

The Motives and Benefits of Environmental Management Systems – the Case of Bulgarian Companies

Daniela Ivanova^{*}, Anelia Haradinova^{**}

Summary

Taking into account the shortfalls of the regulative and economic instruments, a third wave of entirely new instruments emerged in the EU economic policy at the end of the 20th century – the instruments of the voluntary approach. They appear in response to the need for effective and flexible instrument to overcome the limitations and difficulties of the existing policy. They are engagements that the business undertakes voluntarily to improve their ecological performance. One of the most widely distributed instruments for management of the ecological performance are the Environmental Management Systems (EMS). They contribute to the decrease of the ecologic footprint, facilitate the identification of various risks and hazards and provide the possibility for the company to demonstrate environmentally responsible behaviour in front of the customers and the society in general. Based on a research of 137 companies in the country, the current article aims at presenting an overview and evaluation of the motives and benefits of the EMS implementation by the Bulgarian companies. The analysis shows

that the business in Bulgaria identifies as main drivers for EMS introduction mainly external economic factors – normative regulation, eligibility criteria for tenders, improvement of the competitiveness and better market performance.

Keywords: Environmental Management Systems, motives, benefits, companies, Bulgaria.

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Introduction

The extremely dynamic development of the economy over the last decades has put the world at the heart of serious environmental challenges. In response, as early as the 1960s and 1970s, the European Union (EU) created specific environmental legislation. A number of regulatory instruments have been introduced, which later analyses have identified as economically inefficient, of low efficiency in environmental protection and in violation of certain democratic principles (Eskeland & Jimenez, 1992; Russel & Vaughan, 2003; Scheuer, 2005).

Thus, at the end of last century, these instruments were replaced by stimulus-oriented mechanisms. A few years later, a voluntary approach emerged that enabled

^{*} Daniela Ivanova, Ph.D., Department of Economics of Natural Resources, University of National and World Economy

^{**} Anelia Haradinova, Ph.D., Department of Economics of Natural Resources, University of National and World Economy

polluting companies to choose their own strategy for achieving environmental goals. One of the most widespread tools of this kind is the environmental standards for management systems that reduce pollution risks, help identify environmental risks and provide the opportunity to demonstrate responsible environmental behaviour of the business to customers and society. The most widely used Environmental Management System (EMS) was introduced by the International Organization for Standardization with standard ISO 14001. A study by the International Organization for Standardization had showed that interest in ISO 14001 has been steadily increasing in recent years with 258566 certificates issued worldwide in 2018 which represents a growth of 3% compared to 2017 (ISO, 2018).

The ISO 14001 standard specifies the requirements for the enterprise environmental management system. It refers to monitoring, controlling and reducing the harmful effects on air, soil, water, reducing energy use and the amount of solid waste. The implementation and maintenance of a management system according to this standard ensures the order and sequence of actions to resolve the organization's environmental problems (Boiral & Jean-François, 2012).

At the same time, a European Environmental Audit and Management Scheme (EMAS) has been introduced in Europe through the Council Regulation (EEC) No 1836/93 (EU Council, 1993). EMAS is a management tool designed for organizations wishing to measure, report and improve their environmental performance. However, unlike ISO 14001, EMAS is integrated into the legislative system of the European Union (Regulation (EC) No 1221/2009) and is directly applicable to all Member States of the European Union. EMAS aims to make environmental management a continuous

process leading to improved environmental performance.

In its main characteristics the Environmental management system, regardless of its application through an international standard ISO 14001 or EMAS, is a voluntary tool used by companies to manage their environmental performance. Therefore, clarifying the reasons for its implementation is essential. They have a direct impact on the approach organizations adopt when implementing the system and on the obligations they assume. This, in turn, also influences how the benefits of implementing the standard are perceived in the organization.

What are the business motives for implementing the EMS?

