

RELATION BETWEEN SUSTAINABILITY-RELATED COMMUNICATION AND COMPETITIVENESS IN THE CHEMICAL INDUSTRY

Jaroslava Hyršlová¹, Pavel Tomšík², Lucie Vnoučková³

¹University of Pardubice, Faculty of Transport Engineering, Studentská 95, 532 10, Pardubice, Czech Republic

²Mendel University in Brno, Faculty of Business and Economics, Zemědělská 1, 613 00, Brno, Czech Republic

³University of Economics and Management, Department of Management, Nárožní 2600/9a, 158 00 Prague 5, Czech Republic

Abstract

HYRŠLOVÁ JAROSLAVA, TOMŠÍK PAVEL, VNOUČKOVÁ LUCIE. 2017. Relation between Sustainability-Related Communication and Competitiveness in the Chemical Industry. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 65(1): 0283–0292.

Interests of companies in the sustainability-related communication have risen considerably in recent years. This paper focuses on the current state of sustainability-related reporting in chemical industry companies registered in the Association of Chemical Industry in the Czech Republic. It deals with the form and the content of reporting, the importance of different stakeholders in this process as well as benefits of the sustainability-related communication and its impacts on competitiveness of the company. This paper summarizes the results of a research executed in the year 2014. The results of the research showed that chemical industry companies were aware of the significance of sustainability-related communication and they utilized various types of sustainability-related reports for this communication. Companies prefer to report on the environmental and social aspects of their activities primarily in their annual reports, or they issue separate environmental reports. The research verified the relationship between the sustainability-related communication and competitiveness. A suitable established high quality system of communication that provides sufficient information and meets the information requirements of the key stakeholders may significantly contribute to reputation improvement, to increased attractiveness of the company as an employer and thereby to maintain, to improve respectively, the level of a company's competitiveness.

Keywords: chemical industry, communication, competitiveness, corporate sustainability, social responsibility, sustainability-related reporting, environmental and social aspects

INTRODUCTION

A social responsible company represents a complex concept which is interconnected with all company's actions and activities and its implementation in practice needs critical analysis of its principles and procedures together with communication with relevant stakeholders (Pätäri, Arminen, Tuppurä *et al.*, 2014). The implementation of the concept is connected with several significant opportunities for improvements, which are afterwards seen as cost effective, reducing expenses or lead to better understanding of the environment

and community, where a company realizes its business activities. Simultaneously, the risk of conflict situations is much reduced. Therefore it is obvious that the concept may be a source of significant financial savings and benefits. Realized studies confirmed positive impacts on company's reputation, reduction of operating costs, decrease of risks, positive impact on involvement of employees in company's actions and activities and on business productivity (Russo, Fouts, 1997; Weber, 2008; Aguinis, Glavas, 2012). The concept of social responsibility is connected also with lower costs

of capital (El Ghouli, Guedhami, Kwok *et al.*, 2011) and with higher attractiveness of a company as a preferred employer, which is closely connected with quality of human resources and human capital (Greening, Turban, 2000). The realized studies and researches also point out that the concept is important in the cases of negative or extraordinary events, when a good reputation of a company may help to reduce negative impacts of such events (Godfrey, Merrill, Hansen, 2009). The sustainable performance is connected also with a customer satisfaction (Lev, Petrovits, Radhakrishnan, 2010).

The paper therefore focuses on the current way of the sustainability-related communication of companies in the chemical industry in the Czech Republic and discusses the relation between the sustainability-related communication of a company and its competitiveness with respect to the specifics of the chemical industry.

MATERIALS AND METHODS

Business successes and financial performance of a company in the existing global and fast developing business environment is influenced by a number of various factors and aspects. The companies' approach to environmental issues and social issues (that is the environmental and the social performance of companies) has been a very important factor in the last twenty years. Thereby many companies voluntarily (doing more than required by the relevant legislation) take into account the environmental and the social aspects in their strategy and they strive to profile themselves as socially responsible companies (CSR companies) (Wells, 2013; Epstein, Rejc Buhovac, 2014; Krause, Tondlová, 2014). The dialog with important stakeholders plays an important role in the CSR approach. The relevant stakeholders should be informed regularly and in a transparent manner about the goals defined by companies and about how these goals are fulfilled by them (Epstein, Rejc Buhovac, 2014).

