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Implementation of Proactive Environmental Protection Management Opportunities

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ABSTRACT

Among the contemporary challenges facing sustainable development, the efficient consumption of resources, which have a huge ecological impact, is very much in the spotlight. Management of resource consumption is a task that many say should be put to resource recycling companies. The answer to the global demand for the development of a type of production that will not threaten future generations is made possible through the production process itself and the management priorities set. The global scale of harsh ecological problems indicates the need for proactive management implementation. In this light, internationally recognised and widely introduced environmental protection standards are well worth considering.

This paper deals with the introduction of Environment Protection Management capacities based on the International Organisation for Standardisation ISO 14001:2015, globally, as well as in Georgia.

Introduction

Eight of the UN's 17 Sustainable Development Goals are directly connected with environmental protection standards: Clean Water and Sanitation; Affordable and Clean Energy; Decent Work and Economic Growth; Industry, Innovation and Infrastructure; Responsible Consumption and Production; Climate Action; Life Below Water, and; Life on Land (ISO Environmental Management Systems).

The widescale objectives of the Sustainable Development Goals can be achieved when management decisions focus on the production process. Environmental Protection Management is not simple, and does not provide guaranteed benefits for a company. Some firms which have introduced this kind of management process have witnesssed increased expenses due to the need to meet the strict norms of environmental protection, whereas others have seen a positive impact. Suppliers of pollution reduction and control system equipment quickly appeared on the growing market. Many companies have discovered that it is possible to run a company

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by attracting customer attention via leadership in the issues of environmental protection, and many have turned tough state regulations on waste reduction and resource saving into public image improvement and a source of income. Besides the above-mentioned, environmental protection priorities are connected with issues such as water supply and water quality, air quality, soil pollution, and the depletion of non-renewable resources. Fossil fuel in particular was considered the main physical obstacle.

Currently, emphasis is being put on improving water and air quality, waste assimilation, and nature protection. This paper aims to study ways of environmental protection management development. To emphasise the opportunities granted by the introduction of ISO 14001:2005 standards, the study findings can be used to stimulate proactive environmental protection management. To study the issue, the International Organisation for Standardisation webpage materials and relevant academic publications were analysed.

Proactive Environmental Management Challenges in Companies

Alongside an increase in the scale of industrial production and world population, mankind's impact on the environment is growing. The business sector also has to deal with these problems. Developed countries enact ecological laws and implement relevant policies, with governments having a serious influence on many sectors of industry (an issue widely discussed by Aladashvili, G., 2015, 41-65).

Environmental Protection Regulations have various impacts on businesses. It is possible to increase environmental protection expenses with the expansion of production activity. Industrial expenses on environmental pollution control are 3% on average. For the hard-polluting sector (chemical, paper and mining), the percentage increases by 20% or more (Paye J. V., 1996:4).

Companies may implement environmental management strategies on various levels, among which are pollution prevention, reduction of risks due to the introduction of new technologies, and protection of regulating standards at the highest level.

It is obvious that many companies not only fail to implement proactive environmental management, they are not even informed about its existence.

Effects of environmental protection are miscellaneous, a fact which can be connected with ineffective management, lack of information or regulations, and other factors. A survey carried out in 2020 in Georgia revealed that the environmental protection benefits vary dramatically by company. The survey revealed that benefits were available in applied materials or water quantity reduction (-17%), energy consumption reduction (-20.6%), water, noise, soil, air pollution reduction (-29.9%), less polluting and dangerous materials substituted (-19.9%), renewable energy sources substituting fossil energy (11.5%), private usage or renewable recycled waste for sale, and water from materials usage (10%). For insignificant benefit or a lack of benefit allocation of the mentioned effects, see Table 1. All the above indicates the need for measures to be taken for environmental protection in Georgian enterprises.

Company activities are not revealed clearly here. For example, of the companies surveyed in Georgia in 2020 that received environmental benefits from the implemented innovations, only 10.5% indicated that they participated in voluntary actions or initiatives for good environmental practices in the relevant sector, and almost half of these (47.7%)

Table 1. The distribution of categories of importance for enterprises according to the types of environmental benefits, Georgia

	2020		
	Significant benefits	Insignificant benefits	Without benefits
Environmental benefits obtained within enterprise			
Reduced material or water use per unit of output	17,2%	19,2%	16,6%
Reduced energy use or CO2 'footprint' (i.e. reduced total CO2 emission)	20,6%	18,9%	16,5%
Reduced soil, noise, water or air pollution	20,9%	18,1%	16,5%
Replaced a share of materials with less polluting or hazardous substitutes	19,9%	16,8%	16,6%
Replaced a share of fossil energy with renewable energy sources	11,5%	13,2%	16,9%
Recycled waste, water, or materials for own use or sale	10,0%	13,8%	16,9%
Total	**100,0%**	**100,0%**	**100,0%**

Source: *National Statistics Office of Georgia https://www.geostat.ge/en/modules/categories/108/innovation-activity*

indicated that this factor did not impact on the enterprise. Challenges to eco-friendly management are present in all countries of the world. Studies were especially active in this direction in the 1990s, which resulted in the creation of EN ISO 14001 and eco-management and audit schemes. The effects of implementing standards-based environmental management (EMS) systems have since been reported in many studies.