In scientific literature, the motives for implementing the ISO 14001 standard have been considered by a number of authors in the context of both different countries and different sectors of the economy. Studies show that when deciding on the introduction of an EMS, managers take into account both the role of the system in achieving better compliance and improvement in company performance and EMS's importance as an external indicator for other market players that the company applies good environmental practices (Johnstone & Labonne, 2009). Other studies reveal that there is a positive relationship between decision-making in favour of certification and certain key factors such as: previous experience with quality management systems according to the international standard ISO 9001; previous experience with heterogeneous teams; the size of the company; turnover of goods/services for final consumption; export; the type of corporate ownership (foreign companies are more likely to implement ISO 14001). Companies with high levels of employee engagement and collaboration have been the best performers in implementing ISO 14001 (Curkovic et al., 2005). Among

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the main motives for the EMS are also better option for meeting customer requirements, better compliance with legislative provisions, seeking cost-cutting opportunities and improving efficiency, creating competitive advantages (Prajogo et al., 2012). A number of studies have found that foreign consumers are also an extremely important group that puts serious pressure on the implementation of ISO 14001 by export-oriented organizations (Hibiki et al., 2004; Neumayer & Perkins, 2004; Arimura et al., 2005; Wu et al., 2007).

However, it turns out that the bulk of existing studies are focused on developed economies. Thus, their results may not be valid for developing countries for a variety of reasons, including the different purpose of implementing an EMS:

- in developed countries, the implementation of systems is encouraged in order for companies to “go beyond” mandatory legal requirements, i.e. to reduce their emissions below the legal minimum (Lyon & Maxwell, 2002);
- in developing countries, systems are being deployed to help combat significant non-compliance with mandatory legislation (Blackman, 2008).

Studies in developing countries have shown that the main motives of the companies for the implementation of EMS are to avoid environmental pollution fines, to ensure compliance with legal requirements, and to improve the company’s reputation (Blackman & Guerrero, 2012). Only then environmental performance is improved and the environmental risk management is enhanced (Fryxell et al., 2004). Massoud et. al (2009) have added to the identified business motives in similar countries the reduction of operating costs and meeting the requirements of the parent company.

When deciding to implement an EMS, companies consider various factors that

could be classified as internal and external. Intercompany motives are indicators that are under the direct control of the company. Examples include: achieving a better working environment; better environmental control over suppliers and subcontractors; expectation for improved environmental performance; compliance with the requirements of the owner or foreign parent company; good financial results; low amount of liabilities; striving to reduce operating costs; improvement of operational safety in the company; control or stop air, water, soil pollution by the company; implementation of environmental technology planning and introduction of new environmental technologies.

External motives for implementing an EMS are factors that the company cannot influence or manage. The external motives include: higher number of foreign clients; compliance with the requirements of state policy and national legislation; creation of better opportunities for marketing the company’s products on the market; provision of easier access to international markets; better environmental performance of the company to the public; creating greater customer trust in the company; better response to customer requirements; negotiating better terms for insurance and loan granting; reducing the cost of fines.

What are the benefits of EMS implementation for businesses?

In 2014, the International Standards Organization published a report on “The economic benefits of standards”, outlining the individual benefits of the standards implemented, including ISO 14001, to over 30 companies and corporations operating in the global market (ISO, 2014). Regardless of the size of the businesses, the results clearly show that certification brings tangible benefits to businesses. The authors have pointed out the main benefits: optimization of internal

operations; promotion of innovation and proportional expansion of activity; creating and introducing new products, entering and even creating new markets.

Studies have shown that the implementation of an EMS brings both tangible and intangible benefits to organizations, incl. better management control, better customer satisfaction, lower environmental risks (Lawrence et al., 2002). The implementation of the EMS also completely leads to improvement of the economic performance of the company, incl. green and more efficient processes, market expansion, improved profitability, better company image (Tan, 2005). Merli and Preziosi (2018), when analysing the perceived benefits of EMAS implementation among Italian companies, have found that the tool is a solid foundation for more sustainable business models. Positive outcomes of EMAS such as the maximization of material productivity and energy efficiency, the creation of value from waste and the implementation of standardized environmental indicators may support organizations in the transition to circular economy.

Zeng and team (2003) summarized the benefits of ISO 14001 certification in 5 groups (Zeng et al., 2003): benefits for internal organizational processes in the company; benefits for corporate management incl. protection of resources and reduction of waste; market benefits incl. demonstration of environmental care and customer confidence; benefits of subcontracting - here the benefits are determined by the importance which the subcontractor attaches to environmental protection; benefits related to the cleanliness of the construction site. Another study grouped the benefits into four similar categories, depending on how the respective asset was perceived: productivity benefits (the result of operational changes); financial benefits (financial gain/certification income);

market benefits (benefits derived from relationships with economic stakeholders - customers, suppliers, competitors); social benefits (benefits derived from relations with social stakeholders - government, society and NGOs) (Gavronski et al., 2008).

