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## PRO-ECOLOGICAL INITIATIVES IN THE DEVELOPMENT STRATEGIES OF MANUFACTURING COMPANIES

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**ABSTRACT:** Academics and practitioners have already acknowledged the importance of pro-ecological initiatives in order to meet societal expectations and, in the process, gain a competitive advantage over market rivals. However, the existence and importance of pro-ecological initiatives in a company's development strategy remains under-explored, as addressed in these studies. Thus, the research goal was to assess the importance of pro-ecological initiatives in a company's development strategy in manufacturing companies in Poland. The empirical research was conducted using the CATI method on a group of manufacturing enterprises operating in Poland. The research comprised a stratified random sample of N=385 manufacturing enterprises, which were randomly and proportionally selected from a population of 14,570 units actively engaged in production activities. Our results highlighted that manufacturing companies, which include pro-ecological initiatives in their development strategies confirmed higher effectiveness of the implementation of these initiatives than entities omitting pro-ecological issues in their strategies. Entities including pro-ecological initiatives in their strategies are more aware of their negative impact on the environment than those downplaying these initiatives.

**KEYWORDS:** pro-ecological initiatives, development strategies

## Introduction

In the era of highly competitive global economy, pro-ecological activities of enterprises are becoming an inseparable element of development strategy. The ideas of a green economy or green enterprise are increasingly being integrated into the requirements of a market economy. Ecological goals must be a part of the contemporary company's strategic plans and need to be perceived as development opportunities in the context of strengthening of the competitive position (Wysocki, 2016; Żak, 2017).

Strategy includes long-term plan of activities created to indicate the direction of company's growth and to define the strategic objectives and methods of realisation (Stankiewicz, 2002). Possession of such strategy stimulates the company to construct its competitive advantage, which in turn is decisive to maintain or increase the company's competitiveness. These activities become strategic, as there is ever-increasing pressure related to environmental protection (Klemke-Pitek & Majchrzak, 2022). Business managers engage in initiatives of a pro-environmental nature in order to meet societal expectations and, in the process, secure a competitive advantage over market rivals (Tetrault & Sur, 2013). Therefore, it is advisable to consider undertaking appropriate actions in this area as early as possible.

With regard to companies, pro-environmental initiatives are most often equated with long-term activities directly aimed at environmental protection and the elimination of environmental hazards or activities aimed at improving one's own development but friendly to the natural environment (Stern, 2000; Adamczyk, 2004; Wysocki, 2019; Ullah et al., 2021; Shetty & Bhat, 2022). It is worth noting that there is a great deal of freedom in the literature in terms of the use of the issue of environmental initiatives, as well as its interpretation. Alongside the aforementioned pro-ecological initiatives, there are, for example, pro-environmental actions, environmental actions, environmental initiatives, green initiatives or greening initiatives. All these terms refer to the same issue, which are activities related to environmental protection and/or environmental improvement to a greater or lesser extent, which often makes it difficult to distinguish between them. Indeed, these terms cover not only specific environmental protection activities, but also new ideas, programmes, projects or concepts of an environmental nature that can be applied to production and management processes.

It should also be mentioned that the concept of pro-ecological initiatives includes not only pro-ecological actions, but also various types of system solutions, tools, programmes, plans and concepts discussing specific ways of dealing with environmental protection, as well as various environmental strategies: dilution, filtration, recirculation and prevention (Miles & Russell, 1997; Nash, 2009; Visser, 2010; Lim & Ting, 2011; Neugebauer, 2012; Tetrault & Sur, 2013; Cikankowitz et al., 2013; Daddi et al., 2014; Wysocki, 2016; Wysocki, 2019; Rahman et al., 2020; Huang et al., 2022). Based on this approach, an authoritative compilation of the most common solutions found in the literature that meet the ecological criteria and can be attributed to the concept of green initiatives defined in this way was developed. Within this compilation, initiatives such as:

- official adherence to environmental principles within the concept of sustainable development (SD),
- applying the principles of the environmental concept of corporate social responsibility (ECSR),
- formal separation of environmental management within business management,
- the use of preventive environmental protection strategies (recirculation or prevention) – preventing pollution at source in manufacturing processes,
- implementation of environmental management systems (according to ISO 14001 or EMAS),
- use of standard environmental protection strategies (dilution or filtration) – involving only the disposal of pollutants, but not their elimination,
- participation in the Cleaner Production Programme,
- implementation of technological eco-innovation (eco-innovation in the area of new products or production processes),
- implementation of non-technological eco-innovation (eco-innovation in the area of new organisational or marketing solutions),
- implementation of environmentally friendly additive technologies (end of pipe),
- implementation of environmentally friendly integrated technologies,
- forming “green” alliances with other actors to achieve common environmental goals,

