

CONSTRUCTION INDUSTRY IN THE CZECH REPUBLIC: THE LEVEL OF INVOLVEMENT IN CORPORATE SOCIAL RESPONSIBILITY

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Abstract

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This article introduces results of inquiry in corporate social responsibility conducted among construction companies in the Czech Republic in 2017. Its main themes include specifics of application of the CSR concept in the practice of the construction industry and effects of selected factors on the level of involvement of Czech construction companies in CSR activities. The results of the inquiry clearly indicate that despite the high level of knowledge of the CSR concept among the construction companies reaching 65% the overall activities across the CSR pillars are scarce. The statistical test results show that large companies working with the concept of business ethics are more engaged in CSR activities. Growing size of the construction company is connected with activity increase in the social pillar. On the other hand, strategic planning hardly affects the company involvement in the CSR concept. Also the length of activity of the construction company on the market only affects CSR activity level within the environmental pillar.

Keywords: construction industry, social responsibility, company size, strategic plan, business ethics

INTRODUCTION

Extensive research has been implemented in the Czech Republic in the recent years concerning CSR issues (Srpová *et al.*, 2012), showing that the theme of corporate social responsibility grows in relevance among the general public and affects purchasing decisions of customers. According to the survey performed by Ipsos (2017) in 2016 up to 35% of Czechs could remember a socially responsible company (in 2015 the percentage was only 24%) and were more willing to recommend such a company to others, which is also one of the reasons why company CEOs are led towards paying more attention to corporate social responsibility. Thus CSR slowly becomes a common part of strategic plans of organisations. A vast majority of experts perceive a shift in the approach to the CSR concept. Companies cease to see a mere

charity in CSR, looking for an overlap with their field of business (Ipsos, 2017).

Most surveys performed in the Czech Republic so far have been focused on CSR standing across the national economy as a whole. However, as the CSR concept application differs across countries (Skýpalová *et al.*, 2016, Jackson and Apostolakou, 2010, Chih *et al.*, 2010), there may also be differences between individual industries. Every industry branch bears certain distinctive features reflected not only in the property structures of individual enterprises but also in the way they are managed, which may also impact their engagement in the corporate social responsibility concept.

In other countries, research projects do focus on specific single industries. Very often these are industries with an impact or influence on some of the CSR pillars across the society – the mining industry (Govindan *et al.*, 2014), (Vintró and

Comajuncosa, 2010), gambling industry (Leung and Snell, 2017), (Luo *et al.*, 2017) telecommunication industry (Osagie, 2017), pharmaceutical industry (Zaharia and Ghenghea, 2011), (Min *et al.*, 2017), construction industry (Jiang and Wong, 2016), (Loosemore and Lim, 2017), banking industry (Mocan *et al.*, 2015), (Goyal and Chanda, 2017), (Wu and Shen, 2013), etc.

The research results presented in this article focus on one of the industries listed above – construction industry (CI) in the Czech Republic. The purpose was to map involvement of construction companies in the Czech Republic in the CSR concept, both overall and in the individual social responsibility pillars and to assess the effect of selected factors on engagement of construction companies in CSR concept.

The paper is organized as follows. The Theoretical Framework defines corporate social responsibility on the general level, addressing specifics of CSR in CI and introduces results of research into CSR in CI in other countries. The chapter on Results and Discussion summarises the main characteristics of corporate social responsibility of construction companies in the Czech Republic and results of the performed statistical testing – the effect of the studied factors on the numbers of CSR activities in which the construction companies were involved. The conclusion compares the results of our research to results of other research projects – mainly those performed by Kučerová *et al.* (2015) and Skýpalová *et al.* (2016), whose methodology was used in our research.

Theoretical Framework

CSR in industrial enterprises is a concept with multiple definitions changing over years. Boeger (2008) mentions that there are many ways the CSR concept can be interpreted. This often depends on particular individuals, including stakeholders, and their personal approach to the concept. According to Roszkowska-Menkes (2016) the CSR concept is one of the most controversial concepts in the managerial science. Boeger (2008) further adds that the CSR concept definition should be based on the individual country context and perceptions of the local public and stakeholders. Stakeholders are mostly represented by three primary groups – the private sector, the public sector and the academic ground (Haynes *et al.*, 2013). The role of stakeholders is also emphasized by Schüz (2012), who says that economic companies function in a way similar to biological systems and therefore have low chances for long-term survival without cooperation with other systems (stakeholders). In this context one can mention Dytrt (2006), who says that both groups, managers and employees, have already realized that they cannot design and implement any strategy for their organisation one without the other and that its non-implementation might threaten not only existence of the company owners but also their own existence. They are aware that

they make a team whose good functioning brings existential security on the one side and satisfaction of interests and needs of the economic surrounding on the other. The emphasis on stakeholder interests also follows from the conclusions drawn from the research implemented by Roszkowska-Menkes (2016). Other relevant aspects of CSR include willingness to do things exceeding compulsory work routines. Both aspects are underlined for example in the CSR definition according to Kuldová (2012), in the definition promoted by the European Union (Kunz, 2012) as well as in the official definition published by the Ministry of Labour and Trade of the Czech Republic (MPO ČR, 2015). The common denominator is responsible approach in three areas – economic, social and environmental (Elkington, 1997). All of the above mentioned aspects of CSR definition are general and shared by all industries and also form the basis for the CSR concept application in CI.