A number of authors have split the expected benefits into two groups - internal and external. The internal benefits are mainly related to the financial performance and improvement in the internal business processes. These benefits include achieving environmental goals and reducing costs (by reducing environmental impact), improving operational efficiency and effectiveness (Nishitani, 2009), better organized management processes, improving the working environment and better relationships with employees (Oliveira, 2010). External effects are most often associated with improving the image of the company for stakeholders, incl. government, public, counterparties, competitors, NGOs, etc. For this reason, the most common external benefit is the role of the certificate as a "signal" that the company is pursuing an adequate environmental policy and taking the necessary environmental actions (Nishitani, 2009). The certification of the EMS, in accordance with the requirements of ISO 14001, effectively stimulates the development and implementation of preventive environmental protection actions, thus avoiding unforeseen costs and fines for polluting (Oliveira et al., 2010). The implementation of the standard also leads to a decrease in the use of resources, incl. water, electricity, materials, gas and fuel, more efficient waste treatment and better customer relations and public administration (Martín-Peña et al., 2014).

To sum up, the main benefits of implementing an EMS can be divided into 3 groups - economic, social and environmental. The economic benefits combine both market and management benefits from pursuing a pro-active environmental policy. Among the

main ones are: better customer satisfaction; better market opportunities for the company's products and services; better image of the company to national and international investors; improving competitive advantage; greater trust in the company's customers; reducing the cost of fines; better opportunities for participation in public procurement and tendering procedures; better interaction with other management systems (integrated management system); increasing production efficiency; reducing energy, raw materials and packaging costs.

Benefits that are considered as social in terms of staff and local community are the ones leading to better relations with stakeholders (local communities, regulators, environmental NGOs, etc.); higher motivation of staff and employees to achieve the set environmental goals; training employees in environmental behaviour inside and outside the company; creation of better work environment.

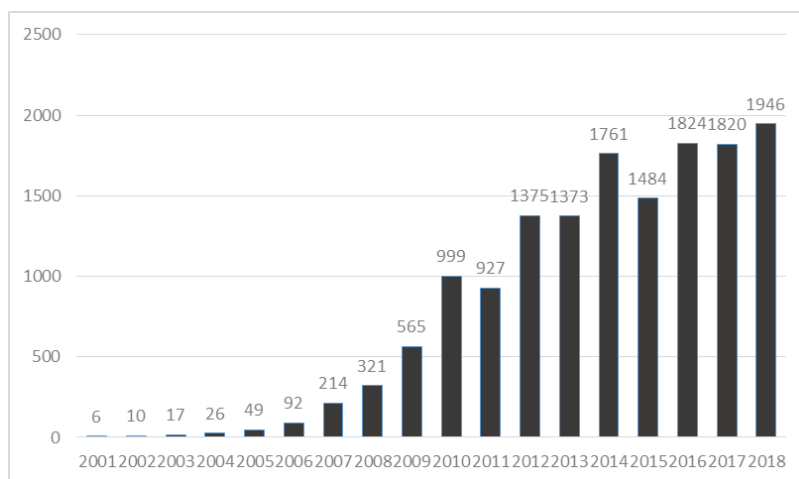
The environmental benefits are related to improving the company's environmental performance, namely: improving the company's environmental image in society; better implementation of environmental objectives;

better environmental control of suppliers and subcontractors; reduction of air, water and soil pollution; reduction of waste; decreasing the risk of environmental incidents; increasing investment in R&D; better compliance with legal provisions; development of preventive activities to protect the environment and reduce the environmental risk of the organization; implementation of environmental technology planning.

Environmental Management Systems in Bulgaria

The interest in EMS in accordance with the requirements of the international standard ISO 14001 in the country has been constantly increasing. The change in the number of certificates issued for the period 2001 - 2018 is presented in Fig. 1. The survey data show a significant increase since the country's accession to the EU, with a growth of 132% in 2007 compared to 2006 (ISO, 2019). According to a survey by the International Organization for Standardization for 2018, Bulgaria is ranked 13th in Europe in the number of certificates of conformity issued according to the international standard ISO 14001.