- designing and offering environmentally friendly products (eco-product),
- aiming to minimise waste in production processes,
- designing environmentally friendly solutions (eco-design),
- introduction of eco-labels on raw materials, materials, products, packaging (FSC, PEFC, Blue Angel, Ecolabel),
- application of the IPPC Directive and BAT guidelines,
- the reuse of waste in manufacturing processes (recycling),
- other initiatives – including the use of environmental tools and techniques to improve eco-efficiency (Checklist, MET, BSC, LCA) or other environmental indicators.

The aforementioned pro-ecological initiatives can be implemented not only in ecological terms, as solutions to reduce or eliminate environmental pollution or directly protect the natural environment, but also as a manifestation of activities that determine the development strategies of enterprises (Čekanavičius et al., 2014). In the current economic environment, this applies not only to large entities, but also to small and medium-sized enterprises, where environmental initiatives, like innovation, can be a key source of development and value growth. All the above-mentioned initiatives were reflected in the framework of the own research carried out, in which they constituted one of the survey questions aimed at determining their familiarity and scale of application in manufacturing enterprises operating in Poland.

From the perspective of manufacturing companies, the implementation of environmental initiatives should always lead to: the rational use of natural resources, the use of economical and environmentally friendly technologies, less energy consumption, the reuse of post-production waste, the offering of environmentally safe products and the cessation or consistent reduction of the negative environmental impact of production processes. This is possible by integrating them into the development strategies of manufacturing companies. Inclusion of these activities in the formalised development plans described within the development strategy may contribute to more effective realisation of the assumed objectives and successful growth of the company (Chodyński et al., 2008; Wysocki, 2016; Wysocki, 2019).

Despite the emphasis placed by researchers on the need to include pro-ecological initiatives in development strategy, there is still a research gap in this area. Therefore, the aim of this article is to assess the importance of pro-ecological initiatives in a company's development strategy in manufacturing companies in Poland.

## Research methods

The implementation of the research objective was carried out using empirical research in the formula of quantitative survey research. The aforementioned research method was dictated by the need to obtain a broad research population in the area of manufacturing enterprises in Poland. The selection of manufacturing enterprises was dictated by the need to identify the strength of their impact on the natural environment, inter alia due to their large size, diversity and economic potential. In addition, account was taken of the fact that the operation of many enterprises in the manufacturing sector is associated with a large and very often negative impact on the natural environment and would not be possible without access to natural resources and environmental resources, which are critical elements of most production processes. With such an approach, the manufacturing industry appears as an interesting subject of research in terms of indicating the type of pro-ecological initiatives undertaken to eliminate or reduce environmental damage in a strategic perspective.

The empirical research was conducted using the CATI method on a group of manufacturing enterprises operating in Poland. The research comprised a stratified random sample of N=385 manufacturing enterprises, which were randomly and proportionally (within three strata) selected from a population of 14,570 entities actively conducting manufacturing activities. The enterprises constituting the sampling frame formed the strata of small, medium and large manufacturing enterprises, i.e. with 10 to 49 employees, 50 to 249 employees and more than 250 employees, respectively. Contact and statistical data of manufacturing enterprises selected for the survey were obtained from the Central Statistical Office in Warsaw with the support of a research company conducting the survey from the technical side.

The survey research was preceded by a pilot study on a sample of  $n=12$  subjects. The sample size was selected so that the confidence level obtained was 95% and the maximum relative error of the estimate was 5%. The distribution of companies for each stratum in the survey population and in the drawn sample is presented in Table 1.

**Table 1.** Distribution of the survey sample for each group of companies

Company size	Percentage in population (%)	Sample (N)	Percentage in the sample (%)
Small businesses	49.9%	192	49.9%
Medium-sized enterprises	38.9%	150	38.9%
Large enterprises	11.2%	43	11.2%
Total companies	100%	385	100%

In the research area, the main research tool was a survey questionnaire, which consisted of two main parts. The first included the characteristics of the research sample and the second referred to the actual research objective, i.e. the identification of pro-ecological initiatives included in the development strategies of small, medium and large manufacturing enterprises in Poland.