Corporate social responsibility in CI has its specifics mainly in the social area. The construction companies are responsible for design, technical solution and construction of buildings and other building works which may exercise long-term social impact on the stakeholders. Construction companies determine, to a certain extent, the living standards of the users of their buildings and their surroundings (Jankovichová, 2015).

Zhao *et al.* (2012) mentions as a significant specific of CI that the companies work on the project basis and this affects the approach to addressing stakeholder interests.

CSR specifics in the field of CI will also be related to the expected benefits. In a number of cases benefits for construction companies are identical with the generally stated benefits. One of the possible answers to the question why the company introduces the CSR concept in its management strategy is mentioned by Jagd (2015), who says that the companies that have introduced the CSR concept in their corporate governance have become more trustworthy and transparent for a number of investors for the concept emphasizes activities increasing transparency of the company. This in effect makes information for investors about the basic social, economic and environmental aspects of the company more transparent overall. Also Hopkins (2007) presents an interesting view saying that taking the CSR path may be essentially attractive for companies. The reason is that the CSR concept may help companies realize what they do and above all how they do it. According to Foote *et al.* (2010) CSR involvement of companies significantly affects their performance. Milton de Sousa Filho *et al.* (2010) see the competitive edge of corporate social responsibility in direct effect on corporate resources through creation of better reputation and image, retaining exceptional talents and motivating employees.

In CI, unlike some other industries, more emphasis is needed in the area of CSR relevance

for the stakeholder group of investors offering their free capital to companies. The investor as the creditor will not offer its disposable resources to any company, especially in the field characterised by a large number of companies and significant seasonal fluctuations of revenues. For that reason the investment decision is based on ethical, social and other standards assuring higher predictability and stability (Jankovichová, 2015).

Further significant specific of CI in the contest of CSR benefits is connected with costs. A socially responsible construction company will not have to pay fines for violation of standards. As mentioned by Jankovichová (2015), cash flows are more stable in companies acting in compliance with the CSR concept. These companies successfully avoid paying fines and developing other liabilities for the reason of defective products and customer complaints. Such fines and complaints may lead to bankruptcy of mainly small construction companies.

Particular applications of CSR in the practice of CI companies in different countries have been studied by many authors. Jiang and Wong (2016) in their inquiry among construction companies in China found that the key factors or activity areas of CSR are environmental protection, construction quality and safety, community, employees, clients, and CSR management. Interesting results of research among large construction companies in Australia were arrived at for example by Petrovic-Lazarevic (2008). According to his research 77% of the addressed Australian CI corporations replaced their corporate governance structure with a new one oriented towards healthy work environment (HWE). This suggests that construction companies are well aware of the role of corporate social responsibility in the construction industry. All companies agreed that healthy work environment required work site safety. As much as 80% of the companies realized the importance of positive relations between the company and the local community in which the company operates, satisfaction of the needs of the community and assurance of its overall wellbeing. However, none of the companies explained in their responses what they understood under these community needs and wellbeing. In addition none of the companies had any community feedback receipt system in place. The communication between the company and the local community was found to be unilateral in all cases. None of the companies identified the external environment of the company as part of the HWE.

In the Czech Republic CI contributes to the overall country economy with 7.3% in terms of common prices (MPO ČR, 2017). The characteristics of the industry include existence of a large number of mutually competing SMEs on the market. Rivalry among these companies mainly culminated in the period 2008–2010 when the existing financial and economic crisis reduced demand for construction works with associated reduction of revenues and profit of construction

companies (MPO ČR, 2017). At the same time environmental pressure on construction companies increased. Modern buildings are economical and environment-sparing, hazardous materials are prohibited (MPO ČR, 2017). Many construction companies in addition try to keep their building material stock low for the reason of increased effectiveness of operation, which in turn requires good business relationships with the suppliers. Apart from the abovementioned environmental aspects attention is also paid to the social factors (Union of Entrepreneurs in Construction Industry of CR, 2016).

MATERIALS AND METHODS

The research methodology is partly based on the methodology of research into corporate social responsibility organised across the Czech Republic in the years 2013 and 2014 with the results presented in publications by Kučerová *et al.* (2015) and Skýpalová *et al.* (2016) and adapted for the particular field – the construction industry.

Primary inquiry focused on the construction companies across the Czech Republic. The respondents included large, medium-sized and small and micro companies.

The basic research population used for selection of the narrow population according to the quote sign was chosen on the basis of data available on the web site of the Czech Statistical Office and included economic entities classified pursuant to CZ-NACE as section 40 – construction companies.

For the purpose of the present research the basic research population was stratified by company size.

Company size was specified on the basis of the staff number pursuant to the European Commission, (2006).

- Large enterprise – over 250 employees,
- Medium enterprise – 50 to 249 employees,
- Small enterprise – 10–49 employees,
- Micro enterprise – 0–9 employees.

