MODELLING OF SOCIAL KEY PERFORMANCE INDICATORS OF CORPORATE SUSTAINABILITY PERFORMANCE

Marie Pavláková Dočekalová[1], Alena Kocmanová[1], Iveta Šimberová[2], Jiří Koleňák[3]

[1]Department of Economics, Faculty of Business and Management, University of Technology in Brno, Antonínská 548/1, 601 90 Brno, Czech Republic
[2]Department of Management, Faculty of Business and Management, University of Technology in Brno, Antonínská 548/1, 601 90 Brno, Czech Republic
[3]Department of Management, Newton College, a.s., Rašínova 2, 612 00 Brno, Czech Republic

Abstract

PAVLÁKOVÁ DOČEKALOVÁ MARIE, KOCMANOVÁ ALENA, ŠIMBEROVÁ IVETA, KOLEŇÁK JIŘÍ. 2018. Modelling of Social Key Performance Indicators of Corporate Sustainability Performance. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis,* 66(1): 303–312.

Corporate social performance is discussed in this paper. The aim of this article is to propose indicators of social performance in the context of corporate sustainability. Relevance of the proposal has been verified through a questionnaire that focused on large manufacturing companies in the Czech Republic. Using statistical methods, it was found that a basic set of sixteen indicators can be replaced by six key performance indicators – Percentage of employees covered by collective agreement, Wage discrimination, Occupational diseases, Violations of ethical code, Expenditures on identifying and ensuring customer satisfaction and Percentage of products and services assessed for their influence on health and safety of customers. These results aim to contribute to both academy and corporate practitioners, who want to improve corporate social performance and through the use of key performance indicators to support transparency and sustainability of their business. This study, however, has some limitations. The key performance indicators are designed specifically for large manufacturing companies of group 27.1 CZ-NACE.

Keywords: corporate social performance, corporate sustainability, key performance indicators, manufacturing industry

INTRODUCTION

Good relationships with stakeholders are key to business success and the fact is that companies face a growing pressure from their surroundings to act in a socially responsible way (Bučiuniene, Kazlauskaite, 2012). Nowadays we see that companies spend more and more resources to ensure employee satisfaction. Employee satisfaction constitutes one of the factors influencing the stability and willingness of workforce to deliver desired work performance. It should lead to increase in labour productivity and thereby to growth of economic performance (Kocmanová *et al.*, 2013). A large number of studies on the relationship between social and financial performance were published, however the results are mixed (Ivanovic-Djukic, Lepojevic, 2015). It seems that there is more likely an indirect impact of corporate social responsibility to business performance. The positive effect of corporate social responsibility on business performance is due to the positive effect of corporate social responsibility on competitive advantage, reputation and customer satisfaction (Saeidi *et al.*, 2015).

In order to manage the social performance companies have to create appropriate system to measure it. Many authors emphasize that the corporate performance should not be assessed solely on the basis of economic results, but the evaluation should also include non-financial

indicators focusing on intangible assets taking into account relationships with employees, customers and other stakeholders (Hornungová, 2014; Kaplan, Norton, 1996, 2001; Carroll, 2000; Waddock, Smith, 2000). Ability to organize and manage relationships and processes is a constant topic of company management (Ambrozová, Pokorný, 2014).

Aim of this paper is to propose indicators of social performance in the context of corporate sustainability.

Theoretical Approach to Corporate Social Performance

Social performance is defined by social impacts of the company's activities on the stakeholders (Wood, Jones, 1995; Spirig, 2006). Stakeholders are a source of expectations about what is desirable and undesirable performance. Stakeholders are the beneficiaries of corporate actions and outputs. And last but not least, it is the stakeholders who assess corporate behaviour. Social performance is not usually a visible attribute of products and services. It becomes visible when social dimension gets integrated into marketing communication. In other words, professional communication focused on stakeholder groups is necessary to use social performance to gain a competitive advantage (Spirig, 2006).