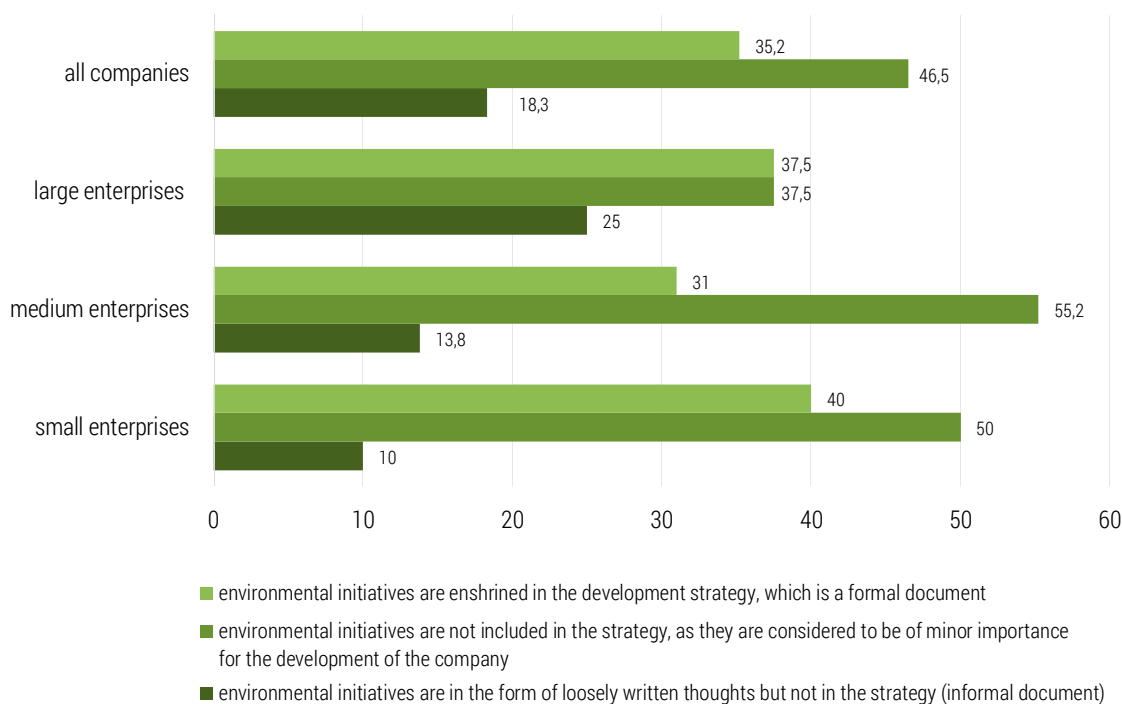
In the first part of the questionnaire, respondents from the surveyed entities were asked, among other things, to provide information on: the type of production activity conducted, the period of operation, the form of ownership or annual net revenue. In turn, the second part of the questionnaire included, among other things, questions on: having a formally defined development strategy, including pro-ecological initiatives in its content, or the consequences of adopting a strategic approach to these initiatives in the context of company management and emerging increasingly strong environmental conditions. Due to the complexity of the issue that pro-ecological initiatives co-create, the questions in the survey questionnaire were of a closed nature and involved the possibility of selecting – within a specific question – one or more pro-ecological initiatives from those listed within the theoretical part of the article. The survey questionnaire was addressed to representatives of the management and executives of the surveyed manufacturing enterprises, and the results obtained were subjected to statistical and comparative analysis.

## Results and discussion

In the first stage of the research, manufacturing enterprises ( $N=385$ ) were selected into those implementing environmental initiatives and those not undertaking such initiatives. Subsequently, the responses of only those representatives of surveyed manufacturing enterprises that spoke positively on environmental issues and declared taking/implementing pro-ecological initiatives were analysed. Within this group of manufacturing companies ( $N=230$ ), it turned out that only 31 per cent of the respondents answered affirmatively to the question regarding whether these companies had a defined development strategy, thus certifying that they had a strategy that constituted a formal document of the company. However, this number of positive responses was due to large entities, of which as many as 97 per cent declared the fact of having a formal development strategy, while in the group of medium-sized entities such a declaration was made by only 23.6 per cent and among small entities only 13.5 per cent. The obtained results confirm the common opinion that it is mainly large enterprises that have a strategy, while the vast majority of SME entities do not use such an option. At the same time, these results may be a cause for concern for economists, especially as little is changing in the case of small and medium-sized entities. And yet, business conditions are constantly changing, which makes it necessary to look for new ways of – at least partially – anticipating the future, e.g. by turning to the concept of strategic management and the development strategy that emerges from it.

