COMPANIES

Abstract:

Nowadays, many companies are under pressure to take care about the natural environment. However, companies differ from one to another because of their response to natural environment. For this reason companies implement different environmental strategies. The literature indicates a continuum range from passive to proactive strategies. The proactive strategies are typical for companies that voluntarily take measures to reduce their impact on the natural environment. The reasons for a lack of environmental proactive strategies are very complex. Some of the factors both from outside and inside the firms discourage them to implement proactive environmental strategies. The aim of the article is to present the influence of external and internal barriers perceived by managers which inhibit implementing the proactive environmental strategies in Polish companies because of the gap of knowledge.

Keywords:

Keywords: proactive environmental strategies, proactivity, barriers, companies.

JEL Classification: Q01

Introduction

Many firms assume their civic responsibility and improve their performance by minimizing their impact on the natural environment by implementation of proactive environmental strategies. Additionally, firms can also obtain different competitive advantages through more proactive or advanced environmental strategies. *A proactive environmental strategy is defined as a company's systematic approach to environmental issues that voluntarily goes beyond the organization's legal obligations* (Aragón-Correa, 1998). The influence of development of proactive environmental strategies of firms is complex and can be derived from both outside and inside the firm. These effects can be both positive and negative. The effects of the negative factors (barriers) that hinder the development of proactive environmental strategies have received little attention from scholars (Dahlmann et al. 2008). The aim of the paper is to present the essence of proactive environmental strategies in firms and barriers that influence their development in Polish companies.

Proactive environmental strategies of firms

Environmental strategies have commonly been classified along a continuum that ranges from reactive to proactive strategies. The most previous classification of the environmental strategies was presented by Henriques and Sadosky (Henriques, Sadosky, 1999). They have performed a series of items related to more or less advanced environmental practices of firms like: having an environmental committee, having an environmental plan, having a written environmental plan, informing shareholders and employees of the environmental plan and having an environmental, health and safety unit. These authors have classified four strategic environmental categories – Reactive Strategy, Defensive Strategy, Accommodative Strategy and Proactive Strategy which differ from the degree of proactivity (Table 1). Some authors, consider also passive strategies of those firms that do not even satisfy the minimum environmental requirements within the continuum. Reactive strategies are found at the next level of the continuum. These are the ones adopted by firms in response to compulsory environmental requirements and regulatory requirements. This type of reactive strategies is characterized by the use of traditional methods to correct pollution that has already been generated, also known as end-of pipe solutions (Aragón-Correa, 1998). Defensive strategies are characterized by piecemeal involvement of top management, little employees environmental involvement and training and the company goes beyond only minimal the requirements. Accommodative strategies of firms represent a next level of this continuum characterized by some involvement of top management and employees, internal reporting but little external reporting by firms and environmental management is worthwhile business function. Finally, the proactive strategies are found in the most advanced positions of the continuum. These are based on the use of modern methods to prevent pollution, which have been defined as those strategies that go beyond the requirements specified by the regulation or by the normal practices of the sector. The

conceptual classification of firms' approaches to the natural environment is presented in table 1.

Table 1. Conceptual classification of firms' approaches to the natural environment according to Henriques and Sadorsky (1999)

Type of strategy	Characteristics
Reactive	No support or involvement of top management
	Environmental management is not necessary
	No environmental reporting
	No employee environmental training and involvement
Defensive	Piecemeal involvement by top management
	Environmental issues only with when necessary
	Satisfy environmental regulations
	Little employee environmental training and involvement
Accommodative	Some involvement by top management
	Environmental management is worth function
	Internal reporting but little external reporting
	Some employee environmental training and involvement
Proactive	Top management supports and is involved in environmental issues
	Environmental management is important business function
	Internal and external reporting
	Employee environmental training and involvement encouraged

Source: Henriques, I., Sadorsky, P., *The relationship between environmental commitment and managerial perceptions of stakeholder importance*. *Academy of Management Journal*, 1999, Vol. 42 (1), pp. 87-99.