Researchers indicate that the implementation of a certified EMS helps to increase a company's reputation in the eyes of external stakeholders, and the results show that investing in IS0 14000 standards is also highly beneficial for the wider applicability of developing strategies that can help firms make better decisions in marketing (D'Souza et al., 2019).

Based on a study of more than a hundred academic papers on the challenges of environmental management applied in companies and industries, researchers (Potrich et al., 2019) systematised three main perspectives: Evolutionary stage models, typology models, and proactive practices. They concluded that evolutionary stage models more fully reflect proactive approaches to environmental management, and proposed an environmental proactive framework that integrates proactive practices with organisational, operational, and communicative directions.

ISO 14001:2015 and heterogeneous motivations for implementing an environmental management system

Today, there are important international standards that aim to systematise the introduction of business management systems. The series of standards developed by the International Organisation for Standardisa-

tion (ISO) have spread widely throughout the world, cover almost all areas of activity, and are now recognised by many countries for the many benefits brought about by implementing them in business. Two series of management-related standards are noteworthy: the ISO 9000 series, related to the implementation of quality management systems (Quality Management Systems - QMS), and the ISO 14000 series, related to the implementation of environmental management systems (Environmental Management Systems - EMS).

ISO 14000 is a series of voluntary standards for environmental management. It provides a set of best practice tools and methods that, if implemented by a firm, are likely to help minimise environmental impact and conserve resources. Currently, companies can obtain certification in the standard ISO 14001, a standard at the core of the 14000 series which outlines what a firm should do to implement an environmental management system.

ISO 14001 is a globally recognised standard based on the concept that environmental performance is best achieved when environmental aspects are systematically identified and managed, making a significant contribution to sustainability through pollution prevention, environmental performance improvement and compliance with the applicable laws. This standard was monitored in accordance with the new structure of management system standards, and, in September 2015, a widely recognised environmental management system standard was issued.

ISO 14001:2015 is characterised by an integrated approach to environmental management, and its implementation means reducing the impact on the environment, along with meeting the appropriate legal requirements, which, of course, does not exclude the possibility of business growth.

To implement ISO 14001, the organisation must develop an environmental policy based on the following principles: Compliance of the policy with activities, products and services; commitments to continuous improvement and pollution prevention; compliance with environmental legislation and legal regulations; taking on responsibility to define and review environmental goals and objectives; and ensuring employee engagement and availability to the public.

ISO 14001:2015 helps an organisation to achieve the intended results of the environmental management system, which is valuable for the environment, the organisation itself, and its stakeholders. In accordance with the environmental policy of the organisation, the targeted results of the environmental management system include: Improvement of environmental performance, fulfillment of obligations, and achievement of environmental goals. ISO 14001:2015 applies to any organisation, regardless of size or type. It also applies to the environmental aspects of the activities, products and services that the organisation defines as areas of control or influence, taking into account the life cycle. ISO 14001:2015 does not establish specific criteria for environmental performance. ISO 14001:2015 can be used in whole or in part to systematically improve environmental management; however, a claim for compliance with ISO 14001:2015 will not be accepted unless all its requirements are included in the organisation's environmental management system and are met without exception (ISO 14001:2015).

The implementation of ISO 14001 is based on the principles of the well-known Deming Wheel: Plan - Do - Check - Act. At each stage, direct and indirect environmental aspects are taken into account in terms of environmental impact (Martin, 2017). The majority of organisations supporting the imple-

mentation of the standard indicate that, by implementing it, the organisation will reduce waste management costs, save energy and material consumption, have lower distribution costs, and improve the corporate image before regulators, consumers, and the public. In addition to the above, the expected benefits are compliance with legal and business requirements, increased competitive advantage in the market, identification of problem areas, improved opportunities, independent verification of system stability and process reliability, greater employee awareness of company obligations, and overall increased responsibility.