On the other hand, a question addressed directly to the representatives of manufacturing enterprises, that declared having a development strategy in the previous question ( $N=71$ ), made it possible to check whether these entities include environmental initiatives in their strategy or omit them. Within the surveyed collective, more than 1/3 of enterprises (25 entities) confirmed that pro-ecolog-

ical initiatives are part of their development strategy, which is an official document, while 2/3 of enterprises responded negatively. At the same time, 46.5 per cent of enterprises indicated that pro-ecological initiatives are not included in the strategy because of their low impact on development, while 18.3 per cent reported that they are an informal document and therefore not included in the strategy. In the individual groups of enterprises by number of employees, the situation was quite similar, with 37.5 per cent of large entities, 31 per cent of medium-sized entities and 40 per cent of small entities confirming the inclusion of pro-ecological initiatives in the defined development strategy. It should be recognised that these results represent a significant proportion of responses in all three communities, which indicates the existence of environmental awareness and an understanding of the legitimacy of including environmental issues in formal strategic planning. However, while this situation may create a positive environmental image for small enterprises that treat these issues as a priority, the lack of provisions for pro-ecological initiatives in the remaining large enterprises casts doubt on their actual attitude to environmental protection within their business activities. In fact, among large entities, as many as 37.5% do not consider pro-ecological initiatives to be strategic from the point of view of their development, which indicates either their short-sightedness or their failure to understand the importance of this phenomenon or their lack of harmful impact on the natural environment (Figure 1). In the first two cases, it must be remembered that the EU's environmental policy, including the concept of sustainable development, is an important element of its economic development, hence failure to comply with environmental protection rules will, over time, have repercussions for such entities. This, in turn, will force them to take pro-ecological initiatives, and a shorter time for implementation will not necessarily have a positive impact on their economic and development situation.



**Figure 1.** Percentage of surveyed manufacturing companies that include or omit ongoing pro-ecological initiatives in the content of their development strategy

The next two questions elicited the opinions of respondents of the surveyed manufacturing enterprises on the effects of including pro-ecological initiatives in the development strategy formula, as well as the legitimacy of undertaking these initiatives in the perspective of contemporary enterprise management. The first question was addressed only to manufacturing enterprises that declared to include pro-ecological initiatives in their development strategy document, and the second question was addressed to the set of enterprises declaring to undertake various greening initiatives, but not necessarily in the development strategy formula.

The responses of respondents of the surveyed enterprises (N=25) to the first question showed the positive impact of the strategic approach on the effectiveness of the implementation of pro-ecological initiatives, i.e. their fast and proper implementation in the production enterprise, signalling at the same time that the development strategy in place can positively influence the greening of production activities. This opinion was expressed by all large and small enterprises and nearly 90 per cent of medium-sized entities, which only confirms the need to use the strategy in the context of the future development of the enterprise, i.e. to enrich it with ever new strategic objectives, in this case related to environmental issues (Figure 2).