To manage their social performance, companies may use voluntary standards. International standard of *Social Accountability 8000* (SA8000) is focused mostly on employees and on the issue of working conditions. SA8000 is based on the principles of international standards that relate to working conditions and are part of International Labour Organisation's conventions, the United Nations' Universal Declaration of Human Rights and Convention on Children's Rights. The standard divides requirements into nine areas (Social Accountability International, 2008): Child Labour, Forced Labour, Health and Safety, Freedom of Association and the Right to Collective Bargaining, Discrimination, Disciplinary Practices, Working Hours, Remuneration, and Management Responsibility.

ISO 26000 – Guidance for Social Responsibility. Rather than presenting requirements, this norm provides guidance for implementing CSR principles in companies. The standard defines seven basic topics: Corporate Governance, Human Rights, Labour Relations Practices, Environment, Business Ethics (e.g. issues of corruption, competition), Customer Protection, and Community Involvement and Development.

Safe Company program announced by the Ministry of Labour and Social Affairs of the Czech Republic and the State Labour Inspection Office enables employers to implement a system of occupational health and safety management compliant not only with Czech legislation but also with requirements applicable in the European Union countries. The program requires annual evaluation of indicators in companies that have received the Safe Company certification. By meeting the Safe Company requirements and by continuous improvements in the health and safety area, the company demonstrates its commitment to do more for the health and safety of its employees than is required by the legislation.

The aim of standard *OHSAS 18001 – Occupational Health and Safety Management* is to evaluate, eliminate and minimise risk to employees and other subjects influenced by companies. Another directive governing management of occupational health and safety is *ILO – OSH 2001* issued by International Labour Organisation founded by the United Nations.

Standard *AA 1000 AccountAbility – Stakeholder Engagement Standard* is a guide to the dialogue and improving relations with stakeholder groups and their involvement in the development and successful execution of corporate strategy. The aim of this standard is to include responsibility into corporate management (Accountability, 2008).

Social Performance Indicators

In general, the performance indicators are used to evaluate the success of organisations (Kennerley a Neely, 2003). When defining performance indicators, it is necessary to adhere to the following principles (Roos, Roos, 1997; Kruse, Lundbergh, 2010; Neely, Gregory, Platts, 2005; UNCTAD, 2008): exact definition and transparency, measurability, comparability, relevance, clarity, defining the frequency of measurements, the costs of monitoring and obtaining should not exceed the benefits generated by the indicators. Indicators that are not reliable, valid, or comparable can lead to outcomes that harm corporate social performance and overall welfare (Chatterji, Levine, 2006).

The prevalent approach to evaluation of corporate performance in the Czech Republic is based on monitoring of traditional financial indicators (Kocmanová *et al.*, 2010). Deficiencies of these methods are well known, their critics point out mainly the following issues (Ghalayini, Noble, 1996; Atkinson, Waterhouse, Wells, 1997; Kennerley, Neely, 2003; Kocmanová *et al.*, 2010): historic nature of the indicators, possibility of influencing the total reported profit through legal accounting practices, disregard of intangible assets, such as intellectual capital, employee satisfaction etc.

Analysis of voluntary corporate reports published by manufacturing companies showed that in the social area, the companies tend to use mostly absolute indicators that fail to show how these indicators change in time and that do not allow comparison. They use so-called lagging indicators that show the achieved results and thus reflect the past, instead of so-called leading indicators that predict the future and are crucial to the success of the organisation. They focus mostly on the issues of employee care, occupational health and safety and on corporate philanthropy. Some social

I: *Research sample*

Criteria	N	%
Majority Owner		
Domestic subject	8	34.8
International subject	15	65.2
Legal form		
Stock company	4	17.4
Ltd	19	82.6
Number of employees		
250–750	13	56.5
751–1250	4	17.4
1251–1750	2	8.7
1751–2250	2	8.7
More than 2251	2	8.7

Source: own research

indicators recommended by the Global Reporting Initiative (2013) are totally ignored; these include, for example, indicators of diversity, discrimination, human rights and corruption (Dočekalová, 2013).