A sustainable company is a company that is able to satisfy needs of important stakeholders while at the same time such company's ability to meet such needs also in the future is not compromised (Dyllick, Hockerts, 2002). Management of a company having the objective of the long-term sustainability is very closely linked with the internal and external communication processes (that is also with external and internal reporting) (Hyršlová, Vávra, Hájek, 2007; Hyršlová, 2014). In the case that information on environmental and social aspects and impacts are the subject of such communication, then this reporting is labelled as *sustainability-related reporting* or *sustainability reporting* (Schaltegger, Bennett, Burritt, 2006). The objective of this reporting is to increase transparency, to promote the brand and to improve reputation, to promote compliance with legislation, to allow comparison with competition, to demonstrate competitiveness, to stimulate

employees (an important stakeholder) and to support company information and management processes (Herzig, Schaltegger, 2006). According to the opinion of some authors – e.g. Lozano, Huisinigh (2011) – the sustainability-related communication represents a very important factor contributing to the long-term sustainability of a company.

This paper deals with the sustainability-related communication of the chemical industry companies that operate in the Czech Republic territory. The paper presents fundamental approach to communication and research into the relation between the sustainability-related communication of a company and its competitiveness. A specific emphasis is put on the issues of sustainable development and sustainable business operation in the chemical industry. This business sector, no matter how important the sector is regarding the useful value of its products, often, in the past, profiled itself in a controversial manner with regard to socially respected values. In the present days, sustainable business operations have become a standard and meeting this standard helps to change the image of the chemical industry in the general public's perception. Sustainability is even more critical for the chemical industry due to high barriers to entry of this sector, the cyclical behaviour of this sector development and the existing competitive environment.

The paper is supported by the analysis of secondary and primary data sources. The content analysis of secondary sources was used to compile theoretical background of the paper. The primary data were collected by a questionnaire survey in 2014 in organisations which were in that time part of the Association of Chemical Industry in the Czech Republic (87 members were contacted; only companies were contacted, excluding high schools and universities). The main aim of the research was to identify the importance of sustainable business to maintain competitiveness of organisations which are members of the Association of Chemical Industry in the Czech Republic. The research also focused on the determination of the current state of the sustainability-related communication in chemical companies and on the importance of this communication for their competitiveness. To determine the primary information, electronic inquiring was used. In total, 87 organizations were addressed. The questionnaire was completed by 40 organisations across size categories (small organisations up to 49 employees, middle-sized organisations with 50 – 249 employees and large organisations with more than 250 employees). The overall return of the questionnaire was 46 %. The inquired sample represents manufacturing organizations (63 %) as well as organizations involved in trade and provision of services.

The data was gathered through a quantitative survey using the questionnaire technique of data collection which respected the ethical aspects of research. The questionnaires were completed by

managers on the middle and top management level. The statistical tools used for the data analysis were chosen based on the type of the question (descriptive statistics, and contingency tables, absolute and relative frequency and correlation analysis). To evaluate the data, the MS Excel was used.

RESULTS

This section of the paper firstly focuses on the characteristics of the actual use of the sustainability-related communication and secondly, attention is paid to its importance for competitiveness of companies in the chemical industry, as it is perceived by respondents.

Sustainability-related Reporting of Chemical Companies

In the area of sustainability-related reporting, stakeholders considered by respondents to be the most relevant are local authorities; 78 % of respondents ticked off these stakeholders as important (see the Tab. I.). The major stakeholders with which it is necessary to communicate include owners (ticked off by 73 % of respondents) and customers (ticked off by 72 % of respondents). The least significant stakeholders perceived by respondents are non-governmental organizations focusing on environmental protection (15 % of respondents ticked off these organizations as entirely unimportant stakeholders) and competitors.

97 % of companies issue periodic reports that include environmental information or information on corporate sustainability. In terms of the form, companies use various report types (some companies issue more report types):

- 57 % of respondents make available to the stakeholders their environmental policy as

well as their quality policy and occupational health and safety policy.

- 55 % of respondents incorporate the information on approach to environmental protection and social aspects of business activities in the annual financial report (the obligation to issue an annual financial report is imposed by the Act No. 563/1991 Coll., on Accounting). In the opinion of the respondents, such information got an adequate attention in the report.
- 55 % of respondents are involved in the Responsible Care (RC) initiative and thus have a system of communication in the matters of health, safety and environmental protection with the stakeholders created.
- 32 % of respondents release separate corporate environmental reports.
- Only 1 company informs on corporate sustainability in a separate report (sustainability report).

Especially information needs of stakeholders are very important for the creation of the system of communication and its effective operation. 52 % of respondents confirmed to monitor information needs; 71 % of them regularly (repeatedly) monitor information needs and adapt the disclosed data to those needs. 48 % of the entire studied set, however, do not monitor the information needs of stakeholders. Based on this, we can deduce that these companies only fulfil reporting obligations ensuing from the law or from the involvement in voluntary initiatives or they produce one-way communication without the knowledge of the information needs of relevant stakeholders.

