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ENVIRONMENTAL MANAGEMENT IN THE SILESIAN VOIVODSHIP ENTERPRISES

Summary. The article presents problems related with environmental management in enterprises. On the basis of literature research and exploratory data analysis carried out on a sample of silesian enterprises, attributes and dimensions of proactivity in environmental management were indentified. The common existing views and empiric research outcomes within the scope of the influence of proactive approach to environmental management on enterprises operations and business performance have been also presented.

Keywords: environmental activity, environmental management, corporate approaches to environmental management

ZARZĄDZANIE ŚRODOWISKOWE W PRZEDSIĘBIORSTWACH WOJEWÓDZTWA ŚLĄSKIEGO

Streszczenie. W artykule zaprezentowano problematykę zarządzania środowiskowego w przedsiębiorstwach. Na podstawie studium literatury przedmiotu oraz eksploracyjnych badań empirycznych, przeprowadzonych w przedsiębiorstwach województwa śląskiego określono atrybuty i wymiary oceny proaktywności w zarządzaniu środowiskowym. Ponadto, zaprezentowano istniejące poglądy oraz wyniki badań wpływu proaktywnego podejścia do zarządzania środowiskowego na funkcjonowanie i osiągnięcia biznesowe przedsiębiorstw.

Słowa kluczowe: działalność proekologiczna, zarządzanie środowiskowe, podejścia przedsiębiorstw do zarządzania środowiskowego

1. Introduction

Growing environmental problems, countless regulations concerning environmental protection, pressure on improvement in condition of the natural environment and increasing customers' demands for environmentally friendly products and services, are the main reasons for implementation of effective and efficient environmental management in enterprises.

The development of environmental management in enterprises, which began in highly developed countries in the 80's of the 20th century, has brought the formulation of codes of practice dealing with the integration of environmental issues into the company's management system. The guidelines formulated within them have formed the basis for the elaboration and development of environmental management tools. Nowadays they evolved into a set of standards and legal requirements voluntarily implemented by enterprises. Simultaneously to these activities, terms such as ecocentric management paradigm¹ or corporate environmentalism² started appearing and concentrate on management of all elements of the company which have any influence on the natural environment, what is manifested in "greening" of corporate goals, strategies and business functions.

Business activity consistent with ecocentric management paradigm can be observed extremely rare. With respect to environmental protection demands, companies respond in a variety of ways adopting wide range of attitudes – from attitude characterised by environmental ignorance (reactive approach) to behaviour manifesting itself in enthusiastic support for environmental activities (proactive approach). Taking into account the requirements of sustainable development, proactive approach should be the subject of particular interest.

Proactive environmental management, integrated with the general system of company management on the strategic, functional and operational level is connected with comprehensive activities that include the development of products and processes of their production, introduction on the market, exploitation and utilisation. These activities are to head for the minimalisation of their environmental impact, simultaneously enabling compliance with all stakeholders needs on the field of environmental protection. Proactive environmental management thus means taking into consideration all environmental aspects in company's vision and mission, in its goals, strategies, particular functional fields, value chain creation etc.

¹ Shrivastava P.: Ecocentric management for a risk society. *Academy of Management Review* 1995, no 1, vol. 20.

² Banerjee S.B.: Corporate environmentalism. The construct and its measurement. *Journal of Business Research* 2002, no 55.

The considerations that are being taken in this article, are concentrated on identification of manifestations of proactive environmental management, and especially on identification of influence of proactive environmental management on operations and business performance of companies.

2. Manifestations of proactive environmental management – literature review

In the literature of the subject there are various classifications and typology of corporate approaches to environmental management. In spite of differences existing between them, there is one feature they have in common that consists in their separation, continuum from reactive attitudes to proactive ones. According to such assumption, conceptual works of the researchers as N. Roome, C.B. Hunt and E.R. Auster or P. Winsemius and U. Guntram establish a number of progressive stages to proactivity assuming linear path that companies follow when developing and raising the level of their engagement in environmental activity.

The question arises, what manifestations are specific to proactive environmental management and what indicators should be used to assess this kind of approach? In the exploratory researches concerning above mentioned subject we can find various sets of attributes. Their intensity is being used to recognise the level of proactivity in environmental management.