Fig. 1. *Certified EMS in accordance with the requirements of ISO 14001, in Bulgaria for the period 2001 - 2018 (number of certified systems)*



Source: International Organization for Standardization

The second type of EMS - European Environmental Audit and Management Scheme (EMAS) is much less recognizable among business representatives in Bulgaria. In Bulgaria only 13 organizations were registered under EMAS at the beginning of 2020 according to data provided by the Ministry of Environment and Water (MOEW, 2020).

Despite the fact that EMS are among the most recognizable voluntary instruments of the environmental policy in Bulgaria, there are only few researches among organizations implementing such management systems. In 2008, Simova (2008) presented the results of a survey conducted among 18 Bulgarian companies on environmental management systems. According to them, the main benefits of developing and implementing an EMS are: reduction of the environmental risk; meeting consumers' and legal requirements; optimizing the use of resources and generated waste; improving the reputation of the company; improving credit rating and competitiveness. The study has also noted some difficulties experienced by organizations during the certification process, such as: difficulties associated with the initial understanding of the standard and with staff training; lack of methodology for some measurements as well as lack of information for authorized companies and persons for carrying out certain measurements; difficulties associated with the disposal of hazardous waste. With the aim of analyzing what kind of stimulus policies the government should create to promote the ecological transformation of the Bulgarian economy Ivanova and Slavova (2018) have conducted a survey among 200 Bulgarian companies that establishes a low level and limited scope of environmental responsibility among businesses. They

explain these findings with the lack of a clearly defined macroeconomic framework that encourages investment in innovative technologies for sustainability and energy efficiency. Miteva (2017) and Peicheva et al. (2017) have examined the attitudes and needs for implementing EMAS and ISO 14001 in Bulgaria through surveys conducted on the social networks Facebook and LinkedIn among responding legal entities. They have found out that the motives for implementing eco-standards are mainly related to factors that are influenced by the management of the company. According to a study by Harizanova (2015), the most important reason for implementing the standard is the ability to reduce costs and to realize savings through a targeted resource use approach.

The summarized and analyzed empirical studies in Bulgaria are focused on the attitudes towards the introduction of EMS by companies, most of them focusing on the motives and difficulties faced by businesses. The companies participating in the quantitative surveys have accidentally responded, with a small number of them having actually implemented EMS. To fill in the lack of research among organizations implementing similar management systems, the purpose of this article is to review and evaluate the motives for and benefits that companies in Bulgaria find from implementing EMS.

Methodology

The goal was achieved by conducting an empirical study using a prepared questionnaire¹. In structural terms, it consists of the following parts: an introductory part, which briefly presents the research objectives and examples of how to fill in the questionnaires; a main part related to the motives and benefits of the environmental

¹ The empirical study was carried out as part of the project NI 1-19/2014 "The application of voluntary information tools of environmental policy in Bulgaria"

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management systems applied; a third part with general information about the main characteristics of companies. In designing the main part of the questionnaire and determining possible answers, the literature analysis of the experience of foreign companies has been used. The motivation and benefits were evaluated by the participants through the seven-point Likert scale. The scale was from 1 (not applicable) to 7 (very strong relation).

In order to determine the extent to which the certified and implemented EMS has met the expectations of the companies, a comparative analysis has been made between the Benefit Assessment Index and the Motive Assessment Index. The positive difference values indicate that the benefits outweigh the expectations and the negative ones indicate that the benefits are below expectations.

The information has been collected through a direct individual interview with a person from the company - a representative of the management staff who either has the power to make decisions related to environmental protection or is directly involved in the implementation of the environmental policy of the company.

Identifying the companies included in the survey went through several steps. Firstly, the polluting companies in Bulgaria were selected through a review of the Register of the Reporting System for the European Pollutant Release and Transfer (RRSEPR) of the Environment and Water Executive Agency of the Ministry of Environment and Water. In the next stage, the companies with certified environmental management systems according to ISO 14001 were grouped according to the data from Ciela Soft and Publishing AD (CielaNet online) and Club 9000 Association (Club 9000 Association, 2014). The companies with fewer than 10 employees were removed afterwards. The remaining list of companies was combined with the list of

polluting companies (from step 1). Pollution companies without ISO 14001 certification were excluded and those with ISO 14001 certification were identified as priority.