In the area of reporting, the respondents respect primarily the information needs of local authorities (72 % of respondents), which they consider to be the most relevant stakeholders. The respondents confirmed to take into account also the information

I: *The importance of individual stakeholders*

Stakeholders	Relative frequencies					MOD	AVG	STD
	1	2	3	4	5			
Employee	6 %	9 %	23 %	44 %	18 %	4	3.59	1.08
Customers	3 %	6 %	19 %	41 %	31 %	4	3.91	1.03
Suppliers	3 %	9 %	33 %	46 %	9 %	4	3.48	0.91
Competitors	6 %	28 %	38 %	28 %	0 %	3	2.88	0.91
Owners	6 %	9 %	12 %	33 %	40 %	5	3.91	1.21
Creditors	12 %	18 %	9 %	49 %	12 %	4	3.30	1.26
Insurance companies	9 %	12 %	9 %	33 %	37 %	5	3.76	1.32
Local authorities	6 %	3 %	13 %	39 %	39 %	-	4.03	1.10
Media	12 %	9 %	30 %	40 %	9 %	4	3.24	1.15
NGO	15 %	21 %	31 %	27 %	6 %	3	2.88	1.17
Local community	6 %	15 %	6 %	55 %	18 %	4	3.64	1.14
General public	6 %	9 %	27 %	40 %	18 %	4	3.55	1.09

Note: 1 = no consequence; 5 = of great importance; MOD = modus; AVG = average; STD = standard deviation
Source: Authors

needs of owners (70 % of respondents) and customers (62 % of respondents).

According to the respondents, attention within the framework of reporting should be primarily paid to information on corporate economic (financial) performance and environmental performance. The results show that the reports are primarily focused on the issues of economic performance; companies use mainly annual financial reports for communication, where information on environmental performance and social aspects of the business is only complementary. In the case of reports issued in connection with the involvement in the RC initiative or separate environmental reports the companies act in accordance with the recommendations under the RC initiative or they have their own report structure created. The main communication channel is company websites, on which reports are made available to users. 30 % of respondents also release reports in printed form. The most common frequency of publication of reports is once a year.

RC reports and separate environmental reports are issued by companies on the basis of a company management decision (i.e. obligation comes from involvement in voluntary initiatives); only 5 respondents confirmed that the company started to publish reports based on requirements of external stakeholders (local authorities). These voluntary reports are intended primarily for employees, owners, local authorities and the public (near the company).

75 % of respondents have confirmed that a properly established system for communication with external stakeholders on the issues of corporate sustainability enhances the credibility of the company and consider sustainability-related reports to be an adequate form of this communication.

The Impact of the Sustainability-related Communication on Competitiveness

The aim of this section is to present the relation between the sustainability-related communication of a company and its competitiveness with regard to the specifics of the chemical industry. The research was mainly focused on the importance of sustainable business and its impact on company's competitiveness. For the construction of the research all factors of competitiveness defined by Porter (1985) and Malik (2005) was used. The questionnaire used therefore the following factors which play the key role in company's competitiveness: supply chain management, innovation activities, productivity, differentiation in competition, reputation, attractiveness of company as a preferred employer, market share (position), communication, value created for a customer, customer's willingness to pay for a high perceived value of products, payment procedures (liquidity) and ability to generate profit. The outputs of the research are shown in the Tab. II.

The most important factor of competitiveness according to the answers of respondents is the positive reputation of a company. Other important factors are, according to respondents, the ability of a company to generate profit, innovation activities, the ability to create customer value and productivity. The significance of presented factors was perceived similarly by respondents from small, medium-sized and large organizations. Only respondents from small organizations paid attention also to involvement in the supply chains.

The research also evaluated correlations between the studied factors of competitiveness. In the Tab. III. there are stated the results of testing by means of Spearman's rho. Statistically significant correlations are marked with * (statistical significance at the level of $\alpha = 0.05$) and ** (statistical significance at the level

II: The importance of the factors for competitiveness of companies in chemical industry

N = 40	AVG	MOD	MED	MAX	MIN
Supply chain management (A)	3.80	4	4	5	1
Innovation (B)	4.15	4	4	5	1
Productivity (C)	4.08	4	4	5	1
Differentiation (D)	3.83	4	4	5	1
Reputation (E)	4.44	5	5	5	3
Employer attractively (F)	3.74	4	4	5	1
Market-position (G)	3.64	4	4	5	1
Communication (H)	3.72	4	4	5	1
Customer value (I)	4.15	4	4	5	1
Willingness to pay (J)	3.62	4	4	5	1
Payment procedures (liquidity) (K)	3.62	5	4	5	1
Profit (L)	4.21	5	4	5	1