In order to evaluate proactivity level in environmental management S. Sharma and H. Vredenburg examined principles used by the Coalition for Environmentally Responsible Economies (CERES). They assumed that companies should be considered proactive only if they exhibited a consistent pattern of environmental practices, across all principles relevant to their range of activities, not required to be undertaken in fulfilment of environmental regulations or in response to isomorphic pressures within the industry as standard business practices.³ According to I. Henriques and P. Sadorsky proactivity in environmental management can be described by six environmental commitment practices, which include having an environmental plan, having a written document describing environmental plan, communicating environmental plan to shareholders or stakeholders, communicating environmental plan to employees, having environment, health and safety unit and having management committed.⁴ Drawing on resource-based view (RBV) of a company, empirical analysis of environmental strategy profiles was performed by K. Buysse and A. Verbeke.

³ Sharma S., Vredenburg H.: Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal* 1998, no 19(8), p. 743-750.

These profiles were identified on the basis of investments in conventional green competences, investments in employee skills, investments in organisational competencies, investments in formal, routine-based management systems and procedures and efforts to reconfigure the strategic planning process.⁵ Having identified corporate approaches to environmental management J.A. Aragón-Correa distinguished three dimensions including environmental training and information, traditional/regulated correction methods as well as modern voluntary and preventive improvements.⁶ In the exploratory research conducted by J. González-Benito and Ó. González-Benito there was used a set of attributes that refers both to the assessment of environmental management, within the corporation, and what is more to the strategic business' units and to the functional and operational level of company. Measurement of proactivity in environmental management was conducted in four dimensions. These dimensions reflected activities related to planning and organisation, product design, logistics processes and internal production management.⁷

3. Dimensions of proactivity in environmental management – results of exploratory research

The literature research can hardly provide us with a consensus on how and through the use of which attributes is it possible to evaluate the level of proactivity in environmental management. Therefore, an attempt to draw up proposals in this regard was carried out. The basis for the analysis has been formed by the conclusions drawn from the literature research, consultations with experts, interviews conducted in a variety of enterprises and the experience gained during the implementation of research and development projects concerning the introduction and improvement of environmental management systems. A set of a total of 52 attributes has been devised, which are to evaluate the level of proactivity in environmental management. Subsequently exploratory data analysis was performed based on data collected through surveys conducted in a total of 182 enterprises in the Silesian Voivodship.⁸ Surveys included the results of self-assessment within above mentioned

⁴ Henriques I., Sadowsky P.: The relationship between environmental commitment and managerial perceptions of stakeholder importance. *Academy of Management Journal* 1999, no1, vol. 42, p. 88-93.

⁵ Buysse K., Verbeke A.: Proactive environmental strategies: A stakeholder management perspective. *Strategic Management Journal* 2003, no 24, p. 454-465.

⁶ Aragón-Correa J.A.: Strategic proactivity and firm approach to the natural environment, *Academy of Management Journal* 1998, no 5, vol. 41, p. 556-564.

⁷ González-Benito J., González-Benito Ó.: Environmental proactivity and business performance: an empirical analysis. *Omega. The International Journal of Management Science* 2005, no 33, p. 1-15.

⁸ Detailed results of the research can be found in: Ryszko A.: Determinants and manifestations of proactive environmental management in enterprises. Doctoral thesis (in Polish). The University of Economics in Katowice. Katowice 2006.

enterprises based on the classification of the replies given to the statements concerning particular attributes on 1-to-7 Likert rating scale. Due to the large number of the analysed attributes, a decision was taken to reduce their number. To reach this goal, a factor analysis was conducted applying a method of principal components.

The analysis indicated a set of 7 dimensions characterising proactivity in environmental management:

- PEM 1 – planning and organisation of environmental management (characterised by 7 attributes),
- PEM 2 – organisational structure of environmental management (3 attributes),
- PEM 3 – environmentally friendly product development and environmentally friendly supply and distribution (8 attributes),
- PEM 4 - environmentally friendly production management (6 attributes),
- PEM 5 – extent of recycling and waste minimisation (3 attributes),
- PEM 6 – elements of environmental marketing and communication and cooperation with stakeholders on environmental management (6 attributes),
- PEM 7 – environmental performance assessment and improvement (9 attributes).

The attributes describing achieved dimensions have been presented in table 1. The set of scales used in the evaluation of proactivity level proved to be reliable and internal consistent, which was evident in high levels of the Cronbach's alpha coefficients.

