

## PROACTIVE ENVIRONMENTAL MANAGEMENT AND PRACTICES IN SMALL AND MEDIUM ENTERPRISES (SMEs) – A RESOURCED-BASED PERSPECTIVE

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**Abstract:** Increasing environmental awareness and concern of current society of environmental problems have created a new competitive environment for firms. There are numerous agents which demand firm's responsibility for the environment. The external and internal pressures are motivating firms to adopt a more proactive environmental strategy but it differs from one firm to another. The article focused on these internal factors from resourced-based perspective which have the most important impact on proactive environmental practices and strategies. The crucial role in the achievement of the environmental proactive practices of company play an environmental awareness of the entrepreneur/manager especially in the small and middle size companies.

**Keywords:** environmental awareness, environmental practices, proactive strategies, SMEs, entrepreneurs, managers

**JEL Classification:** Q01

### 1. INTRODUCTION

Small and medium enterprises by definition have limited operations and therefore would not have the potential to impact the environment, to the same degree, as very large businesses. In fact, many small business owners believe that they have little impact on the environment [12, 15, 18, 19]. However, it is argued that their total impact is high. Polish SMEs constitute more than 99 % of all private businesses and their share in GDP was 71.6% in 2010 and for this reason, their impact on the environment is high [18]. They also occupy a similar important position in other developed economies. For this reason, commitment to the natural environment has become an important variable for most firms. Many companies try to initiate voluntary transformations to bring themselves nearer to ecological principles. Such transformations have given rise to diverse environmental strategies ranging between two extreme positions: environmental reactivity, typical of companies that only implement the minimal compulsory changes to meet regulations, and environmental proactivity, typical of companies that voluntarily take measures to reduce their impact on the natural environment. Environmental voluntary practices taking in SMEs depend on external and internal factors. These internal agents are organisational capabilities of top management like: shared vision, strategic proactivity which is related to SMEs entrepreneurs/managers and their individual concern. Individual concern of top management for the natural environment is determined by their environmental awareness as the most important organisational factor determining the level of environmental measures within an organisation.

The purpose of this article is an evaluation of environmental awareness and its influence on voluntary environmentally - friendly practices taking voluntarily in the surveyed companies from Polish Silesian region.

### 2. PROACTIVE ENVIRONMENTAL STRATEGIES - THEORETICAL BACKGROUND

I. Henriques and P. Sadorsky perform a cluster analysis on a series of items related to more or less advanced environmental practices of firms: 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. With the results of this analysis, they classify the environmental strategies of firms into four groups, which the authors call Reactive Strategy, Defensive Strategy, Accommodative Strategy and Proactive Strategy [8]. On the other hand, A. Buysse and K. Verbeke propose three categories of environmental strategies: Reactive Strategy, Pollution Prevention and Environmental Leadership [3].

Environmental proactivity, understood as the voluntary implementation of practices and initiatives aimed at improving environmental performance, can become manifest through different strategies, each characterized by a series of environmental practices [1, 3, 7, 8].

Firms which follow proactive environmental strategies voluntarily try to avoid environmental impacts by dealing with their sources, and they are accepted as the most advanced environmental strategies for firms [1, 3, 20]. Several authors have identified proactive environmental strategies as a firm capability because it is an organisational ability to be able to coordinate heterogeneous resources in order to reduce environmental impacts, simultaneously maintaining or increasing firm competitiveness [2, 7].

### 3. FACTORS DETERMINING THE FIRM'S PROACTIVITY

The reasons for environmental proactivity are complex. J. L. Murillo-Luna et al. propose the set of factors to environmental adaptation into two groups external and internal factors [13]. External environmental factors or aspects cannot be directly controlled by a firm and can hinder the implementation of environmental strategies.

Internal environmental factors are firm-specific ones and also can hinder environmental protection but can be controlled by assigning the necessary resources. These factors can be also named as barriers if they are not perceived as a chance. The different typologies of factors influencing the proactivity of firms presents table 1.

**Table 1** 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
Typology according to [21]	
Certifiers/verifiers	Resources
Economics	Understanding and perception
Institutional weaknesses	Implementation
Support and guidance	Attitudes and company culture
Typology according to [4]	