Buyse and Verbeke (2003) propose three categories of environmental strategies: Reactive Strategy, Pollution Prevention and Environmental Leadership. This classification has been obtained through a cluster analysis performed on a series of items that are indicative of the environmental practices developed by the firm: conventional green competencies, employee skills, organizational competencies, management systems and procedures and the strategic planning process (Buyse and Verbeke, 2003). Murillo-Luna et al.(2007) propose four types of environmental response pattern: Passive Response, Attention to Legislation Response, Attention to Stakeholders Response and Total Environmental Quality Response. The validation of the proposed types enables them to present the most proactive environmental response patterns as those involving stakeholder management, investment in environmental research and development, the adoption of measures aimed at both preventing and correcting pollution, staff training in environmental issues and the allocation of environmental responsibilities (Murillo-Luna 2007). In table 2 are presented four types of environmental behaviours reflecting the levels of proactivity in companies.

Table 2. Levels of proactivity of strategic environmental behaviours

Descriptions of types of environmental strategies in firms			
Passive Strategy	Attention to Legislation Strategy	Attention to Stakeholders Strategy	Total Environmental Quality Strategy
The environmental objective is not an objective currently pursued by firms.	The environmental objective of firms only consists of complying with legislation on environmental matters.	The environmental objective of firms is not just limited to complying with legislation on the environment, but rather it also attends to the requirements of customers, suppliers on the subject.	The environmental objective is one of the priority objectives of firms.
A firm hardly dedicates any time and financial resources to environmental protection.	A firm only dedicates the time and financial resources necessary to environmental protection in order to comply with legislation.	A firm dedicates the necessary time and resources to environmental protection in order to comply with legislation and, furthermore, in order to attend to the environmental pressures from other agents.	A firm dedicates important budgets to environmental protection for reasons that go beyond complying with legislation and attending to pressures from other agents.
A firm does not adopt any kind of technical or organizational environmental protection measure.	The environmental measures adopted by firms have not involved any significant change in the production and work methods, or in the organizational structure.	The environmental measures adopted by firms have required the modification of the production and work methods and/or the modification of the organizational structure.	The environmental measures adopted by firms are highly relevant to conditioning both the production processes as well as the organizational structure and how work is performed at your firm.
A firm does not plan on obtaining environmental kinds of certifications.	The environmental measures adopted by firms are not certified.	Some of the environmental measures adopted by firms are certified or are in the process of being certified.	The environmental measures adopted by firms are certified.
A firm does not have any person who is responsible for dealing with environmental matters.	The environmental matters of firms are resolved by external professionals and/or by internal personnel who are not exclusively dedicated to the environment	A firm regularly requests the services of external professionals specialized in environmental matters and/or has qualified internal personnel to take care of these matters.	The responsibility for environmental matters is clearly assigned to one or various persons of firms who are specialized in this matter and/or to a department.

Source: Murillo-Luna J. L., Garcés-Ayerbe, C., Rivera-Torres P., *What prevents firms from advancing in their environmental strategy? International Advances in Economic Research*, 2007, Vol. 13(1), pp. 35-46.

The types of strategic environmental behaviours presented in table 2 were used in the empirical part of the article to select the types of strategies in surveyed companies.

Selected drivers of implementation of environmental proactive strategies in firms

External barriers, which exist outside the firm and cannot be directly controlled, include such factors as uncertainty about international and national environmental legislation, the technical complexity of environmental solutions, and the absence of green market opportunities. A lack of consumer sensitivity to natural environmental issues has a direct and negative impact on a proactive environmental strategy. Therefore, when consumer sensitivity to natural environment issues increases, firms are more likely to adopt a proactive environmental strategy. Some studies indicate that a lack of government support for encouraging firms to implement ISO 14001 certifications (it is a first step for developing an environmental management) is the important barrier. That is why it is essential to develop public support programmes that

correctly aimed towards the aspects that have been proved to be more effective and efficient in increasing firms' environmental orientation (Mondéjar-Jiménez, 2013).

External barriers are related to the type of business activity in which the firm is engaged. External barriers such as capital costs, competitive pressure, industry regulation, technical information and uncertainty mainly affects firms operating in the most highly polluted sectors. It is interesting that the negative impact on firms' environmental orientation is remarkable when high administration influence is perceived. This might be explained by the fact that proactive environmentally firms usually precede administrative regulations and, so administrative influence in these firms is low.

Internal barriers (called also as organisational factors) are generated within the organization, and typically include a lack of financial resources for investments in the necessary actions and resources, difficulties in modifying non-environmentally friendly practices, a lack of environmental awareness among organizational members, inadequate top-management leadership, and unfavourable attitudes among workers and directors with respect to changes in working habits (Delgado-Ceballos et al. 2012). Internal barriers affect firms' proactivity regardless of the business activity in which they are engaged, given that they originate firms' specific organization and eco-friendly practices.