Note: 1 = no consequence; 5 = of great importance; AVG = average; MOD = modus; MED = median; MAX = maximum; MIN = minimum

Source: Hyršlová, Vnoučková, Hájek (2015)

III: Correlation matrix – competitiveness factors

	A	B	C	D	F	G	H	I	J	K	L
A	1.000	.348*	.498**	.119	.368*	.224	.370*	.196	.263	.481**	.368*
B	.348*	1.000	.698**	.563**	.562**	.424**	.563**	.698**	.320*	.348*	.562**
C	.498**	.698**	1.000	.474**	.369*	.305	.806**	.473**	.458**	.545**	.805**
D	.119	.563**	.474**	1.000	.278	.466**	.279	.369*	.095	.368*	.278
F	.368*	.562**	.369*	.278	1.000	.465**	.640**	.369*	.116	.116	.278
G	.224	.424**	.305	.466**	.465**	1.000	.179	.259	.189	.423**	.465**
H	.370*	.563**	.806**	.279	.640**	.179	1.000	.370*	.332*	.368*	.640**
I	.196	.698**	.473**	.369*	.369*	.259	.370*	1.000	.170	.194	.369*
J	.263	.320*	.458**	.095	.116	.189	.332*	.170	1.000	.428**	.568**
K	.481**	.348*	.545**	.368*	.116	.423**	.368*	.194	.428**	1.000	.617**
L	.368*	.562**	.805**	.278	.278	.465**	.640**	.369*	.568**	.617**	1.000

Source: Authors

of $\alpha = 0.01$). Factor E has not been further tested since all respondents verified its significance.

The company communication (both the internal and the external) significantly correlates with all the competitiveness factors, with the exception of the competition differentiation and the market position.

In view of the fact that stakeholders have a major impact company competitiveness (Spirig, 2006), under the existing conditions, company competitiveness is influenced, next to its financial performance, also by other aspects. Based on the expert research results the company's approach to the environment (management of environmental aspects and impacts) and the social impacts of its activities (management of social aspects and impacts) play also an important role (Bansal, Roth, 2000; Wagner, Schaltegger, 2004; Bansal, Clelland,

2004). The Tab. IV. summarizes the results for the area of the importance of the individual aspects that have impacts on company's performance towards its sustainability and its competitiveness as perceived by the chemical industry representatives participating in the research. The selection of aspects included into the research are based on those factors that Wagner, Schaltegger (2003) identified as factors influencing company's performance toward its sustainability, primarily with respect to environmental management systems, management of occupational health and safety, RC initiative, socially responsible business operation and relations with stakeholders, that are considered to be the key – see Spirig (2006). Also the environmental communication was included into the set of aspects, communication with both the external stakeholders and the employees.

IV: The importance of the aspects for a selected business sector

	N = 40	AVG	MOD	MED	MAX	MIN
Environmental aspects and impacts (A)		4.22	5	4	5	1
Company approach to the environment (B)		4.51	5	5	5	3
Environmental communication with external stakeholders (C)		4.17	4	4	5	2
Environmental communication with employees (D)		3.95	4	4	5	2
Relations with national administration and self-administration bodies (E)		4.49	5	5	5	3
Media relations (F)		3.66	4	4	5	1
NGOs relations (G)		3.23	3	3	5	1
Relations with local community and the general public (H)		4.18	5	4	5	2
Company interest in social issues (related to employees) (I)		4.17	4	4	5	2
Company occupational health and safety (J)		4.63	5	5	5	1
Employee education and development programs (K)		4.20	4	4	5	1
Knowledge sharing and exchange (L)		4.32	5	4	5	1
Collective bargaining (M)		3.16	4	3	5	1
How company deals with disciplinary offences (N)		3.63	3	3.5	5	1

Note: 1 = no consequence; 5 = of great importance; AVG = average; MOD = modus; MED = median; MAX = maximum; MIN = minimum

Source: Hyřšlová, Vnoučková, Hájek (2015)

All the aspects included into the research were considered by the respondents to have from the above average to very important significance for the relevant respondent's business sector (the average significance of the individual aspects ranges from values 3.16 to 4.63). Respondents identified the level of the occupational health and safety to be the most important aspect for a company. They also considered the human resources development area to be very important, in particular, the area of knowledge sharing and exchange, the employee education programmes as well as general interest of a company in social issues related to its employees. The results verified that the respondents acknowledge the importance of human resources for a company business success. Relations to the local community and to the general public and the process of the environmental communication with the external stakeholders are very important for doing business in the chemical industry sector.

The Tab. V. summarizes the result of testing the relations between the individual competitiveness aspects by means Spearman's rho.