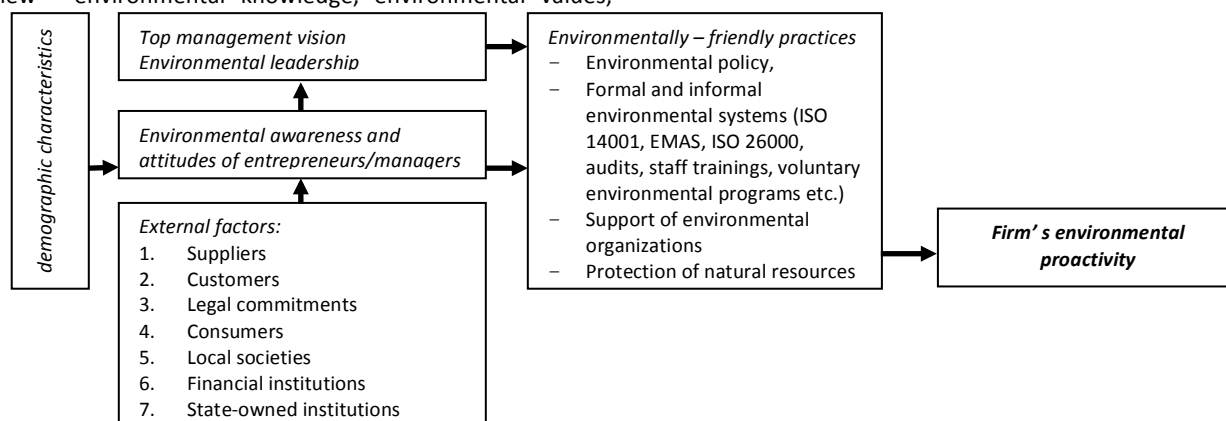
Source: Chan, E.S., 2008. Barriers to EMS in the hotel industry. *Hospitality Management*, Vol. 27, 187-196; Shi, H., Peng, S.Z., Lui, Y., Zhong, P., 2008. Barriers to the implementation of cleaner production in Chinese SMEs: government, industry and expert stakeholders' perspectives. *Journal of Cleaner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

J.L. Murillo-Luna et al. point out that the most important factors that influence the proactivity are internal ones [13]. G. Zilahy and J.A. Aragón-Correa et al. state that organisational capabilities like: environmental motivation, involvement and preparation of employees and top management can stimulate the proactive practices in enterprises [2, 23]. The level of proactivity in small and medium enterprises, particularly depends on environmental vision and individual involvement of the entrepreneurs/managers from the SME sector. This individual involvement in environmental protection problems depend on environmental awareness, attitudes and behaviours of top management in SMEs. The environmental awareness expresses the environmental behaviour which is the direct, visible act of the individual whose aim is the prevention or reduction of the influence on the natural environment [10]. The environmental awareness is a multidimensional construct which consists of many components of the psychological, sociological as well as the economic nature [11]. Some authors have identified five components of environmental awareness from organisational points of view - environmental knowledge, environmental values,

environmental attitudes, willingness to act and actual behaviour - which in their interrelations shape and reflect corporate environmental awareness [14]. The environmental awareness is also one of the most important organisational factors determining the level of environmental measures within an organisation [23]. An implementation of the environmentally-friendly practices is positively correlated with the level of environmental awareness and attitudes of entrepreneurs/managers in small and medium-sizes enterprises [6]. The environmentally-friendly practices when are voluntary can stimulate a higher level of firm's proactivity. The environmental awareness and attitudes are also stimulated by the external factors that affect operation of the enterprises. These include in particular: customers, legal requirements and the expectation of the consumers, local societies and financial and state-owned institutions [6]. The theoretical model of environmental awareness' influence on environmentally - friendly practices and firm's proactivity in SMEs is presented in figure 1. An empirical analysis is provided only in the selected part of the presented model relevant to environmental awareness of entrepreneurs/managers and its influence on environmental voluntary practices.

#### 4. PROCEDURES AND USED METHODS

In order to achieve the aim of the paper, a survey was conducted among 45 small (55%) and medium (45%) enterprises from the Silesian region in Poland. The study participants were the enterprises from the service sector (16.3%), trade (25.5%) and production (24%) and the mixed profile (34.2%). 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 top management staff (entrepreneurs or managers). The first part of the study assessed the level of environmental awareness among the entrepreneurs and managers. This part of the survey was divides into 8 dimensions. Total level of environmental awareness was measured as a score of total points. The second part of the study included the questions connected with application (or planned – if the enterprise did not use any instrument) of formal instruments of environmental management, such as ISO 14001 standards, EMAS system



**Figure 1** Model of external conditions of environmental awareness and its influence on the environmentally - friendly practices

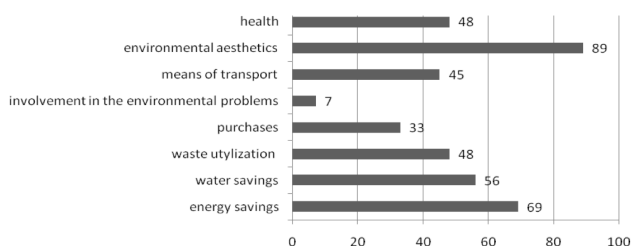
Source: author's own elaboration based on [6]

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and informal instruments concerning educational trainings and implementation of voluntary programs for support of the environmental practices in the enterprises. The entrepreneurs and the managers were asked about the opportunities of investing the internal resources in technological and organizational solutions, financial support of ecological organizations. The analysis of the data was carried out by means of the STATISTICA 9.1 software, using the quantitative and qualitative methods.

