

Commitments to sustainability in the Czech chemical companies

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The declining resources of raw materials and the associated increase in their prices, together with the global competitive environment in which digitization and automation of production play a crucial role, force the companies to think about in context of the sustainability of their own businesses. Extensive qualitative research among companies within the chemical industry in the Czech Republic was carried out to identify perceived importance of business sustainability and a generally proactive approach to respect the principles of sustainable development. Based on almost complete survey of large and medium-sized chemical enterprises in the number of 144 surveyed items, the level of information was determined as the data available from enterprises to stakeholders through Internet platforms. It has been found that the Czech companies lag significantly behind in terms of proactive promotion of sustainability, and to a large extent do not address the issues of social or environmental responsibility. Such findings indicate a lack of understanding of the importance of the company's continuous operation in the long term, which may represent a significant problem in future for the competitiveness of the entire chemical industry in the Czech Republic.

Keywords: Sustainability; Environmental responsibility; Social responsibility

Introduction

The concept of sustainability is mentioned in connection with the limited availability and a rising cost of resources which are crucial for chemical production processes. The most visible topic is the demand for decarbonation at

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a time when the current chemical production is largely based on petroleum and thus carbonaceous raw materials. In addition to the decarbonisation requirement, sustainability is also discussed in relation to the products and companies' approach toward the environment [1]. Sustainability is becoming not only an important issue for maintaining competitiveness and environmental responsibility, but also an important tool for communication with major stakeholders with a high potential for positive perception and image creation, especially by customers, but also from the public [2]. The proof is the approach of a number of companies that see sustainability as a brand and fundamental topic of company profiling in the eyes of the customer and of the public [3]. However, the approach to sustainability has undergone a logical development over the last four decades, which has resulted in the current concept of sustainability.

Since the 1980's, companies have focused on the quality and its attributes in the eyes of customers [4]. The marketing approach promoted individual quality attributes as a key competitive advantage and positioning strategy tool, and in the 1990s it had become the standard for companies to implement quality management systems by which they declared a continuing interest in improving the quality of their processes and products [5]. At the beginning of the 21st century, quality management systems were extended to Environmental Management Systems and Occupational Health and Safety Management Systems, due to the growing interest in the environment and because of the principles of health and safety at work, being often integrated into an interconnected system [6]. In the second decade of this century, there is a steadily growing interest in the environment due to demonstrable climate change and the social impact of business activities and products on various stakeholders. The concept of Corporate Social Responsibility was adopted, declaring the interest and approach of companies addressed to the impacts of companies' activities at the non-financial level; i.e., environmental and social [7]. A growing pressure on sustainable development issues has resulted in formulation of 17 Sustainable Development Goals in 2015, the vast majority of which are related to the industrial production, especially in the areas of innovation, equality, energy availability, decent work, infrastructure, responsible production and consumption, etc. [8].

In line with these trends, companies have gradually implemented quality management systems, environmental management systems, as well as health and safety management systems, usually on a voluntary basis beyond legislative requirements [9]. Subsequently, they accepted voluntary responsibility commitments (in the chemical industry represented mainly by the Responsible Care initiative) [10], in the care of employees the principles of ethical behaviour in companies and in business were accepted and proclaimed, ethical codes shaping the culture of behaviour in the companies being formulated, too [11]. Following the publication of the SDG's objectives, a number of companies have once again made voluntary commitments to the principles of sustainability in their business [9].

Public proclamation of voluntary commitments is an essential tool in engaging stakeholders in sustainability issues, helping the management to formulate strategic KPIs and demonstrating to owners the commitment to long-term business growth – i.e. business sustainability [12]. However, the formulation of commitments must not remain an internal document; on the contrary, a public proclamation of goals and measures of companies is required, as it also serves as a tool for communication and promotion of the company [13]. Especially for the chemical industry which is considered to be potentially dangerous, artificial, and health threatening; the perception of these stakeholders being crucial for the long-term success of the business [14]. The formulation of policies in the areas of quality, environmental care, social responsibility, as well as regular reporting on the measures taken and the results achieved by companies in these activities are considered essential in this area [15].

In order to verify the perception of the importance of informing about the principles of sustainability, activities taken in the field of quality, environment and social responsibility, primary research was carried out. The partial goals of the research were to identify:

- the level of use of the formulation and public proclamation of quality policies, environmental and social responsibility policies, together with social responsibility and sustainability policies,
- the level of use of regular reporting in the form of environmental / responsible business / sustainability reports.

Based on these findings, the overarching goal was to document the extent to which companies perceive the importance of sustainability in business activities in chemical production companies.