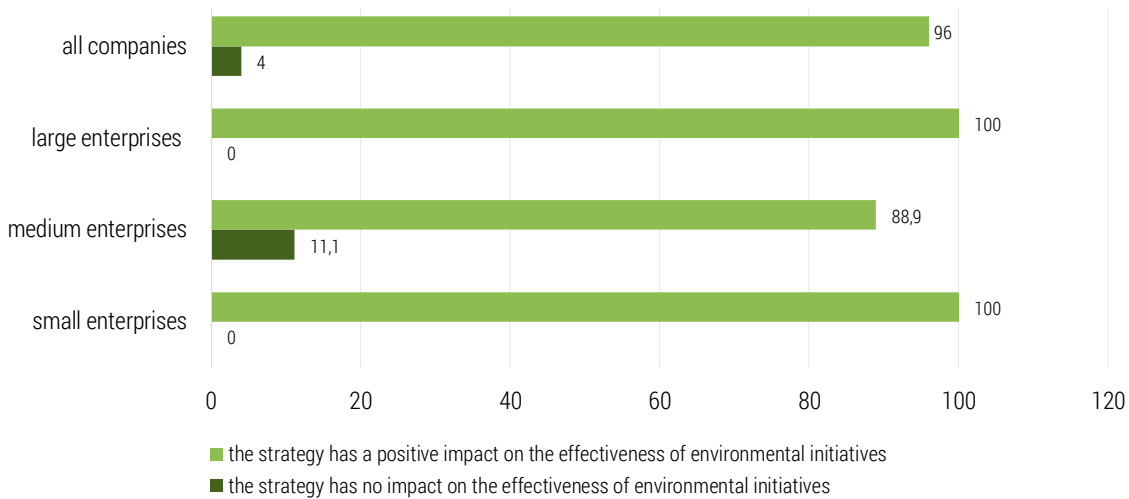


Figure 2. Percentage of indications of the surveyed manufacturing companies regarding the impact of strategy on the effectiveness of environmental initiatives

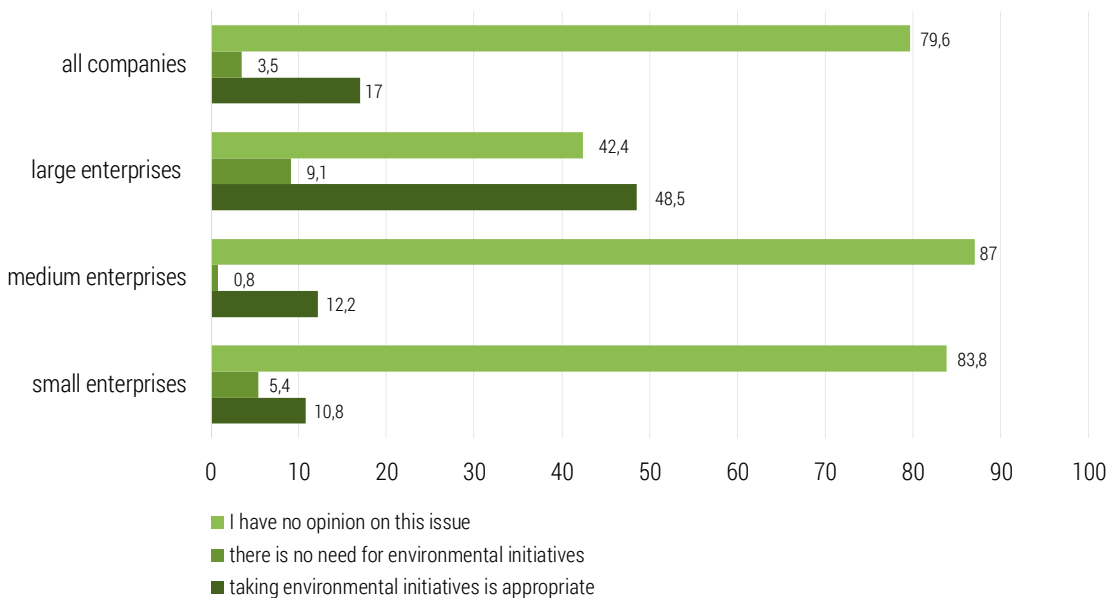


Figure 3. Indications of surveyed manufacturing companies on the relevance of pro-ecological initiatives in the company management process (in percentage)

On the other hand, the responses of the respondents of the surveyed enterprises (N=230) to the question on the legitimacy of pro-ecological initiatives in the context of the implementation of pro-development company management should be regarded as much less optimistic. In this case, it turned out that out of the entire group, only 17 per cent of the entities expressed an approving stance on this issue, 3.5 per cent were of the opposite opinion, while 79.5 per cent could not give a clear answer. The

view that pro-ecological initiatives are required in the management of a modern enterprise was held mainly by large entities (48 per cent), as in the case of medium-sized and small entities, this share should be considered low (12 per cent and 11 per cent). In a sense, the situation described confirmed that, in most cases, large enterprises have the greatest environmental awareness and competence. On the other hand, the limited knowledge of medium and small entities about management in the current environmental conditions is further evidenced by the fact that more than 85 per cent of them did not have an opinion as to whether, within the framework of contemporary management, pro-ecological initiatives are necessary for the development of the enterprise or whether their undertaking is unnecessary (Figure 3).