The basic population was used for specification of the quote sign defined as percentages of the selected companies in the individual regions. First of all the minimum size of the narrow selection had to be specified. For that purpose there is the qualitative formula (Stávková and Dufek, 2004) for specification of the minimum number of features in the selection.

$$n = \frac{t^2 \times P \times Q}{\Delta^2}$$

Using the information provided by the statistical office we found out how many small, micro, and medium enterprises there were; their percentage in the basic research population was expressed by P, while the percentage of large enterprises was expressed as Q. Upon the studied materials and common practice we determined the permissible error Δ as 4% while the literature often mentions

tolerated errors of up to 10%; the letter *t* represents the reliability coefficient and equals to 2. The calculation based on the formula showed that a selective population of 88 enterprises would be sufficient, while our research population included the total of 109 enterprises.

Three research questions were formulated:

- V1 What are the characteristics of a construction company in the Czech Republic in terms of the CSR concept?
- V2 How many activities does a construction company in the Czech Republic pursue in each of the pillars?
- V3 What are the activities preferred by a construction company in the Czech Republic in each of the pillars?

The research questions are reflected in the first part of the presented results. The second part of the results studies the CSR activities of an enterprise upon four factors which, according to other foreign research, may influence the degree of the engagement of the company in the CSR concept. These include: the size of the company; the length of time over which the construction company has been present on the market; the level of its strategic planning; and the knowledge of business ethics. The impact of the size of the enterprise was studied e.g. by Pedrini and Ferri (2011), the size of the enterprise and business ethics e.g. by Georgescu (2012), the influence of maturity and age of enterprises e.g. by Withisuphakorn and Jiraporn (2016), and together with strategic planning e.g. by Arora and Soni (2017).

The number of CSR activities implemented by the companies was addressed overall and by CSR pillar – economic, social and environmental.

Eight hypotheses were formulated for investigation of the selected relations:

- H1 Construction company size influences the total number of CSR activities the company implements.
- H2 Construction company size influences the numbers of CSR activities the company implements within the individual pillars.
- H3 The length of the construction company presence on the market influences the total number of CSR activities the company implements.
- H4 The length of the construction company presence on the market influences the numbers of CSR activities the company implements within the individual pillars.
- H5 Companies creating strategic plans are more extensively involved in CSR activities overall.
- H6 Companies creating strategic plans are more extensively involved in CSR activities within the individual pillars.
- H7 Companies aware of the notion of business ethics are more extensively involved in CSR activities overall.
- H8 Companies aware of the notion of business ethics are more extensively involved in CSR activities within the individual pillars.

Data collection took place in the period between March and May 2017.

For the purpose of statistical processing of the obtained data we used Analysis of Dependence, χ^2 test, Pearson coefficient, and Cramer coefficient, following the method presented by Blašková (2012) and Budíková *et al.* (2010). Pearson and Cramer contingency coefficient was used to measure the intensity of dependence if the chi-square value indicated the existence of dependence.

RESULTS

The results of the inquiry show that the awareness of construction companies in the Czech Republic about the concept of corporate social responsibility is relatively high. As much as 66% of the respondents answered that they had already been acquainted with the concept. This represents a significant shift in comparison to the 2013/2014 research when the overall knowledge of the CSR concept in the Czech Republic was only on the level of 47% (Skýpalová *et al.*, 2016).

Most respondents representing the individual construction companies were owners of the companies, their executives or other managerial staff, i.e. individuals who can be and probably also are directly involved in strategic decisions of their company to varying extent. Only 16% of the respondents were employees not directly involved in their company management. The research showed, though, that the difference in knowledge of CSR between managers and employees was negligible.

The companies mostly came across the CR concept in mass media (47%), through a web presentation (19%), including information servers focused on the CSR concept, government servers, investor and dealer web sites etc. Another important information source was represented by investors (12%).

The inquired construction companies mostly introduced the concept to support their good reputation (79%). What needs to be mentioned here is that the construction companies agreed on voluntariness of the concept, perceived as an advantage by them.

However, the results of the CSR inquiry in the field of CI clearly show that despite the broad knowledge of the concept the activities of construction companies within the individual CSR pillars are on a very low level. A direct comparison to the research of 2013/2014, focused on all industry branches (Skýpalová *et al.*, 2016) revealed that micro companies and SMEs active in CI in the Czech Republic deploy on average 1 activity less in the economic pillar and 1 activity less in the social pillar. On the other hand, in the environmental pillar these companies are a little more active. A more detailed look as CI shows, though, that the construction companies inquired in the context of our research did not differ substantially from the construction companies inquired in 2013/2014, at least as

concerned the most and the least frequently included activities.

In the context of the economic pillar the construction companies appeared to be most active in the area of corruption rejection. Especially large companies answered in 100% of cases that they actively struggled against corruption and supported transparency of their corporate activities and business results. Construction companies also admitted to be active in maintenance of good business relationship in their supply chains (61%). Higher involvement was shown by medium-sized and large construction companies in the area of creation of job opportunities in their region – more than 60% of them were engaged in this activity in comparison to 30% of small and micro companies. Interestingly enough, micro companies with up to 9 employees in other industries are only engaged in this activity in 18.5%. This allows for saying that micro companies in CI of the Czech Republic perceive themselves as important employer in the region. On the other hand, very low involvement of CI in the area of industrial property right protection (only 26% of all CI companies) and information of their stakeholders (28% of all CI companies) can be seen.