A lack of financial resources is observed as one of the main internal barriers which can make impossible necessary investments in environmental management. It is argued that proactive environmental strategies require the purchase and installation of new technology. Thus, if an organization has no financial resources, its attempts to implement proactive environmental strategies will be limited (Delgado-Ceballos et al. 2012). The problem with a lack of financial resources is usually meet in small business than in large companies.

Most common problems with implementation of proactive environmental strategies are relevant to difficulties of modifying past non-environmental practices. If firms wish to develop a proactive environmental strategy must replace current technologies that are still profitable because it requires the voluntary development of preventive measures to control the company's impact on the environment by purchasing and installing new technology, that is, the modification of current practices. Otherwise, the organization which is unable to modify these past practices will not successfully develop a proactive environmental strategy. A lack of environmental awareness among employees may negatively affect the development of a proactive environmental strategy. If employees view the environment as a minor issue, they will not engage in the firm's attempts to implement real environmental change, which in turn creates a barrier to the success of a proactive environmental strategy (Seroka-Stolka, Nowakowska-Grunt, 2012).

Many studies have focused on the resources and organisational capabilities that influence companies' potential proactively address and their impact on the environment. Top managers play a crucial role in developing proactive strategies and

a lack of top managers' leadership and their support influence negatively on organization's values and orientation. The commitment of top management is crucial to successful environmental management. A proactive environmental strategy needs specific knowledge possessed by managers and new organizational capabilities. If they are missing, it is hard to implement a proactive environmental strategy. A success of a proactive environmental strategy depends on understanding by all workers of firm's environmental objectives. In such cases, motivation from managers will be crucial for convincing workers of the benefits of the environmental strategy and the need to develop the organizational capabilities required for successful implementation. From this point of view, a lack of environmental values, environmental awareness and attitudes among managers and workers negatively affects the development of proactive environment strategies, because their engagement is crucial to the strategy's development. Table 3 presents selected external and internal barriers of achieving proactive environmental strategies.

Table 3. External and internal factors/barriers of proactive strategies in companies

External /factors/ barriers	Internal factors/barriers
Policy and market barriers	Technical and information barriers
Financial and economic barriers	Managerial and organizational barriers
Certifiers/verifiers	Resources
Economics	Understanding and perception
Institutional weaknesses	Implementation
Support and guidance	Attitudes and company culture

Source: Chan, E.S., 2008. *Barriers to EMS in the hotel industry. Hospitality Management, Vol. 27, 187-196*; Shi, H., Peng, S.Z., Lui, Y., Zhong, P., 2008. *Barriers to the implementation of cleaner production in Chinese's SMEs: government, industry and expert stakeholders' perspectives. Journal of Cleaner Production 16, pp. 842-852.*

Sample and methods

In order to achieve the aim of the paper, a survey was conducted among 156 small (24%) and medium (40%) and large (36%) enterprises from the Silesian region in Poland. The study participants were the service and trade companies (39%) and manufactured companies (61%). The share of the enterprises in terms of the financial condition was as follows: very good (19%), good (36.5%), medium (38%) and bad (6.5%). A questionnaire survey was fulfilled by functional management staff responsible for environmental management system. The four definitions in table 2 were included in the questionnaire and respondents were asked to choose the most appropriate description of the environmental strategy if at least three of the aspects were suitable for their firms. A list of the environmental management aspects that associated with each environmental strategy representing a different proactivity level is presented in Table 2. According to the literature were chosen 8 barriers and the variables were measured through five-point Likert scales. Firms were asked to assess the barriers where the value 1 meant-"not at all important", and value 5-"the most important" barrier. To assess the influence each of the barrier on proactive strategic proactivity, the descriptive statistics were used. In order to estimate significant differences in the assessment of the barriers between companies the analysis of

variance (ANOVA) Kruskal-Wallis test was performed. To indicate which groups of companies representing different environmental strategies the post hoc tests were performed.

Results of the research

The results of this self-classification indicate that 37% companies chose a reactive strategy, 34 % companies chose a strategy of “Attention to the stakeholders” and 29% of the firms recognized a proactive strategy. It has not been identified any company with declared the passive environmental strategy. As a result the sample consisted of three groups of firms with different environmental strategies.