Table 1

Dimensions and attributes characterising proactivity level in environmental management

Wymiar oceny	Opis atrybutu
Planning and organisation of environmental management	Environmental issues are high priorities in our organisation's objectives and strategy
	Top management establishes, documents, communicates, implements and maintains the organisation's environmental policy
	Environmental policy includes a commitment to comply with applicable legal requirements, continual improvement and pollution prevention
	Measurable environmental objectives and targets consistent with environmental policy and company's strategy are established and implemented
	Documentation and records necessary to ensure efficient environmental management are established, controlled, legible identifiable and traceable
	Roles and responsibilities related with environmental management are defined, documented and communicated
	Top management reviews the organisation's environmental system to ensure its effectiveness and continual improvement

con. tab. 1

Organisational structure of environmental management	Organisational structure includes management representative responsible entirely for environmental issues
	Management representative responsible for environmental issues is a member of top management and actively participates in formulation of organisation's objectives and strategy
	Working group dealing with environmental management issues is established and held regular meetings to discuss environmental activities
Environmentally friendly product development and environmentally friendly supply and distribution	Ecological preferences of our customers and their comments on environmental issues are taken into account during introduction new and modification of existing products and processes
	Environmental impact assessments of our products are conducted with regard to all stages of their life cycle (from raw material extraction to disposal phase)
	Reduction of environmental impact of our products related with their manufacturing is taken into account during their design and development process
	Reduction of environmental impact of our products caused by their consumption and disposal are taken into account during their design and development process
	Ecological characteristics of products and materials are taken into account during their supply selection
	We require our suppliers and subcontractors to introduce and improve environmental activities and verify these efforts
	Ecological criteria are considered during selection of mode of transport and distribution channels
	We keep our customers informed about the impact of our products on the environment and the manner of their use and disposal to minimise environmental impact
Environmentally friendly production management	In our company hazardous substances and wastes are transported and stored in a responsible and safe mean
	We eliminate and reduce the use and storage of hazardous substances and waste, replacing them with less harmful to the environment
	Before starting a new venture or investment we make an environmental impact assessment of such activity
	One of the planning and production control priorities is to reduce resource and energy consumption and pollution generation
	We take into account reduction of raw materials and energy consumption and pollution related with operation of our facilities
	Our activities related with products and processes quality improvement include reduction of environmental impact
Extent of recycling and waste minimisation	Our products contain recycled materials, it is easier to dismantle them and re-use or recycle after consumption
	We reduce the size of packages and their environmental nuisance (e.g. through the use of biodegradable packaging or recycled materials)
	We use the recycling, waste segregation and recovery and we have closed technological circuits
Elements of environmental marketing and communication and cooperation with stakeholders on environmental management	We emphasize ecological features of our products in marketing activities (including packaging characteristics)
	We emphasize our commitment to environmental protection in marketing activities
	We regularly prepare and publish environmental reports and we present information about environmental performance in the annual reports
	We keep an active dialogue and inform community and neighbor entities about actual and potential environmental impacts of our activity
	We actively participate in social environmental initiatives and we sponsor ecological campaigns
	We have contribution to the environmentally friendly technological transfer and environmental management practices in the industry and public sector

con. tab. 1

Environmental performance assessment and improvement	We carry out periodic updates and evaluation of environmental aspects and compliance with environmental protection legal requirements
	We have a system of identification, measurement and monitoring of key environmental operations, parameters and performance
	We use an indicative assessment of the eco-efficiency and we apply environmental benchmarking
	We account environmental costs and we incorporate economic indicators when assessing environmental performance
	Measures to identify, prevent and respond to failures are established, agreed with the required services, implemented and maintained
	We conduct periodic internal audits to verify the effectiveness of environmental management
	Proceedings with nonconformities and corrective and preventive actions are established and implemented
	We carry out research and development in the area of environmental protection and regularly introduce environmentally friendly innovations of products and process
	We actively cooperate with suppliers, contractors and other entities to identify and improve environmental standards for products and processes

The appointed dimensions, together with their descriptive attributes, may either be used for the purpose of conducting review and assessment of environmental management or determination of the goals and targets related with development and continual improvement environmental performance.