Skýpalová *et al.* (2016) arrived at a similar conclusion in the context of the economic pillar concerning the most frequently performed activity – the inquired companies were most active in the field of rejection of corruption, fraud and unfair competition (69%), followed by maintenance of good business relationships within their supply chains (64%). On the other hand a much more extensive activity was observed in other industries in the area of industrial property right protection (47%) and also in the area of information provision to stakeholders (42%).

In the context of the social pillar the construction companies most often focus on occupational safety and health protection of their employees (69%). Large companies are most extensively engaged in this activity (86%) and are even more active in the areas of corporate ethics and corporate culture (100%). On the other hand micro and small construction companies are less active in the field of corporate ethics and corporate culture (identically in 47% each). Based on the obtained results corporate culture is more important for large companies than for micro and small companies. Construction companies are also actively involved in their employee education and requalification (53%). On the other hand a very low involvement can be observed among CI companies in outplacement (in total only 15% of construction companies), in work-life balance (23% of CI companies) and in support for local community (23% of CI companies). The research results published by Skýpalová *et al.* (2016) show that in the context of the social pillar CI is not much different from the European mean with the least frequently implemented activity of outplacement across the Czech Republic (5.7%) and little attention paid to work-life balance (24.7%).

The country-wide mean does not significantly differ from the CI mean in the area of the most frequently performed activities either, with major country-wide activity in the fields of corporate ethics and corporate culture (67.3%) and care of employee education, health and safety (66.2%).

More significant differences between CI and country-wide results are seen in the fields of equal opportunities and volunteerism (57.7%) in contrast to the 26% in CI.

In the context of the environmental pillar the construction companies are most active in the area of waste reduction and overall waste disposal, recycling and use of recycled paper in company offices (68% of the inquired construction companies) and further in the area of education of in-house employees in environment protection (52% of the construction companies). In the context of the environmental pillar the highest activity was seen among large construction companies (56%) in comparison to medium-sized companies (39%) and micro and small companies (31%). One can therefore assume that that construction companies are aware of the importance of responsible material handling and waste disposal policy and that is also one of the reasons why they are active in their employee education in this area. On the other hand, the least activity of construction companies can be observed in the field of CO₂ emissions (18% of all construction companies) where low involvement can be seen in all CI companies. The construction companies are also largely inactive in the area of protection of the natural resources used (mere 24% of CI companies).

Direct comparison of CI branch to the country-wide research performed by Skýpalová *et al.* (2016) one can see that company engagement is identical in the field of active approach to waste minimisation and overall waste disposal, recycling and use of recycled paper (68%). Overall engagement in CO₂ emission reduction is very low in both CI and the country-wide average (16% country-side vs. 18% in CI) with a similar percentage in the area of protection of natural resources used (16% country-wide vs. 24% in CI).

Different results can be seen in the activity in reduction of material, power and water consumption with 61% country-wide vs. 43% in CI. A positive difference between the country-wide average and CI average in the environmental pillar can be seen in the more extensive activity of construction companies (52%) in comparison to the country-wide average in education of in-house employees in environment protection where the other industries only reached 28% on average.

The answers to the research questions are summarised in Tab. I.

On the basis of statistical testing of the collected data we managed to prove a highly significant correlation between the company size and number of activities implemented within the social pillar. A more detailed analysis revealed that the smaller

I: CSR concept and a typical construction company

V1 What are the characteristics of a construction company in the Czech Republic in terms of the CSR concept?

Company is aware of the CSR concept

Company learned about CSR from mass media

CSR introduced in corporate governance for reputation improvement

Czech-owned company

Little activity of the company within the individual pillars

V2 How many activities does a construction company in the Czech Republic pursue in each of the pillars?

Within the economic pillar the company implements no or maximum 1 or 2 activities

Within the social pillar the company implements 1 or 2 activities

Within the environmental pillar the company implements 1 activity

V3 What are the activities preferred by a construction company in the Czech Republic in each of the pillars?

Within the economic pillar the company is most active in rejection of corruption and maintenance of good relationships within its supply chain. The company also believes to create new job opportunities in the region. On the other hand, the company is not interested in activities involving protection of industrial property rights and communication with stakeholders.

Within the social pillar the company focuses on corporate ethics and takes care of safety and health protection of employees, on the other hand showing little interest in work-life balance and outplacement, and low activity in the fields on philanthropy, sponsoring and volunteerism

Within the environmental pillar the company takes care mainly of material, power and energy consumption reduction and waste minimisation. Considerable activity can also be observed in the area of education of in-house employees and supply of more environment-friendly products and services. Low efforts within the environmental pillar can be observed in the field of harmful CO₂ emission reduction.

Source: own research

the company the lower the number of activities performed. For example 51% of construction companies with up to 49 employees only performed maximum 2 activities within this pillar. Existence of a significant correlation between company size and number of CSR activities was also proved overall. Although the p-value for the economic pillar was not lower than 0.05, it was quite close to this value (p-value 0.059), which can be interpreted that although the correlation between company size and number of activities within the social pillar is not statistically proven, a certain trend towards this correlation might be deemed to exist here (see Tab. II). The table clearly shows that the intensities of the dependence are medium.