Among statements relating to external barriers of environmental strategies, the respondents agreed that the most important barrier are high cost of environmental technologies. Surprisingly companies with a strategy “Attention to the stakeholders” indicated that “high cost of environmental strategy” are more important than in companies with a proactive strategy. Among statements relating to internal barriers, “lack of favourable environmental culture” gained the highest average value among companies with a proactive environmental strategy. In this case, average values for „attention to stakeholders strategy” were higher than for proactive environmental strategies. The results of descriptive statistics are presented in Table 3.

Table 3. Descriptive statistics of the assessment of the external and internal barriers of environmental strategies in Polish companies

Variables	Type of environmental strategy					
	Proactive		Attention to stakeholders strategy		Reactive	
	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD
<i>External barriers</i>						
High cost of environmental technologies	4.00	0.99	4.20	0.85	3.63	0.90
Uncertainty about effect on results of environmental practices	3.33	1.27	3.61	0.95	3.45	0.87
Lack of information about new technologies	2.53	0.99	3.05	1.02	2.73	1.16
Scarce flexibility in regulation compliance times	3.26	1.38	3.82	1.18	3.14	1.39
<i>Internal barriers</i>						
Lack of environmental training of the employees	2.44	1.19	2.88	1.22	2.77	1.06
Lack of favourable environmental culture	2.60	1.29	3.08	1.31	2.95	1.21
Lack of environmental organizational skills	2.33	1.23	3.12	1.36	2.41	1.33
Lack of environmental knowledge	2.46	1.19	3.01	1.22	2.81	1.40

Legend: SD–standard deviation, \bar{x} –arithmetic mean.

Exploratory principal analysis for external and internal barriers indicate that internal barriers received higher percent of explained variance (36%-factor 1). Total explained variance for all barriers reached the value 60%. The variable “high cost of environmental technologies” received the highest value of factor loading (0.84). The

Cronbach alfa coefficient exceed 0.7 in external and internal barriers (Table 4). Among the statements relating to the external barriers (Table 5) there is no significant difference between companies of agreement to „uncertainty about effect on results of environmental practices”. It means that companies regardless of the level of environmental proactivity perceive the “uncertainty about effect on results of environmental practices” at similar levels. The main internal barriers are related to the lack of favourable environmental culture in all companies. There are significant differences between companies of the assessment of the most internal barriers. It means that companies significantly differ according to the level of environmental strategic proactivity.

Table 4. Exploratory principal analysis for external and internal barriers of proactive environmental strategy

	Factor 1	Factor 2
	<i>varimax rotation</i>	
<i>External barriers</i>		
High cost of environmental technologies		0.84
Uncertainty about effect on results of environmental practices		0.71
Lack of information about new technologies		0.75
Scarce flexibility in regulation compliance times		0.78
<i>Internal barriers</i>		
Lack of environmental training of the employees	0.82	
Lack of favourable environmental culture	0.79	
Lack of environmental organizational skills	0.89	
Lack of environmental knowledge	0.83	
	explained variance 36%	explained variance 24%
Total explained variance 60%		
Cronbach α . 0.72		

Table 5. Analysis of variance (ANOVA) Kruskal–Wallis and a multiple comparison post hoc test for a Kruskal–Wallis analysis for the assessment external and internal barriers between companies representing different levels of environmental proactivity

Variables	Analysis of variance ANOVA Kruskal–Wallis		
	The H test	p value	Post- hoc tests
<i>External barriers</i>			
High cost of environmental technologies	8.34	0.022	a, b, c
Uncertainty about effect on results of environmental practices	1.44	0.231	N
Lack of information about new technologies	6.81	0.037	a, b, c
Scarce flexibility in regulation compliance times	5.62	0.045	a, b, c
<i>Internal barriers</i>			
Lack of environmental training of the employees	5.81	0.047	a, b, c

Lack of favourable environmental culture	6.56	0.034	a, b, c
Lack of environmental organizational skills	7.06	0.025	a, b, c
Lack of environmental knowledge	6.88	0.038	a, b, c

Legend: a- proactive strategies, b- Attention to stakeholders strategies, c- reactive strategies, results at $\alpha=0.05$, N-non-significant result

It can be observed the tendency of the average values of the barriers when the proactivity increases, it is detected similar effects of the external and internal barriers. The greater the strategic proactivity level is the less the average value assigned to the barrier is. We can conclude that the internal and external barriers hinder progress towards environmental strategic proactivity from the first efforts made by the firm. It seems that the most important step for firms is gaining the level of a “Attention to the stakeholders “ strategy because then firms try to invest in environmental technologies, integrate stakeholders and improve the production, work methods and the organizational structure. Figure 1 and 2 present the graphic tendency of assessment of internal and external barriers among the firms with different levels of environmental proactivity.