Statistically significant correlations are marked with * (statistical significance at the level of $\alpha = 0.05$) and ** (statistical significance at the level of $\alpha = 0.01$). The B and E aspects have not been further tested since all respondents verified their significance.

The environmental communication correlates with media relations, with public relations and with the local community relations. In the case of the environmental communication with company's employees, there was proven a statistically significant relation with NGOs focusing on the environmental protection. Environmental communication with external stakeholders is very closely related to the environmental communication with company's employees. Both types of communication are closely interlinked and influence on each other.

The sustainability-related communication may, in the opinion of the respondents, affect the competitiveness of the company (see the Tab. VI.). It contributes positively to the reputation of a company (this contribution is considered significant by 87 % of respondents) and it is an important part of the corporate

V: Correlation matrix – environmental and social aspects

	A	C	D	F	G	H	I	J	K	L	M	N
A	1.00	-.024	-.034	-.049	.279	-.043	-.034	-.024	-.034	-.024	.277	-.051
C	-.024	1.00	.699**	.482**	.279	.563**	-.034	-.024	-.034	-.024	-.092	-.051
D	-.034	.699**	1.00	.690**	.400**	.372*	-.049	-.034	-.049	-.034	.132	.308*
F	-.049	.482**	.690**	1.00	.580**	.540**	-.071	-.049	-.071	-.049	.192	.171
G	.279	.279	.400**	.580**	1.00	.496**	.400**	.279	.138	.279	.467**	.387*
H	-.043	.563**	.372*	.540**	.496**	1.00	.372*	.563**	.372*	.563**	.055	.223
I	-.034	-.034	-.049	-.071	.400**	.372*	1.00	.699**	.476**	.699**	.397*	.689**
J	-.024	-.024	-.034	-.049	.279	.563**	.699**	1.00	.699**	1.00**	.277	.481**
K	-.034	-.034	-.049	-.071	.138	.372*	.476**	.699**	1.00	.699**	.132	.308*
L	-.024	-.024	-.034	-.049	.279	.563**	.699**	1.00**	.699**	1.00	.277	.481**
M	.277	-.092	.132	.192	.467**	.055	.397*	.277	.132	.277	1.00	.577**
N	-.051	-.051	.308*	.171	.387*	.223	.689**	.481**	.308*	.481**	.577**	1.00

Source: Authors

VI: The importance of the sustainability-related communication for the individual factors of company's competitiveness

Factors of competitiveness	Relative frequencies					MOD	AVG	STD
	1	2	3	4	5			
Supply chain management	11 %	11 %	39 %	25 %	14 %	3	3.21	1.17
Innovation	7 %	17 %	38 %	35 %	3 %	3	3.10	0.98
Productivity	11 %	15 %	44 %	19 %	11 %	3	3.04	1.13
Differentiation	3 %	3 %	38 %	38 %	18 %	-	3.62	0.94
Reputation	0 %	3 %	10 %	38 %	49 %	5	4.31	0.81
Employer attractively	7 %	3 %	21 %	45 %	24 %	4	3.76	1.09
Market-position	14 %	21 %	44 %	21 %	0 %	3	2.72	0.96
Communication	3 %	0 %	14 %	45 %	38 %	4	4.14	0.92
Customer value	7 %	0 %	50 %	39 %	4 %	3	3.32	0.86
Profit	7 %	14 %	39 %	29 %	11 %	3	3.21	1.07

Note: 1 = no consequence; 5 = of great importance; MOD = modulus; AVG = average; STD = standard deviation

Source: Authors

communication towards the external stakeholders (83 % of respondents). The respondents perceive also a positive effect on the attractiveness of a company as an employer (this contribution of communication is perceived by 69 % of respondents). On the contrary, the respondents do not perceive the contribution of communication for the area of acquiring new customers or markets.

DISCUSSION

In recent years companies executed the sustainability-related communication in various manners. The results of various studies showed that while in the year 1999, there did not exist a single report that could be classified as a sustainability report (companies issued separate environmental or social reports), with time, these reports have become a dominant format of the sustainability-related reporting (despite the fact that in a majority of cases they describe only the environmental and the social performance of a company) (Kolk, 2010). Chemical industry companies that participated in the research were aware of the significance of the sustainability-related communication and they used various types of sustainability-related reports for this communication. However, the results of the research showed that companies continued to prefer to report about the environmental and the social aspects of company's activities and products primarily in the framework of the annual reports, or they issues separate environmental reports; the sustainability report is published only by one company. Chemical industry companies participating in the RC initiative have to report also on the specific issues related to the participation in this initiative.