In summary of the results obtained, it should be noted that in the case of entities with a development strategy, a strategic approach to environmental issues and their inclusion in their own development strategies played an important role. And although it should be noted that there were relatively few such manufacturing enterprises and they were mainly the largest entities, the treatment of environmental objectives as a basic element of the strategy indicated the importance of pro-ecological initiatives and the legitimacy of including them in the development planning of contemporary enterprises. Particularly as this measure increased the effectiveness of the implementation of the initiatives undertaken. Unfortunately, the research carried out suggests a lack of environmental activity in some of the companies surveyed, who definitely ignored environmental aspects in the strategic perspective, considering them irrelevant in this perspective.

Another important stage of the studies was to carry out a statistical analysis, which was to indicate the existence or lack of correlation between manufacturing companies' possession of a specific development strategy and the environmental initiatives included in it (both in terms of the state of the environment and awareness of its pollution as a result of business activity) and the potential benefits of implementing these initiatives. The respective frequency distributions in the sample, together with the results of Fisher's exact test verifying these relationships, are shown in Tables 2, 3 and 4.

**Table 2.** Distribution of indications of manufacturing companies on the inclusion of pro-ecological initiatives in their development strategy (number/proc.)

Manufacturing companies undertaking pro-ecological initiatives They are taken into account		Inclusion of pro-ecological initiatives in the development strategy		
		The following are not included	Total	
Due to the awareness of environmental pollution as a result of its activities	n=	16	24	40
	percent.	40	60	100
Out of concern for the state of the natural environment	n=	9	181	190
	percent.	4.7	95.3	100
Total	N=	25	205	230
	proc.	10.9	89.1	100
P-value < 0.001				
The table shows the counts, percentages and p-value of Fisher's exact test.				

Among the analysed enterprises that had environmental protection in mind due to its pollution or out of concern for its general state, only 11% of the entities declared the inclusion of pro-ecological initiatives in their own development strategies. At the same time, entities that confirmed awareness of environmental pollution as a result of their activities were much more likely to include the mentioned initiatives in their development strategy than those that were guided solely by concern for the state of the environment. In the former case, the number of indications was 40 per cent, and in the latter case only 5 per cent, which shows statistically significant differences within this relationship, as the p-value < 0.001. Thus, it can be assumed that companies with an awareness of environmental



pollution relatively more often formulated their development strategy through the prism of environmental protection than companies not declaring such awareness.

**Table 3.** Distribution of manufacturing companies' indications of the benefits of implementing pro-ecological initiatives (per cent)

Inclusion of pro-ecological initiatives in the development strategy	Benefits of pro-ecological initiatives by manufacturing companies							
	Economic and financial	Organisational	Technologic	Market	Social	Environmental	Image	Politico-legal
Yes, initiatives are enshrined in the development strategy	48	20	56	28	36	56	36	36
No, initiatives are in the form of loosely written thoughts, but not in a strategy	53	23	53	30	30	46	46	46
No, initiatives are in the strategy because they are considered to be of minor importance	17	4	19	15	12	23	15	35
No, we do not have a strategy	12	6	24	15	12	24	24	30
Total	22	7	26	17	16	28	20	35
Fisher's exact test p-values for subsequent benefit categories	0.0002	0.006	0.0002	0.245	0.012	0.004	0.010	0.788

It should be noted that, in their choices, manufacturing companies with a development strategy expressing an active attitude towards the natural environment confirmed a wide variety of potential benefits resulting from the implementation of greening initiatives, with the frequency of their indications not being polar. Technological and environmental benefits accounted for the largest number of implementation benefits (56 per cent), followed by economic and financial benefits (48 per cent) and the smallest number of organisational benefits (20 per cent). At the same time, in entities that did not include pro-ecological initiatives in their development strategy, the frequency of indications was similar, with technological and economic-financial benefits accounting for the highest percentage. However, it should be noted that this was a collective that was environmentally conscious and wrote down pro-ecological initiatives in the form of so-called 'loose thoughts'. On the other hand, in companies considering pro-ecological initiatives as irrelevant to development and not having a strategy, the highest percentage of indications concerned political-legal benefits (35 per cent and 30 per cent), i.e. resulting in compliance with the requirements of state and EU environmental policy (and not necessarily requiring an active attitude towards environmental protection). The obtained p-values in Fisher's exact test for the successive types of benefits appearing due to the implementation of pro-ecological initiatives show that all indications, with the exception of market benefits ( $p=0.245$ ) and politico-legal benefits ( $p=0.788$ ), are statistically significantly dependent on the issue of including them in the development strategy. As a result, companies with a so-called formal or informal development strategy were statistically significantly more likely to benefit from the implementation of these initiatives than companies without such a strategy.