Based on the concept that larger companies have larger, more complex and actually functioning EMS, the survey started by targeting the first 160 companies sorted by number of employees. Polluting companies have been then added to the list until 137 questionnaires were filled out. This made it possible to cover large pollutant companies and to include companies from those industries that contribute most to environmental pollution in Bulgaria.

Description of the results

Companies from 20 sectors of the economy took part in the survey. The share of companies in the construction sector was predominant - 46.7% (with 35.8% share in the general aggregation); Other sectors - 12.6% (against 16.5% share in the general aggregation) and Trade sector - 5.2% (against 7.6% share in the general aggregation).

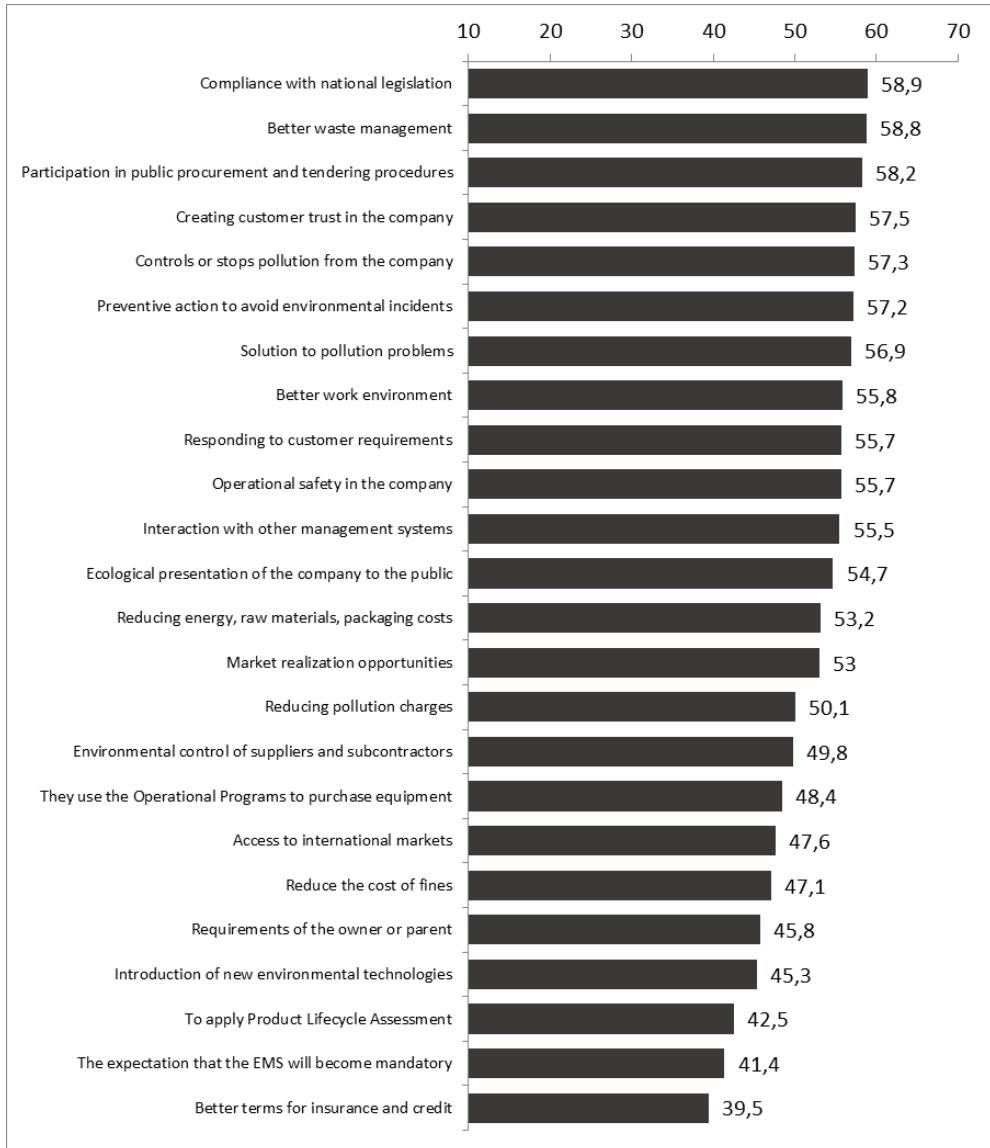
Almost half of the surveyed companies operate on the national market (46.3%), followed by regional (27.6%), European (14.2%) and global (11.9%) ones. 57.8% are medium-sized companies with 50 to 250 employees, followed by large (21.5%) and small (20%) ones. The majority of surveyed companies have an ISO 14001 certified Environmental Management System (90%). The organizations with EMAS registration are 5% and another 5% have ISO 14001 certificate and EMAS registration.