MATERIALS AND METHODS

A review of scientific literature shows that many factors influence social performance. The methods used correspond with this fact. A set of social performance indicators was defined based on preliminary research published in Dočekalová (2013). The next step included a survey aimed to verify the relevance of the hypothesis. The questionnaire was developed based on previous empirical research (Meluzín *et al.*, 2013; Meluzín *et al.*, 2016) and used a rating method. Respondents (managers of selected companies) assessed the importance of individual indicators on a scale of $< 0;10 >$. The research is focused on large Czech manufacturing companies of group *27.1 Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus* as defined in CZ-NACE and, at the same time, on companies with more than 250 employees. The basic set includes 32 companies. The overall response was 72%. The research sample is described in Tab. I.

A factor analysis was used to reduce the number of proposed social indicators, i.e. to describe the behaviour of set of indicators using a smaller number of new variables. A factor and correlation analysis was used to select the key performance indicators (KPIs).

Formula of the factor analysis is defined as:

$$x_1 = \alpha_{11}F_1 + \alpha_{12}F_2 + \ldots + \alpha_{1m}F_m + e_1$$
$$x_2 = \alpha_{21}F_1 + \alpha_{22}F_2 + \ldots + \alpha_{2m}F_m + e_2$$
$$\ldots$$
$$x_Q = \alpha_{Q1}F_1 + \alpha_{Q2}F_2 + \ldots + \alpha_{Qm}F_m + e_q \quad (1)$$

where
x_i $(i = 1,\ldots,Q)$..the original set of variables (however, the variables are standardised, i.e. they have a zero mean and a unit variance),

$\alpha_{i1}, \alpha_{i2}, \ldots, \alpha_{im}$ ....factor loadings,
$F_1, F_2, \ldots, F_m$ ....m non-correlated standardised factors,
e_i ....specific (unique, error, residual) part of variable x_i. (OECD, 2008; Škaloudová, 2010)

The first step of the factor analysis is to evaluate suitability of the key performance indicators for application in the factor analysis. The evaluation is based on Kaiser – Meyer – Olkin statistics (KMO statistics) and on Barlett's Test of Sphericity. KMO is based on comparison of paired and partial correlation coefficient and has values between 0 and 1. KMO statistics should have values of at least 0.60, however, preferable values are 0.7 and higher. A method of main components was chosen for the extraction of factors. This method arranges uncorrelated factors based on their decreasing variance, i.e. the first is the factor with the biggest variance and the last is the factor with the smallest variance. The analysis of main components tries to reduce the number of variables so as to best illustrate the variance of the original variables, while the factor analysis tries to clarify the correlation of the original variables. Calculation of load factor by the main components method is unambiguous and increase in the number of factors (components) does not change the original components. Because of its unambiguity, this method is one of the most frequently used methods (Škaloudová, 2010; Williams *et al.*, 2012). The number of factors is determined using the Kaiser's rule and only factors with values of 1 or more are selected. A rotation of the factors is performed to facilitate better assignment of variables (KPIs) to the extracted factors. An orthogonal, i.e. rectangular method of rotation Varimax was chosen for the rotation. Using this method, the factors after rotation remain uncorrelated (Abdi, 2003). Calculations were performed by the software program IBM SPSS Statistics 20.

RESULTS AND DISCUSSION

The basic set of social performance indicators consists of seventeen indicators divided into eleven areas. The basic set of indicators is presented in Appendix 1. Fig. 1 illustrates the importance of social performance indicators as they were evaluated by respondents. The indicators expressing the impact of corporate activities on employees' health are considered to be the most important by the companies. Another important indicator related to the employees is employee fluctuation and relationships at the workplace. The least important is involvement of employees in the collective bargaining. The survey also shows the importance of compliance (or violation) of ethical code for success of the company and for relationships with the surrounding community. One of the companies which took part in the survey added other locally relevant indicators: Cooperation between departments and teams, Employee awareness of business objectives and of their evaluation.