The responses of manufacturing companies implementing pro-ecological initiatives with the support of a development strategy or taking them into account in a less formal way (outside the strategy) show that they had a more active attitude towards environmental issues than the other companies. The share of these entities was respectively: 48 per cent and 61.5 per cent, while among entities not undertaking pro-ecological initiatives, only 36 per cent. Similarly, enterprises with pro-ecological initiatives included in or outside the strategy were less likely to show an indifferent or passive attitude to the environment (52 per cent and 38 per cent, respectively) than entities completely omitting these initiatives from their strategies (64 per cent). At the same time, the calculations obtained allow the above relationship to be treated as statistically significant ( $p=0.028$ ) and generalisable to the entire population of manufacturing companies.



**Table 4.** Distribution of manufacturing companies' indications of their attitude towards environmental issues vis-à-vis the implementation of pro-ecological initiatives in their development strategy (number/proc.)

Pro-ecological initiatives in the development strategy		Attitudes of manufacturing companies towards environmental issues			
		Active	Inert	Passive	Total
Yes, initiatives are enshrined in the development strategy	n	12	12	1	25
	percent.	48	48	4	100
No, the initiatives are not in the strategy, but are in the form of loosely written thoughts	n	8	5	0	13
	percent.	61.5	38.5	0	100
No, initiatives are not in the strategy because they are irrelevant (and no strategy)	n	69	123	0	192
	percent.	35.9	64	0	100
Total	N	89	140	1	230
	proc.	38.7	60.1	0.43	100

Fisher's exact test p-value = 0.028

An additional strand was made to investigate the existence of a relationship between the size of employment in manufacturing companies and their implementation of pro-ecological initiatives in strategic terms, for which the distributions are presented in Table 5.

**Table 5.** Indications showing the relationship between the size of employment and the implementation by manufacturing companies of pro-ecological initiatives included in the development strategy (number/proc.)

Size of employment in manufacturing companies		Integration of pro-ecological initiatives into the planned development strategy			
		Yes, actions are enshrined in the development strategy	No, the actions are not in the strategy, but they are in the form of loosely written thoughts	No, activities are not in the strategy because they are irrelevant (and no strategy)	Total
Small entities (10-49 persons)	n=	4	1	69	74
	percent.	5.4	1.4	93.2	100
Medium-sized entities (50-249 persons)	n=	9	4	110	123
	percent.	7.3	3.3	89.4	100
Large entities (over 250 persons)	n=	12	8	13	33
	percent.	36.4	24.2	39.4	100
Total	N=	25	13	192	230
	proc.	10.9	24.2	39.39	100

A p-value<0.001 in Fisher's exact test

The obtained results show that, as the size of the manufacturing enterprise increases, the number of entities implementing pro-ecological initiatives within the adopted development strategy or outside of it (i.e. in a less formal manner) increases. As a result, among large enterprises, only 39 per cent have no environmental initiatives included in their development strategy or do not even apply them informally, while among medium and small entities, the values are 89.4 per cent and 93.2 per cent respectively. At the same time, it turns out that the above relationship is statistically significant ( $p < 0.001$ ), so it can be generalised to the entire population of manufacturing enterprises.

## Conclusions

In this article was assessed the existence and importance of pro-ecological initiatives in a company's development strategy in manufacturing companies operating in Poland. This was an important objective because despite the strong interest of both academics and practitioners in environmental issues, there is still a lack of research dedicated to this subject. Therefore, the results of the present studies aimed to fill this research gap.

In recent years, ecological aspects in connection with environmental protection have been gaining importance, which are becoming one of the pillars of successful economic development of the modern world. Undertaking correct and well-thought-out pro-ecological initiatives brings benefits both to the natural environment, e.g. in the form of reducing pollution or completely eliminating it, and to the company implementing them, which is manifested, for example, in reduced production costs, greater efficiency of the production process or visible image effects. In addition, pro-ecological initiatives can also be a source of competitive advantage and influence the shape of development strategies of companies. However, these initiatives must be of a long-term nature, based on quality and ecological innovation and constitute an inseparable element of the company's strategic plans. From the perspective of companies, this means continuous implementation of pro-ecological initiatives and striving for them to fit into the increasingly strong ecological trend (expressed, among others, in sustainable development), which significantly shapes the functioning of modern companies.