On the basis of the research conducted in 182 enterprises in the Silesian Voivodship it was revealed that level of proactivity in environmental management is very low. The most activity was observed in the dimension of environmentally friendly production management. On the other hand definitely the smallest intensification of each attribute was experienced in the dimension of elements of environmental marketing and communication and cooperation with stakeholders on environmental management as well as organisational structure of environmental management. One-way analysis of variance indicated significant variation of the proactivity level in groups of enterprises classified according to the criterion of their size (small, medium and large enterprises) in all dimensions. The biggest differences between groups of small, medium and large enterprises were observed in dimensions of environmental performance assessment and improvement, planning and organisation of environmental management as well as organisational structure of environmental management. Type of activity (manufacturing, service and trading enterprises) had a significant impact on differentiation of proactivity levels with respect to most dimensions – significance of such an influence was not observed only for environmentally friendly product development and environmentally friendly supply and distribution as well as extent of recycling and waste minimization. The largest variation occurred in the dimensions of environmental performance assessment and improvement and environmentally friendly production management.

It must be emphasized that the differences in the intensification of appointed dimensions and relevant attributes between groups of enterprises classified according to the criterion of their size are significantly larger than the discrepancies which appeared between groups of enterprises classified according to type of activity. Figure 1 shows a visual representation of the achieved results for attributes describing the level of environmental proactivity in dimensions where the group to which the enterprise belongs (based on the size as well as the type of activity) has significant influence.

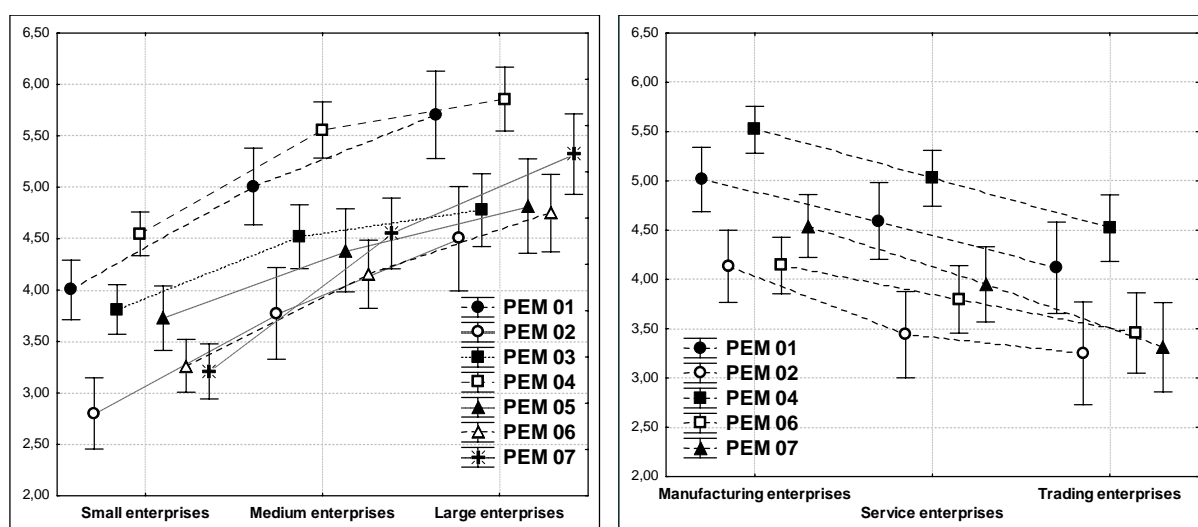


Fig. 1. Average values achieved for appointed dimensions of proactivity in environmental management evaluation in groups of enterprises classified according to the criterion of their size and type of activity

Rys. 1. Średnie wartości uzyskane dla wyznaczonych wymiarów oceny proaktywności w zarządzaniu środowiskowym w grupach przedsiębiorstw wyodrębnionych na podstawie kryterium ich wielkości oraz rodzaju prowadzonej działalności

4. Influence of proactive environmental management on business performance – from sceptic to optimistic views

The undertaking of environmental activities is not costless. It applies in particular to proactive approach to environmental management because it results from incurring the necessary expenses. The spectrum of undertaken actions affects significantly how company performs, possibility of development and lastly its economic outcomes. The research concerning influence of environmental activities on business performance can hardly provide us with clear results and the discussion whether the relation is positive or negative is still open.