Selected descriptive characteristics of social performance indicators are stated in Tab. II. The following statistical characteristics have been calculated in order to get the basic findings: Measures of central tendency (arithmetic mean $\bar{x}$ and median $\tilde{x}$), measures of variability (variation range R, standard deviation s, coefficient of variation Vx) and measures of concentration ($skew$ and $kurt$).

The least variability was observed in the indicators related to employee health, i.e. Fatalities ($Vx = 13.7\%$), Occupational diseases ($Vx = 16.4\%$), Rate of absenteeism ($Vx = 19.3\%$) and the Overall rate of accidents ($Vx = 20.3\%$). This means that the respondents agree on the importance of indicators related to health of their employees. On the other hand, the least balanced values are observed in the following indicators: Wages discrimination ($Vx = 62.2\%$), Rate of discrimination ($Vx = 62.9\%$), Percentage of products and services assessed for their influence on health and safety of customers ($Vx = 71.8\%$) and Percentage of employees covered by collective agreement ($Vx = 87.9\%$). The concentration degree for small and large values are similar in the indicator Percentage of products and services assessed for their influence on health and safety of customers ($skew = -0.1$). On the contrary, the most asymmetrical is the indicator Overall accidents rate ($skew = -2.6$) which is skewed from the left (higher values are more concentrated than the lower values). This indicator also has the highest values of kurtosis ($kurt = 9.0$), i.e. most of the values of the random variable are close to the mean (arithmetic mean $\bar{x} = 8.5$ and median $\tilde{x} = 9.0$). Zero coefficient of kurtosis can be observed in Fluctuation and Complaints about relationships
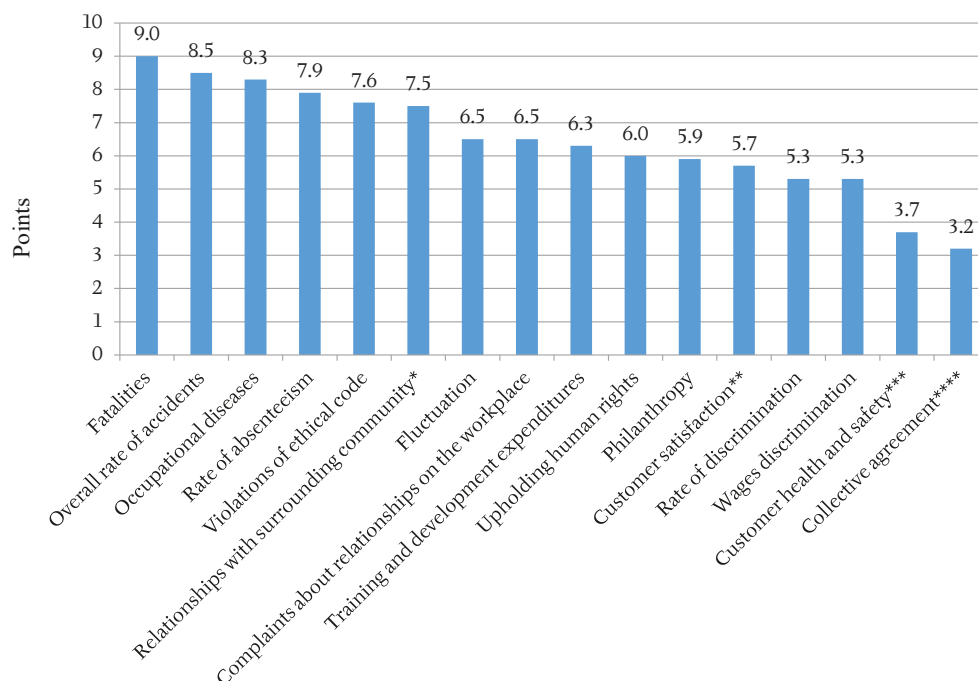
1: *The Importance of Social Performance Indicators*
Note:
*Relationship with the surrounding community - complaints from the community surrounding the company
** Expenditures on identifying and ensuring customer satisfaction
***Impact of products and services on the health and safety of customers
****Percentage of employees covered by the collective agreement
Source: own research