The most important reasons for the company's decision to implement the EMS are the combination of legal requirements (including the creation of conditions for participation in public tenders), environmental motives and market reasons. The impact of direct financial benefits (for example, the

existence of an EMS as a condition for making better credit agreements) is least appreciated. However, it should not be overlooked that market reasons (“creating customer trust”,

“market realization opportunities”) ultimately aim for nothing but the achievement of favourable financial results for the company (Fig. 2).

Fig. 2. Motives for the implementation of EMS in the company²



Source: Own research

² A seven-point scale was used to answer the question and the data were presented as an index equal to the arithmetic mean multiplied by 10, with a minimum value of 10 “Not motive” and a maximum value 70 “Main motive” for better visual representation.

When comparing the results of the companies' responses, it seems that for the most part the reasons are related to the legislative framework and regulatory requirements in the country. The first place is taken by "Compliance with national law", followed by "Better waste management" in the second place, "Participation in public procurement and tendering" is in the third place. On fourth place is ranked the customers' opinion and the creation of trust and a better image among them. The next four motives again relate to the implementation of legal requirements regarding pollution control. On the last tenth place is a market-related motive again - "Responding to customer requirements".

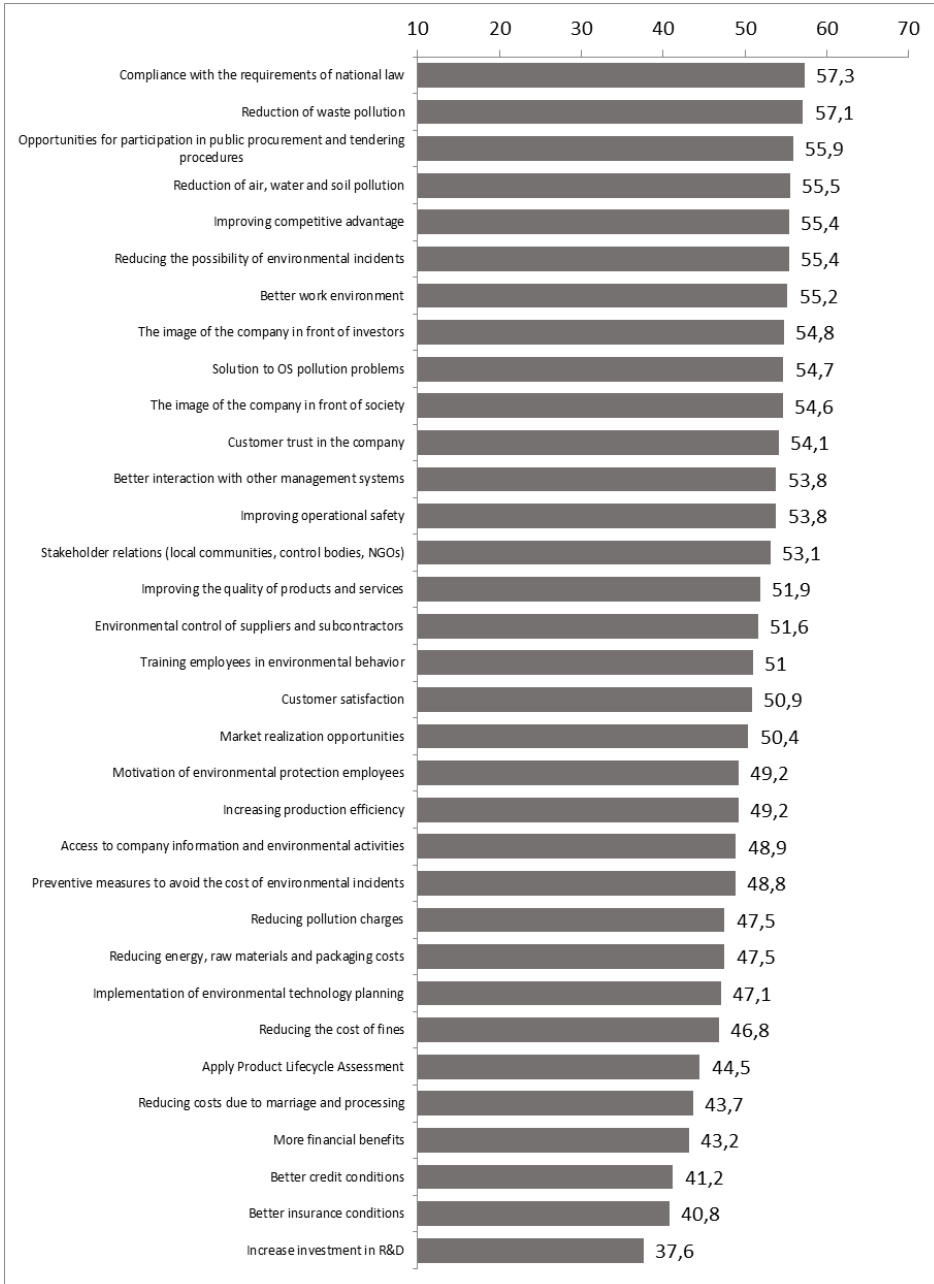
The ranking of the reasons indicates that the decision to implement the EMS is taken under pressure from the regulatory authorities in their substantive part and to some extent