Some researchers postulate to hold only the compliance with regulations related to environmental protection, because they have the negative influence on economic outcome of companies. According to N. Walley and B. Whitehead environmental activities benefits only in the initial stages of their introduction whereas in the long term and on account of the substitution between the economic and ecological outcomes in most cases they contribute to situation that companies suffer losses.⁹ Even more radical in their opinion are T. Newton and G. Harte who criticised the literature of the subject for being rhetorical in green evangelism and which is based on the ideas that might be easily challenged. Moreover they underlined the lack of reliable evidence that decisions made on the field of environmental protection ultimately lead to economic success of companies.¹⁰ According to other research, all expenses for achieving the compliance with environmental regulations have negative effect on economic outcome, because companies response by changing their operations and processes and it makes them less efficient and simultaneously less competitive.¹¹

Without reference to above mentioned opinions, empirical researches which were made during last years showed positive connections between activities initiated within environmental management and business performance of companies. R. Welford shows some examples how a company may gain the competitive advantage on the basis of proactive approach to environmental management in various strategies: competition on the field of cost leadership, products differentiation and cost focus or differentiation focus.¹² On the basis of financial event methodology R.D. Klassen and C.P. McLaughlin show a very strong positive linkage between achieved effects of environmental activities and financial performance of companies.¹³ They analysed data, that had been collected for several years, which studied the connection between companies' ecological achievements or negative ecological incidents and the changes in these companies' market valuation calculated according to weighted index of relevant securities on the stock exchange. It appeared that the market rewards the announced ecological achievements of the companies (above all the investments in new products and processes mitigating environmental impact characteristic for proactive environmental management), while it negatively reacts to crisis in ecological situation. Particularly the environmental achievements of companies from less-polluting industries were rewarded because their initiatives are assumed to be carried out voluntary, without external pressure

⁹ Walley N., Whitehead B.: It's not easy being green, *Harvard Business Review*. May-June 1994, p. 46-52.

¹⁰ Newton T., Harte G.: Green Business: Technicist Kitsch? *Journal of Management Studies* 1997, no 1, vol. 34, p. 75-98.

¹¹ Jaffe A., Peterson S., Portney P., Stavins R.: Environmental regulation and the competitiveness of U.S. manufacturing: What does the evidence tell us? *Journal of Economic Literature* 1995, no 33, p. 132-163.

¹² Welford R.: *Corporate Environmental Management. Systems and Strategies*. Earthscan Publications Ltd. London 1998, p. 24-27.

¹³ Klassen R.D., McLaughlin C.P.: The Impact of Environmental Management on Firm Performance, *Management Science* 1996, no 8, vol. 42, p. 1199-1214.

such typical for companies originated from highly-polluting industries. S.L. Hart and G. Ahuja prove that companies mitigating their pollution achieve better financial results (in compliance to assumption that the pollution means loss) but at the same time they turned out that such relations are much stronger with reference to companies from industries significantly polluting the environment.¹⁴ Ch. Nehrt proves that there is a positive connection between the time of investments in innovative environmental technologies and financial outcomes achieved by companies. The intensity of investments in environmental technologies has the positive influence on these results as well, but important matter here is that they should be undertaken soon enough enabling first mover advantages. Nehrt proves in his research that environmental first movers get a competitive advantage resulting from the time compression diseconomies and learning curve, but first of all due to possessed organisational and human resources, because knowledge and capabilities connected with complex pollution-reducing technologies, which are gained by employees, are valuable and rare and are the subject to slow process of diffusion.¹⁵ On the basis of the resource-based view of a company M.V. Russo and P.A. Fouts verified the positive correlation between the progress in environmental activity and economic outcomes achieved by company. Russo and Fouts state in their research that this correlation is particularly strong in companies from sectors with high economic growth, where there is a favourable climate for undertaking an investment risk and process of innovation and where there are flexible and unbureaucratic organisational structures and intangible assets are of great value. According to these researchers the proactive approach to environmental management allows a company to gain competitive advantage because its implementation requires the development of specific physical assets, human resources, organisational capabilities and intangible resources which are valuable and hard to imitate (because they are socially complex, causally ambiguous and path dependent).¹⁶

S. Sharma and H. Vredenburg prove thesis that proactive approach to environmental management influences the development of valuable organisational capabilities which are the source of competitive advantage. It applies in particular to:¹⁷

- capability for stakeholders integration involving ability to collaborate with stakeholders to find solution to environmental problems, ability to communicate with

¹⁴ Hart S.L., Ahuja G.: Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance. *Business Strategy and the Environment* 1996, no 5, p. 30-37.