II: *Descriptive Characteristics of Social Performance Indicators*

Indicator	R	Min.	Max.	$\bar{x}$	$\tilde{x}$	s	Vx (%)	skew	kurt
Fluctuation	8.0	2.0	10.0	6.5	7.0	1.9	29.2	−0.4	0.0
Relationships with surrounding community - complaints	8.0	2.0	10.0	7.5	8.0	2.4	31.7	−0.8	−0.2
Philanthropy – value of gifts and charity	10.0	0.0	10.0	5.9	6.0	3.0	50.7	−0.5	−0.8
Rate of discrimination	10.0	0.0	10.0	5.3	6.0	3.4	62.9	−0.4	−1.1
Wages discrimination	10.0	0.0	10.0	5.3	5.0	3.3	62.2	−0.2	−1.2
Upholding human rights	10.0	0.0	10.0	6.0	7.0	3.3	54.3	−0.7	−0.7
Violations of ethical code	10.0	0.0	10.0	7.6	9.0	2.7	35.6	−1.2	1.3
Training and development expenditures	6.0	4.0	10.0	6.3	6.0	1.6	25.8	0.3	−0.7
Percentage of employees covered by collective agreement	10.0	0.0	10.0	3.2	3.0	2.8	87.9	0.7	0.0
Complaints about relationships on the workplace	10.0	0.0	10.0	6.5	8.0	2.6	40.0	−0.8	0.0
Overall rate of accidents	8.0	2.0	10.0	8.5	9.0	1.7	20.3	−2.6	9.0
Fatalities	5.0	5.0	10.0	9.0	9.0	1.2	13.7	−1.9	4.1
Occupational diseases	5.0	5.0	10.0	8.3	8.0	1.4	16.4	−1.1	1.4
Rate of absenteeism	5.0	5.0	10.0	7.9	8.0	1.5	19.3	−0.2	−1.0
Percentage of products and services assessed for their influence on health and safety of customers, assessed throughout the product and service lifecycle with the aim of their innovation and improvement	9.0	0.0	9.0	3.7	4.0	2.7	71.8	−0.1	−0.7
Expenditures on identifying and ensuring customer satisfaction	9.0	0.0	9.0	5.7	6.0	2.6	45.8	−0.9	0.2

Source: own research

on the workplace and Percentage employees covered by collective agreement.

A correlation analysis was done to reduce dimensionality of corporate social performance and to identify KPIs. The value of correlation coefficient r expresses the intensity of relationships between indicators. Indicators providing approximately similar information about corporate performance and success were then identified. Redundant indicators were eliminated and factor analysis was performed. Indicators showing strong correlation, i.e. $|r| > 0.8$ are stated in Tab. III. Correlations in Tab. III. are significant at the 0.01 level. The strongest correlation is between Rate of discrimination and Wages discrimination ($r = 0.980$), Complaints about relationships on the workplace and Relationships with the surrounding community ($r = 0.920$) and Violations of ethical code and Upholding the human rights ($r = 0.912$). Based on the results of correlation analysis five indicators were removed from the basic set of social indicators: Relationships with the surrounding community, Complaints about relationships on the workplace, Rate of discrimination, Upholding human rights and Fatalities.