Figure 1: External barriers

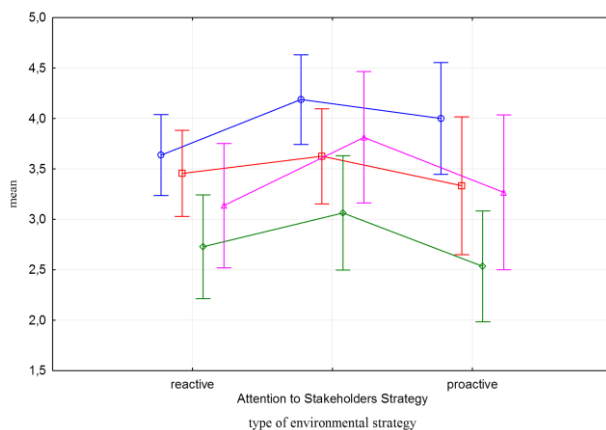
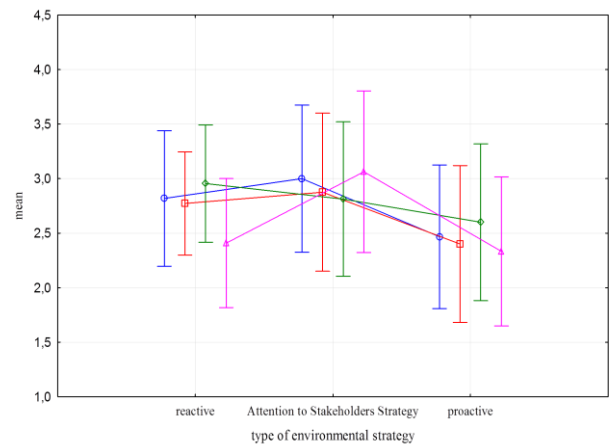


Figure 2: Internal barriers



Legend: external barriers for companies with different levels of environmental proactivity

- ◆ High cost of environmental technologies
- ◆ Uncertainty about effect on results of environmental practices
- ◆ Lack of information about new technologies
- ◆ Scarce flexibility in regulation compliance times

Legend: internal barriers for companies with different levels of environmental proactivity

- ◆ Lack of environmental knowledge
- ◆ Lack of environmental training of the employees
- ◆ Lack of favourable environmental culture
- ◆ Lack of environmental organizational skills

Received results seem to be reasonable because most of advanced strategies (proactive environmental strategies) need more resources and investments and involve more complex actions. Firm with less advanced environmental strategies must overcome existing barriers to reach the higher level of environmental proactivity. Companies with proactive environmental strategies usually have more resources that is why it is easier for them to defeat the existing barriers. Similar results have been received by Murillo-Luna et al. (2007). Their research shows that when firms passing from the “attention to stakeholders strategy” to the proactive environmental strategy, the importance perceived from the barriers decrease, reaching the lowest values. The greater the strategic proactivity level is the less the average value assigned to the barrier is (Murillo-Luna et al. 2007). In contrast to the Murillo-Luna et al. (2007) study, our results indicate that both external barriers and internal barriers hinder progress to environmental proactivity. Murillo-Luna et al. 2007 indicate that external barriers only represent a real problem when going on to higher levels of proactivity. These authors conclude also that only internal barriers have the most negative impact on the proactivity of environmental strategy (Murillo-Luna J. L. et al. 2011).

Conclusions

Observing the tendency of the average values of the barriers when the proactivity increases, it can have been detected similar effects of the external and internal barriers. “High cost of environmental technologies” are perceived as the most important barrier at the level of “attention to stakeholder strategy” and proactive environmental strategy” than at the level of reactive environmental strategy. With respect to the internal and external barriers, the greater the strategic proactivity level is the less the average value assigned to the barrier is. As a result, it is stated that the external and internal barriers hinder progress towards environmental strategic proactivity from the first efforts made by the firm.

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