¹⁵ Nehrt Ch.: Timing and intensity effects of environmental investment, *Strategic Management Journal* 1996, vol. 17, p. 535-547.

¹⁶ Russo M.V., Fouts P.A.: A Resource-Based Perspective on Corporate Environmental Performance and Profitability, *Academy of Management Journal* 1997, no 3, vol. 40, p. 534-559.

¹⁷ Sharma S., Vredenburg H.: Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities, *Strategic Management Journal* 1998, no 19(8), p. 735-743.

- stakeholders in the environmental domain and ability to steer new developments effectively through public consultation processes,
- capability for continuous higher-order learning involving line-staff cooperation and integration around environmental information exchange, continuous expansion of knowledge about the business/environment interface and ability to look for creative solutions to environmental problems,
 - capability for continuous innovation involving ability to experiment on the business/environment domain, ability to balance environmental objectives with economic goals, ability to spot opportunities amidst changes in social expectations and environmental regulations and ability to innovate and continuously improve operations while reducing environmental impact.

The analysis of the literature shows that not for every company the proactive approach to environmental management is a source of competitive advantage. P. Christmann, applying the resource-based view of a company, tries to explain why environmental activities are a source of competitive advantage only for some companies. Results of her empirical research show that the best practices of environmental management generally do not lead to cost advantage for all companies. However such advantage could be gained by introduction of innovations within this area and their early timing. Results also indicate that the higher level of complementary assets of capabilities for general process innovation and implementation in a company the better cost advantage resulting from application of pollution prevention technologies and processes.¹⁸ We may say thus that gaining the competitive advantage from proactive environmental management implementation considerably depends on possessed complementary resources, developed within general company's strategy. Therefore it is seen how important is to adapt certain environmental activities to heterogeneous resources of the company and their integration with its strategy.

S. Schaltegger and T. Synnestvedt persuade that positive or negative linkage between environmental activity and corporate economic performance arises from approach to environmental management and its adaptation to existing external and internal conditions. It means that in researches on the nature of this relation, the question that should appear is not "if" but "when" and "in what circumstances" it is positive.¹⁹ Taking into account such an assumption this postulated relation between the scope of environmental activities and corporate economic performance is illustrated in the figure 2. In the case of reactive approach to environmental management all activities related to environmental protection (generally

¹⁸ Christmann P.: Effects of „best practices” of environmental management on cost advantage: The role of complementary assets, *Academy of Management Journal* 2000, no 4, vol. 43, p. 663-679.

¹⁹ Schaltegger S., Synnestvedt T.: The link between "green" and economic success: environmental management as the crucial trigger between environmental and economic performance, *Journal of Environmental Management* 2002, vol. 65, p. 339-346.

concerning application of end-of-pipe solutions) have influence on worsening of economic situation of a company. After exceeding the scope of environmental activity SEA_3 (point F) company becomes to make losses. In the case of proactive approach to environmental management, environmental activities which are undertaken (generally involving cleaner technologies and introduction of environmentally friendly products) improve economic performance of a company. However this approach in a certain point (point B corresponding with the scope of environmental activity SEA_1) marginal costs of consecutive environmental protection activities become to exceed marginal profits, which results in worsening of economic performance of a company and for longer period of time that may even cause the loss of the profitability (point D). It should be mentioned that some factors changing environmental management conditions (for example development of environmental technologies, new environmentally conscious customers, environmental innovations in processes and products) may lead to a shift of the curve characterising the relation between the scope of environmental activity and economic performance (dashed line in figure 2).