III: *Correlation analysis*

Indicator	r	Indicator	r
Violations of ethical code / **Rate of discrimination**	0.865	**Relationships with surrounding community** / **Fluctuation**	0.858
Upholding human rights / **Wages discrimination**	0.898	**Complaints about relationships on the workplace** / **Fluctuation**	0.840
Violations of ethical code / **Wages discrimination**	0.860	**Complaints about relationships on the workplace** / **Relationships with surrounding community**	0.920
Violations of ethical code / **Upholding human rights**	0.912	**Wages discrimination** / **Rate of discrimination**	0.980
Fatalities / **Overall rate of accidents**	0.785	**Upholding human rights** / **Rate of discrimination**	0.883
Occupational diseases / **Fatalities**	0.853		

Source: own research

IV: *KMO statistics and Bartlett's Sphericity test*

Kaiser – Meyer – Olkin statistics		0.721
Bartlett's Sphericity test	Approx chi-sq.	160.172
	df	45
	Sig.	0.000

Source: own research

V: *Communalities of social performance indicators*

Indicator	Initial	Extraction
Fluctuation	1.000	0.719
Philanthropy – value of gifts and contributions to charity.	1.000	0.465
Wages discrimination	1.000	0.770
Violations of ethical code	1.000	0.837
Percentage of employees covered by collective agreement	1.000	0.669
Overall rate of accidents	1.000	0.625
Occupational diseases	1.000	0.808
Rate of absenteeism	1.000	0.497
Percentage of products and services assessed for their influence on health and safety of customers	1.000	0.858
Expenditures on identifying and ensuring customer satisfaction	1.000	0.744

Source: own research

The factor analysis was performed on eleven social performance indicators. Suitability of factor analysis was checked using the Kaiser – Meyer – Olkin statistics. KMO of the anti-image matrix for individual indicators was sufficient, only KMO for Training and development expenditures failed to reach the minimum recommended value of 0.60 (*KMO* = 0.564). After elimination of this indicator KMO statistics increased from 0.683 to 0.721 which is an acceptable value. Based on the Bartlett's test we rejected the null hypothesis that variables are not interdependent and the basic requirement for the use of factor analysis was thus satisfied.

The common factors best explain variability of indicator Percentage of products and services assessed for their influence on health and safety of customers (85.5%). The least explained is Philanthropy – value of gifts and contributions to charity (46.5%), as shown in Tab. V.

Ten extracted components together explain the total variance of the original variables. The first two components with eigenvalue greater than 1 account for 69.92% of the variance, see Tab. VI.

In the matrix of factor solutions shown in Tab. VII are suppressed factor loadings smaller than 0.3. Rotated solution better serves the objective of applied factor analysis, i.e. to reduce the number of indicators, and is even better interpreted. The first component is thus formed by four KPIs: Percentage of employees under collective agreement, Occupational diseases, Percentage of products and services assessed for their influence on health and safety of customers and Expenditures on identifying and ensuring customer satisfaction. These indicators express care for employees and customers with focus on their health and safety. The first component can therefore be called: Responsibility and care for employees and customers. The second

VI: *Eigenvalues and percentage of explained variance*

Factor	Eigenvalue	% of variance	Cumulative %	Eigenvaule after rotation	% of variance	Cumulative %
1	5.364	53.638	53.638	3.683	36.825	36.825
2	1.628	16.277	69.915	3.309	33.089	69.915
3	0.931	10.310	80.225			
4	0.735	7.348	87.573			
5	0.478	4.775	92.349			
6	0.271	2.715	95.064			
7	0.214	2.139	97.203			
8	0.139	1.393	98.596			
9	0.073	0.731	99.327			
10	0.067	0.673	100.000			

Source: own research

VII: *Factor matrix*

KPI	Component		Component rotated solution	
	1	2	1	2
Fluctuation	0.836		0.526	0.666
Philanthropy – value of gifts and charity	0.527	0.432		0.674
Wages discrimination	0.623	0.618		**0.876**
Violations of ethical code	0.757	0.515		**0.889**
Percentage of employees under collective agreement	0.740	−0.348	**0.782**	
Overall rate of accidents	0.784		0.650	0.450
Occupational diseases	0.894		**0.729**	0.526
Rate of absenteeism	0.694		0.432	0.557
Percentage of products and services assessed for their influence on health and safety of customers	0.719	−0.584	**0.925**	
Expenditures on identifying and ensuring customer satisfaction	0.683	−0.527	**0.860**	