### 5. RESULTS

The first part of the study showed that the level of environmental awareness of the entrepreneurs/managers is at the level of ca. 50%. There is a considerable differentiation in the level of environmental awareness in its different areas and the highest level of environmental awareness in those connected with care for environmental aesthetics (89%), energy savings (69%) and water savings (56%). An opposite tendency is observed in the domain of involvement in the ecological problems (7%). The lowest assessment was found for the activity of the respondents within the ecological organizations (2%). The results of the level of environmental awareness is presented in figure 1.



**Figure 1** The level of environmental awareness of entrepreneurs/managers of SMEs in analysed areas (%)

Source: author's own elaboration

The second part of the study relevant to environmental friendly practices revealed that 72% of the small and medium enterprises do not implement formal environmental policies in the region, whereas the effect of their operation on the environment is defined as insignificant by 51% of them. Only 8% of them assessed this effect as very big. Among the entities which do not have formal instruments of environmental management, of which almost 44% do not plan implementation of ISO 14001 and over 34% - of the EMAS in the nearest 3 years. ISO 14001 standard is used by only 6.5% of the enterprises in the survey, whereas none of the enterprises implemented EMAS system. On average, a half of the enterprises studies are undecided about whether to implement the formal environmental instruments. Merely 8% of the studied enterprises carry out the life cycle assessment with respect to products or services (LCA) and this group included only enterprises with good financial condition. 75% of the enterprises in the study do not organize the trainings concerning environmental protection and standards of social and environmental business responsibility. The enterprises are not interested in implementation of informal environmental programmes. The respondents exhibit more interest in financial support for ecological organizations, which undoubtedly stimulates good image and reputation of the enterprise. Over 65% of the enterprises studied do not have sufficient financial

resources that would be used for the activities that minimize the negative effect on the environment. The most of the entities studied do not verify the suppliers who implemented the ISO 26000 standard.

The qualitative analysis showed that there is a positive correlation between environmental awareness of entrepreneurs/managers and environmental policy and generally with environmental practices (significant at  $p < 0.05$ ;  $r = 0.6$ ). There is some differentiation in correlation depending on what kind of practices they are. The environmental awareness is positively correlated with the implementation of environmental systems practices - ISO 14001, EMAS (at  $p < 0.05$ ;  $r = 0.56$ ). The environmental awareness and protection of natural resources practices are also positively correlated (significant at  $p < 0.05$ ;  $r = 0.33$ ) but unfortunately there is no effect of environmental awareness for support of ecological organizations.

### 6. DISCUSSION

The results obtained in the study lead to the conclusion that the enterprises in the SME sector are reactive rather than proactive. This results from low environmental awareness of the entrepreneurs/managers. A number of previous Polish studies in the related literature suggest that the SME sector represents low level of environmental awareness, which is also the cause of the insufficient identification of environmental threats [15, 19]. The study carried out by the Environmental Partnership Foundation in Poland in 2010, which was focused on the effect of small and medium-sized enterprises on the environment and determination of the degree of environmental awareness found that 67% of the enterprises regard the effect of the business activity as insignificant. 7% of the respondents claim that their enterprises do not impact on the environment at all and 22% of them regard the effect of their enterprises as "big and very big" [5, 6, 15].

There is little interest of analysed companies in the ISO 14001 and EMAS. In 2006, there were barely 1700 organizations with ISO 14001 in Poland [17]. As results from the studies carried out in Poland, among the main causes of the low interest in implementation of the ISO 14001 standard compared to the ISO 9001 standard, the entrepreneurs identified in particular the lack of state initiatives, including the signal that the systems of environmental management are considered to be an important instrument of implementation of ecological state policies and the principles of sustainable development [17]. Another cause that was indicated by the enterprises is approach to the environmental problems as the secondary importance problems and the necessity of incurring very high costs compared to the benefits they derive [16, 18].

The lack of the EMAS system implemented among the enterprises studied results from little interest in this system among the Polish entrepreneurs. In 2011, EMAS system was implemented in Poland in only 25 organizations and 32 objects [24]. The increase in the number of organizations that implement environmental management systems in Poland is minimal. The empirical study and the national-level survey demonstrated that both knowledge of the LCA methodology and the willingness of Polish small and medium enterprises to use it in practice is insufficient [16].

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General environmental awareness was found to be positively associated with environmental systems practices and protection of natural resources practices. This is consistent with the findings from previous studies which have shown a positive relationship between environmental awareness and environmental practices for entrepreneurs/managers in SMEs [6, 22]. In addition, some studies have found that a lack of awareness of a SME's impact on the environment may hinder the implementation of an environmental management system [9].

### 7. CONCLUSION

The analyses carried out in the study demonstrated that small and medium enterprises from Silesian region in

Poland, are insignificantly active in taking formal or informal initiatives aimed at limitation of the negative effect on the environment, whereas the level of environmental awareness among the entrepreneurs/managers is low. It is necessary to form the organizational structures so that they integrate environmental protection with all the tasks of the environment. With growing pressure on implementation of the instruments of voluntary character, the improvement in the environmental effects of the activity of the SME sector should be supported by the use of informal environmental programs which represent the first stage that impact on firm's proactivity.

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