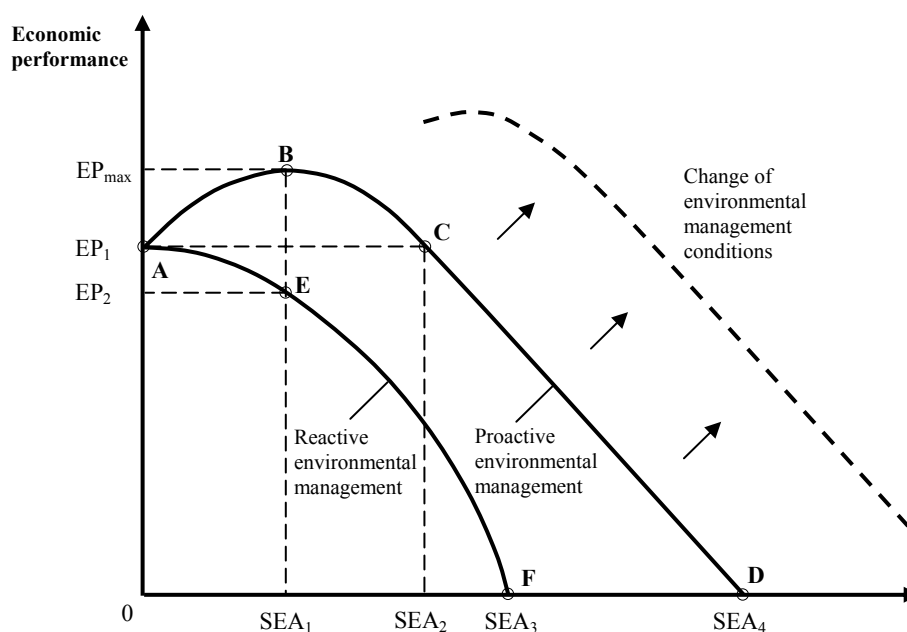


Fig. 2. Relation between the scope of environmental activities within the framework of different approaches to environmental management and corporate economic performance

Rys. 2. Zależności między zakresem działalności proekologicznej w ramach różnych podejść do zarządzania środowiskowego a wynikami ekonomicznymi przedsiębiorstw

Source: Elaboration on the basis of Schaltegger S., Synnestvedt T.: The link between..., op.cit., p.339-346.

It is also worth mentioning, that depending of the accepted environmental management approach, the same level of engagement in environmental activity may variously affect the

economic results of a company (point B on the level EP_{max} and point E on the level EP_2). Similarly, with the same economic results achieved by a company on the level EP_1 we may have the ecological ignorance (point A) or relatively high level of environmental engagement (point C corresponding with the scope of environmental activity SEA_2).

The basic conclusion of presented considerations shows that it is very important for the companies to adopt proper approach to environmental management and optimal extent of undertaken environmental activities. The activities properly adapted to the specific nature of external and internal conditions may allow achieving significant ecological effects simultaneously with economic success and gaining and sustaining competitive advantage.

5. Influence of proactive environmental management on business performance – conclusions from the research conducted in Silesian Voivodship enterprises

As has been proven hereafter, environmental activity, including a proactive approach to environmental management, can have an extensive and significantly diverse influence on the functioning of the enterprises and their business performance.

As part of the research conducted in the Silesian Voivodship enterprises, the subject of the analysis was the relation between proactive environmental management and indicated business performance. For this purpose, an aggregated variable describing the level of proactivity in environmental management had been elaborated. This was formed on the basis of the Euclidean distance (a geometric distance in a multi-dimensional space) determined by average values achieved within the seven appointed dimensions of proactivity evaluation.

This variable took on the following form for “k” enterprise:

$$APEM_k = \sqrt{\sum_{i=1}^7 (PEM_{ki})^2}$$

where:

$APEM_k$ – aggregated variable describing the level of proactivity in environmental management achieved for “k” enterprise,

PEM_{ki} – average value achieved by “k” company in the “i” dimension of proactivity level evaluation.

Subsequently, correlations (measured by Spearman's rank correlation coefficients – R_s) between enterprises' business achievements and aggregated variables describing the level of their proactivity in environmental management were indicated. The following achievements

have been taken into account: reputation and corporate image improvement, improvement of relations with stakeholders, owners and top management satisfaction, satisfaction and employee morale improvement, organisational employees learning, product and process innovation, product quality improvement, process efficiency improvement, increase of sales, increase of current market, gaining of new markets and customers, short and long-term costs reduction, preferential access to grants for environmental investments, preferable insurance conditions.

Studies have shown that the main benefits achieved by the introduction of a proactive approach (by obtained the greatest value of Spearman's rank correlation coefficients) are as follows: top management satisfaction ($R_s = 0,71$), organisational employees learning ($R_s = 0,68$), reputation and corporate image improvement ($R_s = 0,66$), process innovation ($R_s = 0,64$), satisfaction and employee morale improvement ($R_s = 0,63$) and product innovation ($R_s = 0,55$). However, as emerged from the research, in the opinion of enterprises representatives, both environmental activities, as well as a proactive approach to environmental management have relatively small direct contribution to gaining of new customers/markets, increase of sales or increase of share in the current market.²⁰

6. Conclusions

The subject of this article were problems related with environmental management, especially those concerning proactive approach in this area. The author has concentrated on issues concerning the manifestations of this approach, as also on the identification of its influence on the functioning of the enterprises and their business performance.