Source: own research

VIII: *T Set of social KPIs*

Care for employees and customers	Ethical corporate behaviour
Percentage of employees under collective agreement	Wages discrimination
Occupational diseases	Violations of ethical code
Expenditures on identifying and ensuring customer satisfaction	**α = 0.815**
Percentage of products and services assessed for their influence on health and safety of customers, assessed throughout the product and service lifecycle with the aim of their innovation and improvement	
α = 0.787	

Source: own research

component is, according to the above mentioned rule, formed by two KPIs: Wages discrimination and Violations of ethical code. Considering the content, it can be called: Ethical corporate behaviour, see Tab. VIII. Reliability of this solution was verified by Cronbach's Alpha, which achieves sufficiently high values.
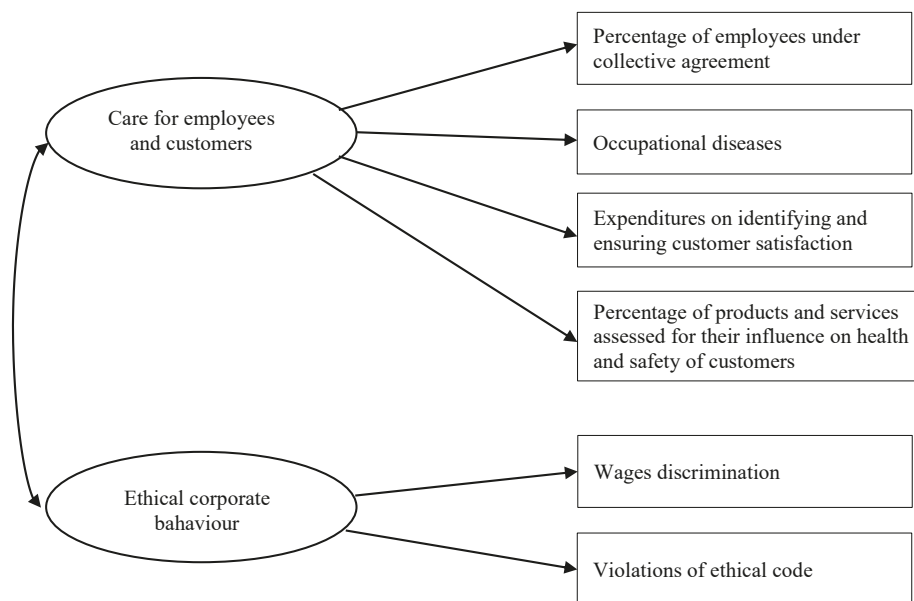
The structure of corporate social performance is graphically presented in Fig. 2.

The right to collective bargaining is embedded in the Czech Labour Code and is further regulated by number of international standards (for example United Nations Global Compact's Ten principles, 2000; International Labour Organization – Freedom of association, 2006; OECD Guidelines for Multinational Enterprises, 2011). The aim of the collective bargaining is to protect the rights of employees in labour relationships. Using German data, Hübler and Jirjahn (2003) proved in their empirical study that collective bargaining and presence of employee councils has a positive influence on labour productivity since it strengthens mutual trust and cooperation and provides mechanisms for negotiations.