According to the latest data from the ISO survey, the number of certificates of conformity to ISO management system standards issued is increasing, issued by accredited bodies worldwide. In 2016, there were 1,643,523 valid certificates issued across nine standards, an 8% increase compared to 1,520,368 in 2015. A certain amount was added (834 certificates) and the total figure for 2016 was 1,644,357. Demand for the ever-popular ISO 9001, Requirements for Quality Management Systems, and ISO 14001, Requirements for Environmental Management Systems guidelines, increased by 7% and 8%, with 1,106,356 and 346,189 certificates issued respectively. More recent additions, such as ISO 50001 for Energy Management and ISO / IEC 27001 for Information Security, increased by 69% and 21%, respectively, with 20,206 and 33,290 certificates issued worldwide (Use of ISO, 2017).

The ISO survey also notes the number of certificates of conformity to ISO management system standards is increasing. Certificates are issued by accredited bodies worldwide. In 2016, there were 1,643,523 valid certifications given under the nine standards, compared to 1,520,368 in 2015. The results of a survey of the Chinese manufacturing sector showed that certification according to the ISO 14001 standard increases compliance with environmental regulations and helps to maintain the results achieved in this aspect (McGuire, 2014).

A number of researchers focus on the influence of national culture on environmental management, and indicate that efficiency orientation and institutional collectivism influence the spread of ISO 14001. However, while efficiency orientation slows the spread of ISO 14001, institutional collectivism accelerates it, though the moderating effect of efficiency orientation decreases over time and the accelerating effect of institutional collectivism increases (Orcos & Palomas, 2019).

The standards of the International Organisation for Standardisation are allowed in Georgia. Georgia regained the status of member-correspondent of this organisation on July 1, 2006. The body responsible for standards in Georgia is the National Agency of Standards and Metrology, whose partner organisation is ISO. Its membership provides an opportunity for any person involved in the quality infrastructure in the country to accept and act in accordance with international standards for health, ecology, safety protection, the entry of Georgian products onto the international market, and increasing competitiveness (National Agency of Standards and Metrology).

Among the standards in force in Georgia are the general quality management standards of the International Organisation for Standardisation (for example, 9001:2015), as well as some standards of the family of environmental protection management (standards catalogue), although statistics of environmental standards implemented by organisations, especially according to individual standards, could not be found. It is significant that steps are to be taken in this direction- the

planned political measures point to this, and they will contribute to the wider implementation of the discussed standards. In the Third National Program of Environmental Protection Actions of Georgia, it is mentioned that the transition to acceptable activities from an environmental point of view is not able to be carried out immediately, and requires scientific knowledge, innovation, a certain level of public awareness, appropriate development planning, an effective economic policy, appropriate implementation of legislation, and the strengthening of human and institutional capacities at the national level. In addition, the first task is to promote green economy and sustainable development policies and their mechanisms, and development and implement them to raise the level of knowledge at the national level (National Environmental Protection Program, 2018: 152).

Conclusion

ISO 14001 refers to certification in the field of environmental management and can be used on a voluntary basis in all areas of business. Possession of this certificate demonstrates how a company implements environmental management system control and highlights corporate responsibility in terms of environmental protection, which, at the same time, helps to raise the image of said organisation.

ISO 14001:2015 defines the environmental management system requirements that an organisation can use to improve its environmental performance. ISO 14001:2015 is intended for organisations that seek to systematically manage their environmental responsibilities, thereby contributing to environmental sustainability.

Implementation of the mentioned standard is voluntary. The motivation for its introduction is different and the benefits are mixed. The critical opinions that some research results show are related to the ambiguous results of the certification and the indirect implementation of this standard by companies in mitigating the environmental impact, seeing their motivation tend towards other results, although the reviewed papers confirm that the certification, according to the environmental standard, does not have a negative impact on the efficiency of the companies themselves. With this in mind, we can suggest there are prerequisites for stimulating proactive environmental management in companies, with a need for more motivation related to more benefits, an effect linked to the introduction of international standards.

Among the positive results of ISO 14001 certification, it helps to reduce the negative impact on the environment; saves costs; increases the credibility of companies with both customers and regulatory bodies due to recognition at the international level; expands the possibility of a company's receiving the status of a responsible organisation; indicates compliance with the legal requirements related to environmental protection; and increases the chance of market entry and establishment.

Appropriate national culture has an impact on environmental management. Researchers note the accelerating role of "institutional collectivism." The results of a survey of Georgian companies reveal the need for internal stimulation of proactive environmental management and implementation of external regulations. It is necessary to scale-up the measures planned in the direction of raising public awareness mentioned in the Third National Program of Environmental Protection Actions of Georgia, which will have a positive impact on the introduction and improvement of environmental management.

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