The following can be concluded on the basis of the statistical test results for the collected data in relation to the individual formulated hypotheses:

- H1 – There is a correlation between company size and total number of CSR activities of the construction company.

- H2 – There is a correlation between company size and the numbers of CSR activities related to the individual pillars (mainly to the social pillar).

The test of the effect of the length of presence of the construction company on the market on the number of performed CSR activities worked with four time intervals represented by companies active on the construction market for 0–9 years, 10–19 years, 20–49 years and 50 years or more. The independence test only showed a correlation in the case of the environmental pillar. The Chi-square value was 22.43 at the statistical significance level of $p < 0.01$, the contingency coefficients show medium dependence. (see Tab. III)

The following can be concluded on the basis of the statistical test results for the collected data in relation to the individual formulated hypotheses:

- H3 – There is no correlation between the length of the company presence on the market and the total number of CSR activities of the construction company.

II: Independence testing for the correlation between the company size and number of performed CSR activities

	Chi-square	Pearson	Cramer
Economic pillar	20.41		
Social pillar	31.23***	0.472	0.309
Environmental pillar	20.91*	0.401	0.253
Total number of CSR activities	29.89**	0.464	0.302

Note: *** p-value < 0.001; ** p-value < 0.01; * p-value < 0.05

III: Independence testing for the correlation between the number of CSR activities and the length of the construction company presence on the market

	Chi-square	Pearson	Cramer
Economic pillar	8.75		
Social pillar	18.16		
Environmental pillar	22.43**	0.413	0.262
Total number of CSR activities	12.38		

Note: *** p-value < 0.001; ** p-value < 0.01; * p-value < 0.05

IV: Independence testing for the correlation between the number of CSR activities and existence of strategic planning in the company

	Chi-square	Pearson	Cramer
Economic pillar	12.09		
Social pillar	14.59		
Environmental pillar	14.03		
Total number of CSR activities	21.08		

Note: *** p-value < 0.001; ** p-value < 0.01; * p-value < 0.05

- H4 – There is a correlation between the length of the company presence on the market and the numbers of CSR activities related to the environmental pillar.

Table IV shows independence testing for the correlation between the number of CSR activities and strategic planning of the companies. None of the tests proved any correlation between strategic planning and implementation of CSR activities in companies, therefore no other contingency coefficients are included in the calculation.

The following can be concluded on the basis of the statistical test results for the collected data in relation to the individual formulated hypotheses:

- H5 – There is no correlation between the existence of strategic planning in the company and the total number of CSR activities of the construction company.
- H6 - There is no correlation between the existence of strategic planning in the company and the numbers of CSR activities related to the individual pillars.

The strongest correlation was proven in the case of the number of the performed CSR activities vs. knowledge of the notion of business ethics. This applied overall as well as within the individual pillars (see Tab. V). The achieved level of statistical significance p-value < 0.001 was always lower than 0.001 in this case. The high correlation proof is also confirmed by the values of the Pearson coefficient and the Cramer coefficient, pointing to medium to strong

correlation – the value of the Cramer coefficient for the total number of CSR activities was 0.553.

The following can be concluded on the basis of the statistical test results for the collected data in relation to the individual formulated hypotheses:

- H7 – There is a correlation between knowledge of the notion of business ethics and the total number of CSR activities of the construction company.
- H8 - There is a correlation between knowledge of the notion of business ethics and the numbers of CSR activities related to all the individual pillars.

DISCUSSION

The results of the inquiry addressed to CI in the Czech Republic showed interesting findings in several areas.

The finding that two thirds (66%) of the enterprises are familiar with the CSR concept, is very positive. The shift from the 2013/2014 research results, when the knowledge of CSR was only 47% throughout the entire economics, may relate to the increase of this topic's importance on the level of companies as well as the government and the broad public, which is also supported by the results of research carried out by Ipsos (2017) and KPMG (2015).

Another important finding introduced by the research is that despite the high level of knowledge of the CSR concept, the activity of the construction companies is low, in fact lower than in the 2013/2014 research that covered the entire

V: Independence testing for the correlation between the number of CSR activities and knowledge of the notion of business ethics

	Chi-square	Pearson	Cramer
Economic pillar	26.40***	0.442	0.492
Social pillar	20.92***	0.401	0.439
Environmental pillar	16.92***	0.366	0.394
Total number of CSR activities	33.35***	0.484	0.553

Note: *** p-value < 0.001; ** p-value < 0.01; * p-value < 0.05

nation. The reasons may relate, as Perrault and Rieflin (2014) state, to the approach, experience, and education of the construction companies managers regarding CSR. The authors have presented the following question: Could the firms' level of CSR be explained by the influence of their top managers? And they come to the conclusion that firms present the highest level of CSR when led by managers who intrinsically value CSR, who perceive their social role as a salient identity, and who have the ability to exercise power in their management team. Perrault and Rieflin (2014) recommend the illustration of the importance of a multidisciplinary and/or multilevel approach to deepen the understanding of business's complex phenomena, such as CSR.