Research methodology

To achieve the above-formulated goals, a research of quantitative character was carried out within the Czech chemical companies. Based on the affiliation of the branch of economic activity according to CZ_NACE 20+ (manufacture of chemical substances and chemical preparations), a complete list of all Czech chemical companies was taken for examination. Based on further criterion, according to the available data from the database of the register of companies – Administrative Register of the Companies [16], only companies with active business activity were selected. According to the offered products of the companies, only companies with a demonstrable production program and only companies with the number of employees of the company over 50 people (i.e. medium and large) were included in the sample examined. The intention was to exclude small and micro- companies, where one can assume that they do not have sufficient resources for non-financial activities. With regard to the significance of such a selection, the overall list with

149 companies represented more than 96 % of the turnover generated by chemical production companies in the Czech Republic. The selected sample could be considered as a complete survey of medium and large chemical companies with production activities realized in the Czech Republic.

The data was collected on the basis of content analysis of public Internet resources, www platforms, and social networks based on keyword searches: quality; certificate; integrated management system; environmental policy; environmental protection; social policy; ethical codex; Corporate Social Responsibility; sustainability; sustainable development; Sustainable Development Goals; climate change; carbon footprint; responsibility; Responsible Care; decarbonization; environmental report; sustainability report; CSR report; GRI report, and stakeholders.

In the period from April 4 to May 6, 2022, all 149 companies were analyzed, of which 5 were additionally excluded due to non-compliance with the requirements for inclusion in the selection (e.g. due to business interruption or change of business). The final list thus comprised 144 companies. After the elimination of those for which non-fulfillment of selection criteria was identified, the remaining 144 companies represent a complete list of companies (100 %) according to the criteria selected.

Each of the companies was analyzed twice by an independent survey and discrepancies in the issues of the presence or absence of formulated policies or reporting were assessed and decided by a third independent evaluator. Descriptive statistics (frequencies and multiple response analysis) methods were used for further analysis.

Results of the research

The first part of the research had been focused on the degree of implementation and presentation of individual policies in business activities. A high incidence of published quality management policies was expected, as the emphasis on quality has been in the companies for several decades and the presentation of quality compliance is part of a trustworthy relationship with partners and customers. A high frequency of formulated principles for environmental protection has also been assumed, as for many companies the presentation of the relationship to the environment is a part of the positive image of the company and, again, established for a relatively long time. With the growing problems of labor shortages, it could be assumed that companies would actively present social policies, especially in relation to employees [17]. This would, on one hand, strengthen the positive image of the company, but also support the attractiveness of the company as an employer [17]. Many companies then combine these three policies under the so-called Integrated Management System which includes quality, environment and occupational health and safety management systems.

Probably the lowest frequency was expected in the formulation of CSR policies and sustainability policies, as these are relatively new concepts in this respect, being completely voluntary and having no evident effect upon the business performance of companies. For many managers, these are still less important and unknown policies. Table 1 contains the results of frequency analysis of the already published policies and principles.

Table 1 Implemented and published corporate policies

Policies	Number of companies with published policy - absolute	Number of companies with published policy – relative [%]
Quality	119	83
Environment	63	44
Social (H&S)	47	33
Integrated	31	22
CSR	46	32
Sustainability	36	25

The table shows that the assumption on public proclamations of compliance with quality and established quality systems are the most frequently presented aspects was confirmed, followed by the formulation and publication of environmental policies.

The second part of the research aimed at publishing the regular reports which demonstrate not only the interest in proclamation of policies, but also the continuous efforts of companies to document and continuously monitor the environmental impact, social impact, and contribution to sustainable development. While the disclosure of principles and policies is usually a one-off act, reporting demonstrates a consistent activity that speaks more about a truly proactive approach toward the individual areas, reflecting more the true level of interest. Reports are traditionally published for the areas of environmental impact (environment), reporting on the CSR activities (social) and increasingly also reporting on sustainability. Table 2 (see overleaf) contains the results of frequency analysis of reports from individual areas.

The results from Table 2 can be partially summarized in the item “Sustainability reports”, as the reports on Sustainability usually include reporting on environmental impact and social activities, so it is an integrative report covering both environmental either social areas of reporting. Nevertheless, these percentages indicate a really low rate of reported activities, indicating low interest in environmental, social and sustainable activities.

Table 2 Implemented and already published corporate policies

Reporting	Number of companies with published report(s) - absolute	Number of companies with published report(s) – relative [%]
Environmental	22	15
CSR	8	6
Sustainability	13	9

An additional survey of the research was the finding of certification of the individual systems; i.e., verification management systems by an independent auditor, capable of confirming the compliance of the systems with the relevant standards on the basis of the obtained or defended certificate. Finally, the latest information was related to certification according to the principles of the Responsible Care initiative. Table 3 shows the frequencies of information from these areas of interest.