The results confirmed the relation between the competitiveness of a company and its reputation. This area is discussed also in the scientific literature. Scientific sources pay attention to the relation between company's behaviour in compliance with the law, reputation and corporate sustainability, which may be meaningful to gain corresponding social status and competitive advantage in conditions of current competitive environment (Czinkota, Kaufmann, Basile, 2014). These issues are researched both on the individual company level and in the framework of the supply chains (Camilleri, 2008; Fearne, Garcia Martinez, Dent, 2012; Zulhamri, Yuhani, 2013). The need to satisfy the requirements of the very important stakeholders, who have an influence on the company business success and whose financial, environmental and social needs are different (Buchholz, Rosenthal, 2005), led to the elaboration of a number of theoretic and empirical studies and researches focused on the environmental performance and on the social responsibility and their impacts on company's reputation. In connection with the results of these studies and research new marketing and management philosophies and concepts have been

developed. The orientation toward sustainable development of a company, or the entire supply chain, is typical for these concepts and philosophies (Corbett, Kleindorfer, 2003; Hutchins, Sutherland, 2008; Czinkota, 2012; Martin, Schouten, 2012). The positive impact that social responsibility has on the company reputation is mentioned, for example, in the study by Beckmann (2007).

The research confirmed primarily the high importance that the approach to the environment and to the relations with the national administration and with the self-administration bodies has for chemical industry companies' competitiveness. This finding is in agreement with the conclusion of the expert studies that researched into the impacts of environmentally-friendly approach on the company performance – see for instance Russo, Fouts (1997). The studies confirmed that the high environmental performance is linked to higher profits and to higher profitability of assets. Other studies showed that business sectors with important environmental aspects and impacts (as for instance the chemical industry), by means of environmentally-friendly approach, meet the expectations of their stakeholders in this area and considerably decrease any non-systematic risks (Bansal, Clelland, 2004). Porter, Van der Linde (1995) in their research confirmed the positive impacts of considerate approach to the environment in the area of the company productivity and in the area of the innovation processes and thus the overall improvement of company's competitiveness. Jacobs, Singhal, Subramanian (2010) then verified the link between the environmental performance and the company's value.

The results of the research verified that relations with the local community, with the general public and the process of the environmental communication with the external stakeholders are, according to the respondents' opinions, very important for doing business in the chemical industry. This conclusion is also in agreement with the assertion that the important stakeholders influence the company approach to the environment and its social impacts. For instance, Kassinis, Vafeas (2006) state, that the environmental performance of a company is influenced by the requirements and approaches of the community in the place where the company performs its business activities. The environmental and social performance of the company is thus very closely related to the requirements of the significant and important stakeholders (Henriques, Sadorsky, 1999); in the case of the chemical industry companies, such stakeholders are the national administration bodies and the self-administration bodies and the company's environs (the local community). In the framework of the research done in the chemical industry companies, the importance of the environmental communication was confirmed. This finding is yet again in agreement with the expert studies outcomes that show the positive impacts of reporting on the company's

approach to environmental management (recycling, waste reduction, pollution prevention, environmentally-friendly products and similar) on the company's performance primarily in the area of products and processes innovation indicators (Montabon, Sroufe, Narasimhan, 2007). The fact that the reporting on the company's environmental activities and on activities that are executed in agreement with the company's social responsibility improves company performance is verified also by other studies (Montabon, Sroufe, Narasimhan, 2007; Jacobs, Singhal, Subramanian, 2010; Reverte, 2012).

The sustainability-related communication has, based on the research results, an influence on the company's competitiveness. Based on respondents' views in case of the chemical industry companies, the sustainability-related communication executed in high quality (as a part of the external communication) contributes to the improvement of reputation. At the same time it can have a positive influence on the attractiveness of the company as an employer. The results of the research showed that for chemical industry companies reputation was the most important factor in their competitiveness.

CONCLUSION

The companies are aware of the fact that within the framework of the external sustainability-related communication there should be satisfied information needs of relevant stakeholders. Companies consider the most relevant stakeholders to be local authorities; a significant role is also played by owners and customers. The results of the research show, however, that almost half of respondents do not monitor the information needs of stakeholders. Companies use mainly periodic reports for their communication. Sustainability-related information is most often included in annual financial reports. Sustainability-related information forms only supplementary information; it is not integrated in the corporate economic performance. Some companies use separate environmental reports; the reports include primarily information on environmental aspects and impacts without a link to the economic performance of a company. Businesses perceive the importance of the communication for the reputation of a company and its positive effect on the attractiveness of such company as an employer and, under the current conditions, they produce mostly one-way communication, which is primarily focused on the economic performance. If the information on the environmental aspects and impacts or on the area of occupational health and safety is reported, it is a part of separate reports not integrated in the corporate economic performance.