The main reason for introducing the CSR concept, as stated by the construction companies, is based on the strengthening of the company's good standing. It is a subject of discussion whether the construction companies in the Czech Republic actually understand that a good reputation relates to a higher credibility and transparency for investors, who belong, as Jagd (2015) and Jankovichová (2015) state, to the key stakeholders in the construction business. The Czech construction companies did not yet recognise that in the construction industry, following the principles of CSR has a significant impact on reducing costs (Jankovichová, 2015) in comparison to other fields of business. None of the construction firms enrolled in the research stated this as the reason for introducing the CSR concept in their company.

Regarding the individual pillars – in the context of the social pillar the level of engagement does not significantly differ from the results of the research within the entire economy. Construction companies are typically little interested in assistance to job seeking by their dismissed employees – outplacement. Only large companies are engaged in this activity. Very low engagement can also be seen in the area of equal opportunities and volunteering. The support of the surrounding community is also rather small, which corresponds with the results of research conducted by Lazarevic (2008). A result positive for CI was represented by the found active involvement in corporate ethics and care of safety and health of employees. In the case of corporate ethics micro companies are even stronger than companies of other industry branches.

Within the environmental pillar construction companies are slightly more active compared to the research covering the entire nation. Similar results were also reached by Nakamura (2016), who tried to answer the research question whether firms implementing CSR were at a theoretically derived achievable level. His results show that in the construction industry the achievable levels for environmental CSR were higher.

The main CSR activity of CI companies in the Czech Republic within the environmental pillar is represented by waste minimisation and

approach to overall waste disposal, recycling and use of recycled paper and further reduction of material, power and water consumption. Typical efforts include CO₂ emission reduction and protection of the natural resources used. A positive of construction companies is represented by their characteristic involvement in active education of their own employees in environment protection and use of environment-friendly products and services.

Within the economical pillar the results relating to activities are similar as the results achieved by Skýpalová *et al.* (2016). In the context of the economic pillar CI companies largely reject corruption and build good relationships with their supply chain. On the other hand they marginalise industrial property right protection and communication with stakeholders.

Regarding specific CSR activities pursued in CI, the results of the performed research more or less correspond with the results reached by Jiang and Wong (2016).

In the statistical data testing, positive relation between the size of the enterprise and the degree of involvement in CSR activities was proved in the research carried out by Skýpalová *et al.* (2016) as well as e.g. in the research of Arora and Soni (2017). Large companies have a greater chance of developing written ethical codes as part of their strategic visions, and their employees have a greater chance of accepting this aspect better than small companies and their employees (Georgescu, 2012). The growing role of the CSR managers, who specialise in introducing CSR in the company, relates to large enterprises where it makes the implementation much easier (Pedrini and Ferri, 2011).

The dependence between the length of the period of the construction company's presence on the market and the number of the CSR activities pursued was proved within the environmental pillar only. This partially confirms the results of Withisuphakorn and Jiraporn (2016), who found out that mature firms invest significantly more in CSR. But the effect of firm maturity is not uniform across different categories of CSR. As firms get older, they become much more responsible in terms of diversity and environmental awareness, whereas the effect of firm ageing is much weaker in terms of human rights and product safety. On the other hand, Arora and Soni (2017), who studied 500 Indian companies in terms of the length of their presence on the market, reached the opposite results – according to these authors, younger and levered firms are more active towards CSR.

The statistic data testing also proved a very significant correlation between the knowledge of the notion of corporate ethics and the number of CSR activities implemented by the company. A detailed analysis however revealed that despite the awareness of the meaning of the notion of corporate ethics among construction companies the number of CSR activities they are actively involved in was very low. The same conclusion in

terms of the low number of actively performed CSR activities within the individual CSR pillars among all industries of the Czech Republic was drawn by Skýpalová *et al.* (2016).

The overall results of the research to a certain extent correspond to the results arrived at by Loosemore and Lim (2017), who studied

construction industry in Australia and New Zealand. Their results show that CSR initiatives in the construction industry are integrated, isolated and narrowly focused (mainly to environmental activities, immature, based on compliance and operation-oriented, and not strategic).

CONCLUSION

A typical representative of CI in the Czech Republic is a Czech-owned company without foreign participation with CSR awareness obtained from mass media and incorporating CSR issue in its corporate governance mainly for the purpose of improvement of the company reputation. Despite the high level of knowledge of the concept, it pursues no more than 2 activities within the individual pillars.

The degree of engagement in the CSR concept is influenced by the size of the construction company as well as by the knowledge of the business ethics – larger companies, which operate with the business ethics term, engage in the CSR concept more. The length of the construction company's presence on the market demonstrated in the activities within the environmental pillars only, the level of the strategic planning did not have any influence on the degree of the company's engagement in the CSR concept. The limits of the implemented research and comparisons are in the time span within which the compared research was performed which might affect the results to a certain extent. Further research might need to be oriented towards the individual MSP groups in the given industry, their individual needs and problems in application of the particular socially responsible activities. Interesting results may also be brought by study of differences between actual and declared CSR activities, as is recommended for example by Schüz (2012). Another interesting field of study might be to find out whether the declared CSR activities are really CSR activities, i.e. whether they step beyond the compulsory regulatory requirements.