by the market or the customers. These results also coincide with the main motives established by the global studies.

Since only 20% of participants operate in a supranational market, the influence of foreign clients (as individual ones) is not indicated as a reason by the companies. A motive that is in the top three according to international literature.

The results of the study show that companies identify as the most important benefits of using EMS - "Compliance with National Laws" and "Reducing Waste Pollution". With only one tenth less, the third is "Opportunities for Public Contracts and Tenders". With a seven-point rating scale (1 - no benefit; 7 - highest benefit), the first place has an average utility score of 5.72, and the third has a 5.61. The arrangement and evaluation of the benefits of implementing the EMS are presented in Fig. 3.

Fig. 3. *The arrangement and evaluation of the benefits of EMS implementation³*



Source: Own research

³ A seven-point scale was used to answer the question and the data were presented as an index equal to the arithmetic mean multiplied by 10, with a minimum value of 10 “No benefit”, and a maximum value of 70 “Great benefit” for better visual representation.

When comparing the results from the own study with analogous research conducted by foreign authors, it can be noticed that the three main benefits identified by the literature analysis are listed in the last three places of the first ten responses of the respondents. Globally, the usefulness of using an EMS is evaluated primarily by increasing the opportunities associated with expanding the business, improving productivity and the image of the company to the outside world and to employees themselves. While the most appreciated nationally-related benefits are related to the implementation of legislative commitments, incl. pollution levels, tendering, environmental incidents, etc. Better working

environment and company image for investors and the public are only at the end of the ranking.

Based on the responses to questions about the reasons for the EMS implementation and the estimates of the benefits realized subsequently, a comparative analysis has been made between the two variables. The difference between the Benefit Assessment Index and the Motive Assessment Index is to what extent the already certified and implemented EMS has met its expectations. The positive difference values indicate that the benefits outweigh the expectations and the negative ones indicate that the benefits are below expectations (Table 1).

Table 1. Evaluation of the motives for implementing the EMS and its benefits.

	Benefit Assessment Index	Motive Assessment Index	Difference
To apply Product Lifecycle Assessment	44,5	42,5	2,0
Environmental control of suppliers and subcontractors	51,6	49,8	1,8
Better terms for insurance and credit	41,0	39,5	1,5
Ecological presentation of the company to the public	54,6	54,7	-0,1
Reduce the cost of fines	46,8	47,1	-0,3
Better work environment	55,2	55,8	-0,6
Compliance with national legislation	57,3	58,9	-1,6
Better waste management	57,1	58,8	-1,7
Interaction with other management systems	53,8	55,5	-1,7
Controlling or stopping pollution by the company	55,5	57,3	-1,8
Operational safety in the company	53,8	55,7	-1,9
Solution to pollution problems	54,7	56,9	-2,2
Participation in public procurement and tendering procedures	55,9	58,2	-2,3
Reducing pollution charges	47,5	50,1	-2,6
Market realization opportunities	0,4	53,0	-2,6
Creating customer trust in the company	54,1	57,5	-3,4
Responding to customer requirements	50,9	55,7	-4,8
Reducing energy, raw materials, packaging costs	47,5	53,2	-5,7
Preventive action to avoid environmental incidents	48,8	57,2	-8,4

The first thing that stands out is that in most indicators (16 of all 19) the difference is small - within 2-3 points. This means that expectations and benefits are broadly matched, which also implies a high degree of satisfaction with the way EMS works.