The company reputation is one of the significant factors of competitiveness. With regard to the fact that company's approach to the environment and to the social aspects of business (primarily to the occupational health and safety issues and to human resources quality and development) was defined by the respondents to be the most important factor for the competitiveness of chemical industry companies it would be useful to create a system of the communication with the external stakeholders and with company's employees that would include also the information on the environmental and social aspects and their impacts. High quality system of communication that meets the information requirements of the key stakeholders may significantly contribute to the reputation improvement, increasing the attractiveness of a company as an employer and finally as the ultimate consequence to maintain or to improve a company's competitiveness.

REFERENCES

- AGUINIS, H. and GLAVAS, A. 2012. What we know and don't know about corporate social responsibility: a review and research agenda. *Journal of Management*, 38: 932–968.
- BANSAL, P. and CLELLAND, I. 2004. Talking trash: Legitimacy, impression management, and unsystematic risk in the context of the natural environment. *Academy of Management Journal*, 47(1): 93–103.
- BANSAL, P. and ROTH, K. 2000. Why companies go green: A model of ecological responsiveness. *Academy of Management Journal*, 43(4): 717–736.
- BECKMANN, S. C. 2007. Consumers and corporate social responsibility: matching the unmatchable? *Australasian Marketing Journal*, 15(1): 27–36.
- BUCHHOLZ, R. A. and ROSENTHAL, S. B. 2005. Toward a contemporary conceptual framework for stakeholder theory. *Journal of Business Ethics*, 58: 137–148.
- CAMILLERI, C. S. 2008. Sharing Yalumba: Communicating Yalumba's commitment to sustainable winemaking. *Corporate Communications: An International Journal*, 13(1): 18–41.
- CORBETT, C. J. and KLEINDORFER, P. R. 2003. Environmental management and operations management: Introduction to the third issue. *Production and Operations Management*, 12(3): 287–289.
- CZINKOTA, M. 2012. Curative international marketing: The next step up. *Marketing Management*, 21(2): 12–14.