Table 3 Certification & Responsible Care

Certification	Number of companies with published certificate - absolute	Number of companies with published certificate – relative [%]
Quality	105	73
Environment	68	47
Health and Safety	31	22
Responsible Care	18	13

Table 3 documents a surprisingly low rate of certification, especially in environmental areas and even more noticeable for occupational safety and health management systems.

The proclamation and publication of measures in relation to climate changes or the carbon footprint were investigated. In this relatively new area of commitments and policies, more and more companies are slowly becoming involved, partly under the pressure of public media when the Green Deal commitments are being published, partly due to escalated requirements to reduce emissions, but also due to abrupt increases in the price of emission allowances. In this area, published commitments and policies were identified in 15 companies, which corresponded to 10 % from the overall number.

Discussion and conclusions

The meaning and importance of adequate sustainability communication has been discussed for almost two decades [18]. Current scientific publications also confirm the importance of suitable content, form of publication and evaluation of sustainability reporting about not only in the chemical industry [19]. Hyršlová proves the importance of communication for maintaining competitiveness [20], Munzarová emphasizes the ethical level of communication [21], the general change in the perception of sustainability and the impact on the strategic management, whereas business intelligence of chemical companies is clearly summarized by Johnson [22].

Sustainability-oriented reporting at the multinational corporate level was discussed by Kolk [23], at the European level by Horvath [24], and at the national Czech level from the perspective of CSR by Tetřevová [25].

However, a complete research on the level of communication of the sustainability of chemical enterprises has not been carried out in any economy or region neither from the level of scientific knowledge nor from the interest of consulting and auditing firms.

The research confirmed different levels of formulation and publication of individual policies and reporting in the individual areas of sustainability. While the emphasis on quality is clearly the most numerous (83 %), in other areas these indicators do not reach even 50 % of the total number of surveyed companies, which implies an underestimation of the environmental (44 %) and social (33 %) areas of business activities. In principle, this is a confirmation of the assumption that the emphasis on quality has a direct impact on business activities, while being not considered for environmental, social, or similar issues and activities.

The low level of interest in liability and sustainability issues is also evidenced by the other frequencies identified. The level of environmental reporting (15 %) also indicates a low intensity of environmental activities or a lack of understanding of the positive consequences of the improved image when published. This is despite the obligation to report a number of environmental information to state administration bodies, i.e. its publication is only a matter of will and obtaining information does not require any additional measurements.

Although most companies associate formulated policies with certification in relevant areas, it is surprising that only a small share of companies certify Occupational Health and Safety Management Systems (33 %) and thus essentially do not achieve the certification of Integrated Management Systems that are most often represented by ISO 9001, ISO 14001 and ISO 45001.

An interesting positive finding is the number of companies that deal with almost every aspect of sustainability in their activities and thus not only formulate relevant policies, but also report on in all the relevant areas. In total, 9 companies (6 %) are at this high level. On the other hand, a surprising number of companies which — despite their size of more than 50 employees — do not need to improve

their image in any way, proclaiming not only their attitudes towards sustainability, the environment, employees, but also the quality of their products and processes. More specifically, 21 companies have been found (15 %) that do not disclose any information in the area of policies or news to stakeholders. Their communication is usually only about the offer of the products and of business conditions.

Only a very small proportion of companies, namely 18 (≈ 13 %), are involved in the Responsible Care initiative, but they are usually the largest companies in terms of turnover and the number of employees. And a very low proportion of companies, 8 (≈ 6 %), report on CSR, even considering the assumption that these activities are usually part of sustainable reporting.

In general, it can be stated that a high level of formulation and public proclamation of quality management policies has been identified in the selected companies; nevertheless, it still has represented a low level of disclosure of environmental responsibility, social responsibility, and sustainability. A regular mapping in the form of reports on the environment, responsible business, and sustainability is generally very low, which shows that the companies underestimate this area and do not pay a sufficient emphasis to it.

Based on these findings, it is possible to prove that Czech large and medium-sized chemical companies mostly underestimate the importance of sustainability, disclosure commitments and transparent information of stakeholders as a result of their business activities. However, a positive finding is that the companies interested in these policies their publication include the largest manufacturing companies and corporations and usually also hold the Responsible Care logo. However, the prevailing lack of interest in business sustainability issues represents a significant risk to the future competitiveness of the entire chemical industry in the Czech Republic.

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