Secondly, for three indicators, the benefit assessment outweighs its importance in deciding on the implementation of the EMS (i.e. the effect of the certified system exceeds the expectations): the implementation of Product Lifecycle Assessment, the possibility of environmental control of subcontractors and suppliers, the possibility for better conditions for obtaining loans and insurance. However, it should be pointed out that these three indicators are of relatively minor importance for the decision to implement the EMS i.e. the benefits of the system on these indicators will have a negligible impact on the overall satisfaction with the functioning of the EMS.

Third, there is relatively greater dissatisfaction (lagging behind the benefits of assessing the importance of the decision to implement an EMS) in terms of customer satisfaction, reducing company costs of energy, raw materials and packaging, and preventing environmental incidents. Especially important is the latter, as respondents put it in the front row of the reasons for implementing the EMS, and this is where the difference between benefits and expectations is greatest.

Some authors split the motives into internal and external and have discovered that they have different effects on the benefits of implementing an ISO 14001 compliant EMS (Prajogo et al., 2012). The data obtained has showed a positive relationship between environmental performance and internal certification motives, but not with the external motives. This means, first, that companies that implement an EMS under pressure from external factors focus on gaining legitimacy and market benefits from having the certificate.

Secondly, external motives are mainly related to social and market advantages. Studies have shown that benefits are interrelated with environmental ones leading to upgrading and strengthening social and market ones i.e. environmental benefits must first be realized before companies can realize the social and market benefits of certification.

According to the survey results, the country is largely dominated by external factors that "push" companies to implement EMS. The external motives also lead to the recognition of advantages related to the market presentation and presence of the company - the opportunity to participate in public procurement, to improve the competitive advantages and the image of the company. The implemented EMS has mainly social and market benefits - out of the top 10 most appreciated benefits, only three are related to the company's environmental performance. The results from the national survey confirm the findings in the world literature that external factors lead to the recognition of mainly economic benefits from the implementation of the EMS.

Conclusion

Businesses in Bulgaria are increasingly paying more attention to their environmental performance and are taking action to improve their environmental footprint. This change is the result of both stricter European and national requirements and regulations and increased environmental sensitivity of the community, customers and other stakeholders. Following such a policy, more and more companies in the country are introducing and actually implementing Environmental Management Systems and their numbers have been increasing at a steady rate in recent years.

The conducted survey among the companies in Bulgaria with real and functioning EMS shows that the business is familiar with this tool and is applying it in their activity. The

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analysis of the obtained data has shown that the main motives for the EMS implementation are mainly related to external factors - most often pressure from regulators and from the market or customers. The arrangement of the motives of the Bulgarian companies coincides to a great extent with the group of the main motivators for EMS introduction in the companies worldwide.

On the other hand, the results link the main benefits of EMS implementation mainly with compliance with national legislation, the possibility of participation in government procurement and the reduction of pollution. Only at the bottom of the top ten are the benefits of improving the business image for the public and investors and of a better working environment. The ranking of the significance made by study participants differs from researches by foreign authors.

The Bulgarian business identifies as the main motives and relates the benefits of EMS implementation mainly to external economic factors, such as meeting legislative requirements and public procurement criteria and limiting environmental impacts by reducing waste.

The results discussed here can be used in the development of motivational programs and the implementation of incentives by public authorities for more active implementation of EMS. At the same time, the methodology of comparative analysis between the Benefit Assessment Index and the Motive Assessment Index can be used in other countries to measure and compare the extent to which the already certified and implemented EMS has responded to the expectations of the companies.

Limitations:

An empirical study to identify the motives and benefits of EMS implementation has been conducted under certain time and institutional constraints. The objects of the study are

companies with valid ISO 14001 certification and/or EMAS registration and are selected based on the degree of contamination caused by their activity and the size of the company (number of employees during the research period).

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