REFERENCES

- ARORA, A., and SONI, T. K. 2017. Corporate Social Responsibility and Firm Characteristics: Evidence from BSE 500. *International Journal of Information, Business & Management*, 9(1): 107–126.
- BOEGER, N., MURRAY, R. and VILLIERS, CH. 2008. *Perspectives on corporate social responsibility*. Northampton, MA: Edward Elgar.
- BLAŠKOVÁ, V. 2012. *Statistics I* [in Czech: *Statistika I*]. 2nd Edition. Brno: Mendel University in Brno.
- BUDÍKOVÁ, M., KRÁLOVÁ, M. and MAROŠ, B. 2010. *Guide to basic statistical methods* [in Czech: *Průvodce základními statistickými metodami*]. 1st Edition. Praha: Grada Publishing.
- DYTRT, Z. 2006. *Goodwill* [in Czech: *Dobré jméno firmy*]. 1st Edition. Praha: Alfa Publishing
- ELKINGTON, J. 1997. *Cannibals with forks: the triple bottom line of twenty first century business*. Oxford: Capstone Publishing.
- EUROPEAN COMMISSION. 2006. *New definition of small and medium companies: User guide and model declaration* [in Czech: *Nová definice malých a středních podniků: Uživatelská příručka a vzor pro hlášení*]. Luxembourg: Publications Office of the European Union. Available at: http://ec.europa.eu/enterprise/policies/sme/files/sme_definition/sme_user_guide_cs.pdf [Accessed 2017, September 17].
- FOOTE, J., EVANS, J. R. and GAFFNEY, N. 2010. Corporate social responsibility: Implications for performance excellence. *Total Quality Management and Business Excellence*. 21(8): 799–812
- GEORGESCU, M. A. 2012. Business Ethics and Organizational Values in Romanian Enterprises. *Procedia Economics & Finance*. 3: 734–739.
- GOVINDAN, K., KANNAN, D., and SHANKAR, K. M. 2014. Evaluating the drivers of corporate social responsibility in the mining industry with multi-criteria approach: A multi-stakeholder perspective. *Journal Of Cleaner Production*, 84(1): 214–232.
- GOYAL, P., and CHANDA, U. 2017. A Bayesian Network Model on the association between CSR, perceived service quality and customer loyalty in Indian Banking Industry. *Sustainable Production and Consumption*, 10: 50–65.
- HAYNES, K., MURRAY, A. and DILLARD, J. F. 2013. *Corporate social responsibility: a research handbook*. New York: Routledge.
- HOPKINS, M. 2007. *Corporate social responsibility and international development: is business the solution?* Sterling, VA: Earthscan.
- CHIH, H.-L., CHIH, H.-H. and CHEN, T.-Y. 2010. On the Determinants of Corporate Social Responsibility: International Evidence on the Financial Industry. *Journal of Business Ethics*. 93(1): 115–135.