In the literature of the subject there are various classifications and typology of corporate approaches to environmental management. In spite of differences existing between them, there is one feature they have in common that consists in their separation, continuum from reactive attitudes to proactive ones. For the purpose of their identification and description a number of sets of attributes had been used, the intensity of which serves as a indication of the level of proactivity in environmental management. The study results presented here suggest that the issue should be analysed in a multi-dimensional manner. The author's proposal in this area provides a total of seven dimensions that have been appointed for the evaluation of proactivity in environmental management. The measurement of proactivity based on defining the intensification of given attributes characterising specific dimensions,

²⁰ More details in: Ryszko A.: Proactivity of enterprises in environmental management (in Polish). The Silesian University of Technology Publishing House. Gliwice 2007, p. 175-180.

may take on the form of a self-assessment within the enterprise, as well as taking the form of a series of reviews conducted by external experts.

The considerations presented in the article also include the results of research concerning influence of proactive environmental management on the functioning of the enterprises and their business performance. The common existing views and empiric research outcomes within this scope can hardly provide us with clear results and the discussion whether the relation is positive or negative is still open. However, it was proved that the most important for the companies is to adopt proper approach (proactive one) to environmental management and optimal extent of undertaken environmental activities. The activities properly adapted to the specific nature of external and internal conditions may allow achieving significant ecological effects simultaneously with economic success and gaining and sustaining competitive advantage

Bibliography

1. Aragón-Correa J.A.: Strategic proactivity and firm approach to the natural environment. *Academy of Management Journal* 1998, no 5, vol. 41.
2. Banerjee S.B.: Corporate environmentalism. The construct and its measurement. *Journal of Business Research* 2002, no 55.
3. Buysse K., Verbeke A.: Proactive environmental strategies: A stakeholder management perspective. *Strategic Management Journal* 2003, no 24.
4. Christmann P.: Effects of „best practices” of environmental management on cost advantage: The role of complementary assets. *Academy of Management Journal* 2000, no 4, vol. 43.
5. González-Benito J., González-Benito Ó.: Environmental proactivity and business performance: an empirical analysis. *Omega. The International Journal of Management Science* 2005, no 33.
6. Hart S.L., Ahuja G.: Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance. *Business Strategy and the Environment* 1996, no 5.
7. Henriques I., Sadorsky P.: The relationship between environmental commitment and managerial perceptions of stakeholder importance. *Academy of Management Journal* 1999, no 1, vol. 42.
8. Jaffe A., Peterson S., Portney P., Stavins R.: Environmental regulation and the competitiveness of U.S. manufacturing: What does the evidence tell us? *Journal of Economic Literature* 1995, no 33.

9. Klassen R.D., McLaughlin C.P.: The Impact of Environmental Management on Firm Performance. *Management Science* 1996, no 8, vol. 42.
10. Nehrt Ch.: Timing and intensity effects of environmental investment. *Strategic Management Journal* 1996, vol. 17.
11. Newton T., Harte G.: Green Business: Technician Kitsch? *Journal of Management Studies* 1997, no 1, vol. 34.
12. Russo M.V., Fouts P.A.: A Resource-Based Perspective on Corporate Environmental Performance and Profitability. *Academy of Management Journal* 1997, no 3, vol. 40.
13. Ryszko A.: Determinants and manifestations of proactive environmental management in enterprises. Doctoral thesis (in Polish). The University of Economics in Katowice. Katowice 2006.
14. Ryszko A.: Proactivity of enterprises in environmental management (in Polish). The Silesian University of Technology Publishing House. Gliwice 2007.
15. Schaltegger S., Synnestvedt T.: The link between “green” and economic success: environmental management as the crucial trigger between environmental and economic performance. *Journal of Environmental Management* 2002, vol. 65.
16. Sharma S., Vredenburg H.: Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal* 1998, no 19(8).
17. Shrivastava P.: Ecocentric management for a risk society. *Academy of Management Review* 1995, no 1, vol. 20.
18. Walley N., Whitehead B.: It's not easy being green. *Harvard Business Review*. May-June 1994.
19. Welford R.: *Corporate Environmental Management. Systems and Strategies*. Earthscan Publications Ltd., London 1998.

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