- CZINKOTA, M., KAUFMANN, H. R. and BASILE, G. 2014. The relationship between legitimacy, reputation, sustainability and branding for companies and their supply chains. *Industrial Marketing Management*, 43(1): 91–101.
- DYLLICK, T. and HOCKERTS, K. 2002. Beyond the business case for corporate sustainability. *Business Strategy and the Environment*, 11(4): 130–141.
- EL GHOU, S., GUEDHAMI, O., KWOK, C. C. Y. and MISHRA, D. R. 2011. Does corporate social responsibility affect the cost of capital? *Journal of Banking & Finance*, 35(9): 2388–2406.
- EPSTEIN, M. J. and BUHOVAC REJC, A. 2014. *Making sustainability work. Best practices in managing and measuring corporate social, environmental, and economic impacts*. UK, Sheffield: Greenleaf Publishing.
- FEARNE, A., GARCIA MARTINEZ, M. and DENT, B. 2012. Dimension of sustainable value chains: Implications for value chain analysis. *Supply Chain Management: An International Journal*, 17(6): 575–581.
- GODFREY, P. C., MERRILL, G. B. and HANSEN, J. M. 2009. The relationship between corporate social responsibility and shareholder value: an empirical test of the risk management hypothesis. *Strategic Management Journal*, 30(4): 425–445.
- GREENING, D. W. and TURBAN, D. B. 2000. Corporate social performance as a competitive advantage in attracting a quality workforce. *Bus. Soc.*, 39(3): 254–280.
- HENRIQUES, I. and SADORSKY, P. 1999. The relationship between environmental commitment and managerial perceptions of stakeholder importance. *Academy of Management Journal*, 42(1): 87–99.
- HERZIG, C. and SCHALTEGGER, S. 2006. Corporate sustainability reporting: an overview. In: SCHALTEGGER, S., BENNETT, M. and BURRITT, R. L. (Eds.) *Sustainability accounting and reporting*. Dordrecht: Springer, 301–324.
- HUTCHINS, M. J. and SUTHERLAND, J. W. 2008. An exploration of measures of social sustainability and their application to supply chain decision. *Journal of Cleaner Production*, 16: 1688–1698.
- HYRŠLOVÁ, J. 2014. Sustainability reporting – a review and trends and situation in CR. In: LÖSTER, T. and PAVELKA, T. (Eds.) *The 8th International Days of Statistics and Economics, Conference Proceedings*. Slaný: Libuše Macáková, Melandrium, 497–506.
- HYRŠLOVÁ, J., VÁVRA, J. and HÁJEK, M. 2007. Corporate environmental communication with external interested parties within EMS [in Czech: Environmentální komunikace podniků s externími zainteresovanými stranami v rámci EMS]. *Planeta*, 15(2): 17–20.
- HYRŠLOVÁ, J., VNOUČKOVÁ, L. and HÁJEK, M. 2015. Concept of sustainable development and competitiveness of enterprises in chemical industry [in Czech: Koncepce udržitelného rozvoje a konkurenceschopnost podniků chemického průmyslu]. *Chemické listy*, 109(4): 319–326.
- JACOBS, B. W., SINGHAL, V. R. and SUBRAMANIAN, R. 2010. An empirical investigation of environmental performance and the market value of the firm. *Journal of Operations Management*, 28(5): 430–441.
- KASSINIS, G. and VAFEAS, N. 2006. Stakeholder pressures and environmental performance. *Academy of Management Journal*, 49(1): 145–159.
- KOLK, A. 2010. Trajectories of sustainability reporting by MNCs. *Journal of World Business*, 45: 367–374.
- KRAUSE, J. and TONDLOVÁ, M. 2014. Importance of environmental factors for the competitiveness of firms. *Journal of Environmental Protection and Ecology*, 15(1): 374–381.
- LEV, B., PETROVITS, C. and RADHAKRISHNAN, S. 2010. Is doing good good for you? How corporate charitable contributions enhance revenue growth. *Strategic Management Journal*, 31(2): 182–200.
- LOZANO, R. and HUISINGH, D. 2011. Inter-linking issues and dimensions in sustainability reporting. *Journal of Cleaner Production*, 19: 99–107.
- MALIK, F. ©2005. Die sechs Schlüsselgrößen des Unternehmenserfolges. *Manager magazin*. [Online]. Available at: <http://www.manager-magazin.de/koepfe/artikel/0,2828,336518,00.html>. [Accessed: 2016, January 12].
- MARTIN, D. and SCHOUTEN, J. 2012. *Sustainable marketing*. New Jersey: Prentice Hall.
- MONTABON, F., SROUFE, R. and NARASIMHAN, R. 2007. An examination of corporate reporting, environmental management practices and firm performance. *Journal of Operations Management*, 25(5): 998–1014.
- PÄTÄRI, S., ARMINEN, H., TUPPURA, A. and JANTUNEN, A. 2014. Competitive and responsible? The relationship between corporate social and financial performance in the energy sector. *Renewable and Sustainable Energy Reviews*, 37: 142–154.
- PORTER, M. E. 1985. *Competitive advantage. Creating and sustaining superior performance*. New York: Free Press.
- PORTER, M. E. and VAN DER LINDE, C. 1995. Green and competitive: Ending the stalemate. *Harvard Business Review*, 87(9): 120–134.
- REVERTE, C. 2012. The impact of better corporate social responsibility disclosure on the cost of equity capital. *Corporate Social Responsibility and Environmental Management*, 19(5): 253–272.
- RUSSO, M. V. and FOUTS, P. A. 1997. A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, 40(3): 534–559.
- SCHALTEGGER, S., BENNETT, M. and BURRITT, R. (Eds.) 2006. *Sustainability accounting and reporting*. Dordrecht: Springer.

- SPIRIG, K. 2006. Social performance and competitiveness, a socio-competitive framework. In: SCHALTEGGER, S. and WAGNER, M. (Eds.) *Managing the business case for sustainability*. Sheffield: Greenleaf Publishing, 82–106.
- WAGNER, M. and SCHALTEGGER, S. 2003. How does sustainability relate to business competitiveness? *Greener Management International*, 44: 5–16.
- WAGNER, M. and SCHALTEGGER, S. 2004. The effect of corporate environmental strategy choice and environmental performance on competitiveness and economic performance: an empirical study of EU manufacturing. *Eur. Manag. J.*, 22(5): 557–572.
- WEBER, M. 2008. The business case for corporate social responsibility: a company-level measurement approach for CSR. *European Management Journal*, 26: 247–261.
- WELLS, G. (Ed.) 2013. *Sustainable business. Theory and practice of business under sustainability principles*. UK, Cheltenham: Edward Elgar Publishing.
- ZULHAMRI, A. and YUHANIS, A. A. 2013. Institutionalizing corporate social responsibility: Effects on corporate reputation, culture, and legitimacy in Malaysia. *Social Responsibility Journal*, 9(3): 344–361.

Contact information

Jaroslava Hyršlová: jaroslava.hyrslava@upce.cz
Pavel Tomšík: pavel.tomsik@mendelu.cz
Lucie Vnoučková: lucie.vnouckova@vsem.cz