- IPSOS. 2017. *CSR & Reputation Research 2016*. [Online]. Available at http://www.ipsos.cz/public/media/tiskove_zpravy/Ipsos%20CSR%20REPUTATION%20RESEARCH%202016_vybran%C3%A9%20v%C3%BDsledky%20z%20ve%C5%99ejn%C3%A9%20C4%8D%C3%A1sti%20v%C3%BDzkumu.pdf [Accessed 2017, August 30].
- JACKSON, G. and APOSTOLAKOU, A. 2010. Corporate social responsibility in Western Europe: An institutional mirror or substitute? *Journal of Business Ethics*, 94(3): 371 - 394.
- JAGD, J. T. 2015. *Investor oriented corporate social responsibility reporting*. New York: Routledge, Taylor & Francis Group.
- JANKOVICHOVÁ, E. 2015. *Corporate social responsibility in construction industry*. Brno: Tribun EU.
- JIANG, W. and WONG, J. K. 2016. Key activity areas of corporate social responsibility (CSR) in the construction industry: a study of China. *Journal Of Cleaner Production*, 113: 850–860.
- KPMG. 2015. *The KPMG Survey of Corporate Responsibility Reporting 2015*. Available at: <https://home.kpmg.com/content/dam/kpmg/pdf/2015/12/KPMG-survey-of-CR-reporting-2015.pdf> [Accessed 2018, January 15].
- KUČEROVÁ, R., SKÝPALOVÁ, R. and BLAŠKOVÁ, V. 2015. Factors Influencing the Implementation of the CSR Concept in the Czech Republic. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 63(6): 1979–1985.
- KULDOVÁ, L. 2012. *New view on corporate social responsibility: strategic CSR* [in Czech: *Nový pohled na společenskou odpovědnost firem: strategická CSR*]. Plzeň: Nava.
- KUNZ, V. 2012. *Corporate social responsibility* [in Czech: *Společenská odpovědnost firem*]. 1st Edition. Praha: Grada.
- LEUNG, T. and SNELL, R. 2017. Attraction or Distraction? Corporate Social Responsibility in Macao's Gambling Industry. *Journal Of Business Ethics*, 145(3): 637–658.
- LOOSEMORE, M. and LIM, B. H. 2017. Linking corporate social responsibility and organizational performance in the construction industry. *Construction Management & Economics*, 35(3): 90–105.
- LUO, J. M., CHAU, K. Y., SHEN, H. W., WANG, X. and LAM, C. F. 2017. Measuring Corporate Social Responsibility in Gambling Industry: Multi-Items Stakeholder Based Scales. *Sustainability*, 9: 11.
- MILTON DE SOUSA FILHO, J., WANDERLEY L. S. O., GÓMEZ, C. P. and FARACHE, F. 2010. Strategic Corporate Social Responsibility Management for Competitive Advantage. *BAR: Brazilian Administration Review*. 7(3): 294–309
- MIN, M., DESMOULINS-LEBEAULT, F. and ESPOSITO, M. 2017. Should pharmaceutical companies engage in corporate social responsibility?. *Journal Of Management Development*, 36(1): 58–70.
- MOCAN, M., RUS, S., DRAGHICI, A., IVASCU, L., and TURI, A. 2015. Impact of Corporate Social Responsibility Practices on the Banking Industry in Romania. *Procedia Economics and Finance*, 23: 712–716.
- MPO ČR. 2015. Národní akční plán společenské odpovědnosti organizací v České republice. Strategický document. [Online]. Praha: MPO. Available at: <http://narodniportal.cz/wp-content/uploads/2016/01/Aktualizovan%C3%BD-NAP-CSR-schv%C3%A1len%C3%BD-Vl%C3%A1dou-%C4%8CR.pdf> [Accessed 2017, September 5].
- MPO ČR. 2017. *Stavebnictví České republiky 2016*. [Online]. Praha: MPO. Available at: <https://www.mpo.cz/assets/cz/stavebnictvi-a-suroviny/informace-z-odvetvi/2017/3/Stavebnictvi-2016.pdf> [Accessed 2017, October 22].
- NAKAMURA, E. 2016. Is Corporate Social Responsibility in Japanese Firms at the Theoretically Derived Achievable Level? An Analysis of CSR Inefficiency Using a Stochastic Frontier Model. *Business & Society Review*, 121(2): 271–295.
- OSAGIE, N. G. 2017. Corporate Social Responsibility and Profitability in Nigeria Telecommunication Industry: A Case Study of MTN Nigeria. *Journal Of Entrepreneurship & Management*, 6(2): 1–8.
- PEDRINI, M. and FERRI, L. M. 2011. Implementing Corporate Social Responsibility. An Exploratory Study of Strategy Integration and CSR Officers' Duty. *Economia Aziendale Online*, 2(2): 175–187.
- PERRAULT, E., and RIEFLIN, A. J. 2014. Like company, like self: a multilevel argument explaining firms' level of engagement in corporate social responsibility. *Journal of General Management*, 39(3), 39–57.
- PETROVIC-LAZAREVIC, S. 2008. The development of corporate social responsibility in the Australian construction industry. *Construction Management & Economics*, 26(2): 93–101.
- ROSZKOWSKA-MENKES, M. 2016. What Does CSR Really Stand For? An Analysis of Corporate Definitions of CSR in Poland. *Research Papers Of The Wroclaw University Of Economics*, 423: 94–106.
- SCHÜZ, M. 2012. Sustainable Corporate Responsibility - the Foundation of Successful Business in the New Millenium. *Central European Business Review*, 1(2): 7–15.
- SKÝPALOVÁ, R. KUČEROVÁ, R. and BLAŠKOVÁ, V. 2016. Development of the Corporate Social Responsibility Concept in Small and Medium-Sized Enterprises. *Prague Economic Papers: Quarterly Journal of Economic Theory and Policy*, 25(3): 287–303.
- SRPOVÁ, J., KUNZ, V., and MÍSAŘ, J. 2012. Applying The Principles of CSR in Enterprises in The Czech Republic, [in Czech: Uplatňování principů CSR u podnikatelských subjektů v České republice]. *Ekonomika a Management*, 6(4): 1–14.
- STÁVKOVÁ, J. and DUFEK, J. 2004. *Marketing research* [in Czech: *Marketingový výzkum*]. Brno: MZLU v Brně.
- SVAZ PODNIKATELŮ VE STAVEBNICTVÍ V ČR. 2016. *Stavebnictví v roce 2016*. [Online]. Available at: http://www.sps.cz/RDS/_PDFDoc_2017/Tri-STAVEBNICTV%C3%8D%202016.pdf [Accessed 2017, October 22].

- VINTRÓ, C. and COMAJUNCOSA, J. 2010. Corporate social responsibility in the mining industry: Criteria and indicators [in Spanish: Responsabilidad social corporativa en la minería: Criterios e indicadores. *Dyna*, 77(161): 31–41.
- WITHISUPHAKORN, P. and JIRAPORN, P. 2016. The effect of firm maturity on corporate social responsibility (CSR): do older firms invest more in CSR? *Applied Economics Letters*, 23(4): 298–301.
- WU, M., and SHEN, C. 2013. Corporate social responsibility in the banking industry: Motives and financial performance. *Journal of Banking and Finance*, 37(9): 3529–3547.
- ZAHARIA, R. M. and GHENGHEA, M. 2011. Corporate Social Responsibility in the Pharmaceutical Industry: Romania's Case. Transformations. *Business and Economics*, 10(2): 730–740.
- ZHAO, Z., ZHAO, X., DAVIDSON, K. and ZUO, J. 2012. A corporate social responsibility indicator system for construction enterprises. *Journal of Cleaner Production*, 29-30: 277–289

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