The results proved that in the strategic dimension, manufacturing companies which include pro-ecological initiatives in their development strategies confirmed greater effectiveness of the implementation of these initiatives than entities ignoring pro-ecological issues in their strategies. This was reflected in the existence of a statistically confirmed relationship between the inclusion of pro-ecological initiatives in the formulation of the development strategy and the effectiveness of their implementation.

Key managerial implications arise from this research. It turned out that companies with a so-called formal or informal development strategy were statistically significantly more likely to benefit from the implementation of these initiatives than companies without such a strategy. Under these circumstances, the supposition that the inclusion of pro-ecological initiatives in a company's development strategy results in specific tangible and intangible benefits can be regarded as true for the entire population. This is argued by the results in terms of the percentage of indications for the successive types of benefits (in addition to market and political-legal benefits) that are mentioned by companies due to their greening initiatives, showing a statistically significant dependence on the issue of their inclusion in the development strategy. As a result, this allows the conclusion to be drawn that the very fact of having a development strategy has a positive impact on the implementation of pro-ecological initiatives, provided, of course, that the managers of the enterprises have ecological knowledge and awareness and treat environmental issues as important for their market existence, and at the same time want to implement ecological initiatives for the benefit of themselves and their environment. This shows, by the way, that a strategy does not always have to cover all of an organisation's objectives formally in order for them to be realised and produce positive effects, only that they then have to be manifested in other ways. It is also true to say that companies that include environmental initiatives in their strategy are more aware, as a result of various analyses and assessments, of their negative impact on the environment than entities that downplay these initiatives.

To conclude the assessment of the pro-ecological activities in strategic terms, it is worth pointing out the limitation of the research. The survey involved companies differing in size (employment criterion), additionally represented by their owners and managers of different levels, which could – depending on their environmental situation – result in a certain degree of declarativeness of some answers. Therefore, it should be assumed that the exposure of production activities to the natural environment is much greater than shown in reality, as is the strategic framing of environmental initiatives, but this does not disqualify the results obtained.

In future research work it would be advisable to call for expanding the scope of national research on the discussed problem, because progressive climate change and growing public awareness will force enterprises to become even more involved in activities that determine sustainable (and environmentally neutral) economic development. And then, in the further step it would be reasonable to broaden the scope of research to include other countries and conduct comparative studies.

## The contribution of the authors

Conceptualization, J.W. and A.S.R.; literature review, J.W. and A.S.R.; methodology, J.W. and A.S.R.; formal analysis, J.W. and A.S.R.; writing and discussion, J.W. and A.S.R.; conclusions, J.W. and A.S.R.

The authors have read and agreed to the published version of the manuscript.

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## INICJATYWY PROEKOLOGICZNE W STRATEGIACH ROZWOJU PRZEDSIĘBIORSTW PRODUKCYJNYCH

**STRESZCZENIE:** Naukowcy i praktycy potwierdzają znaczenie inicjatyw o charakterze proekologicznym w celu sprostania oczekiwaniom społecznym, a przy okazji zapewnienia sobie przewagi konkurencyjnej nad rywalami rynkowymi. Jednakże istnienie oraz znaczenie inicjatyw proekologicznych w strategii rozwoju przedsiębiorstwa pozostaje niedostatecznie zbadane, do czego odniesiono się w niniejszym badaniu. Wobec tego za cel niniejszego artykułu przyjęto ocenę znaczenia inicjatyw proekologicznych podejmowanych przez przedsiębiorstwa produkcyjne w Polsce w kontekście ich strategii rozwoju. Badania empiryczne przeprowadzono metodą CATI na grupie przedsiębiorstw produkcyjnych prowadzących działalność w Polsce. Badaniami objęto losową próbę warstwową wynoszącą N=385 przedsiębiorstw produkcyjnych, które zostały losowo i proporcjonalnie dobrane z populacji 14 570 jednostek aktywnie prowadzących działalność produkcyjną. Przedsiębiorstwa produkcyjne uwzględniające inicjatywy proekologiczne w swoich strategiach rozwoju zdecydowanie potwierdziły większą skuteczność implementacji tych inicjatyw niż podmioty pomijające zagadnienia ekologiczne w swoich strategiach. Podmioty ujmujące inicjatywy ekologiczne w strategiach są bardziej świadome swojego negatywnego wpływu na środowisko niż podmioty bagatelizujące te inicjatywy.

**SŁOWA KLUCZOWE:** inicjatywy proekologiczne, strategie rozwoju