Presence of diseases related to specific professions, including occupational diseases and risks of developing occupational diseases, is monitored by State Health Institute in cooperation with Institute of Healthcare Information and Statistics of the Czech Republic. All new and recognised cases of diseases related to specific professions are reported to National Registry of Occupational Diseases. From information published by these institutions it is clear that absolutely the highest number of occupational diseases comes from manufacturing industry. In 2015, 63.5 % of all cases of occupational diseases in the Czech Republic were reported from manufacturing companies. Within the manufacturing industry is chapter 27 – Manufacture of electric equipment, the third largest contributor to these statistics. This shows how important it is to pay attention to the issues of labour health and safety and to the issues of working conditions. Besides, these factors also influence employee satisfaction, employee productivity, good reputation of the company and consequently also the economic results of the company. Health and safety is also related to indicator Impact of products and services on health of customers.

Equal remuneration is a factor that influences retention of qualified work-force. Organisations with unfair and unequal remuneration face the risk of having bad reputation and facing lawsuits related to discrimination. Application of Ethical Code is in line with recommendations of European Academy of Business in Society and International Federation of Accountants.

2: *Structure of corporate social performance*
Source: own research

CONCLUSION

This paper addresses the design of key social performance indicators in relation to corporate sustainability in the selected sector of manufacturing industry and from the perspective of company's top management. Corporate systems of performance measurement should contain, besides financial performance indicators, also indicators measuring the impact of the company on the environment and the society (Hřebíček *et al.*, 2015; Hřebíček, Trenz, Vernerová, 2013). Stakeholders are increasingly more interested in non-financial information about responsibility and sustainability of companies and they evaluate this information and include it in their decision making. A good example of this is socially responsible investment. Considering the growing legislative pressure, it can be surmised that companies with good social performance will have an advantage in the future. An example of this legislative pressure is European directive approved in April 2014 by the European Parliament which introduces an obligation to all companies of 500 employees or more (so called Organisations of Public Interest) to report their social responsibility. It is expected that this regulation will come to force in the Czech Republic in 2017.

Social performance is affected by two factors – Care for employees and customers and Ethical corporate behaviour. Using statistical methods it was found that the original set of sixteen indicators can be replaced by six key performance indicators. These are: Percentage of employees under collective agreement, Wages discrimination, Occupational diseases, Violations of ethical code, Expenditures on identifying and ensuring customer satisfaction, Percentage of products and services assessed for their influence on health and safety of customers.

REFERENCES

ABDI, H. 2003. Factor rotations in factor analyses. In: LEWIS-BECK, M., BRYMAN, A. and FUTING, T. (Eds.). *Encyclopedia of Social Sciences Research Methods*. Thousand Oaks, CA: Sage, pp. 1–8.

ACCOUNTABILITY. 2011. *AA1000 Stakeholder Engagement Standard 2011. Final Exposure Draft.* [Online]. Available at: http://www.accountability.org/images/content/5/4/542/AA1000SES%202010%20PRINT.pdf [Accessed: 2015, September 15].

AMBROZOVÁ, E. and POKORNÝ, V. 2014. The strength and mobility of human systems in the context of leadership, learning and decision making [In Czech: O síle a pohyblivosti lidských systémů v kontextu vedení, poznávání a rozhodování]. *Scientia et Societas*, 10(1): 121–135.

ARTIACH, T., LEE, D., NELSON, D. et al. 2010. The determinants of corporate sustainability performance. *Accounting & Finance*, 50(1): 31–51.

ATKINSON, A. A., WATERHOUSE, J. H. and WELLS, B. R. 1997. A Stakeholder Approach to Strategic Performance Measurement. *Sloan management review*, 38(3): 25–37.

BUČIŪNIENĖ, I. and KAZLAUSKAITĖ, R. 2012. The linkage between HRM, CSR and performance outcomes. *Baltic Journal of Management*, 8(1): 5–24.

CARROLL, A. B. 2000. Ethical challenges for business in the new millennium: Corporate social responsibility and models of management morality. *Business Ethics Quarterly*, 10(1): 33–42.

CHATTERJI, A. and LEVINE, D. 2006. Breaking down the wall of codes: Evaluating non-financial performance measurement. *California Management Review*, 48(2): 29–51.

DOČEKALOVÁ, M. 2013. Construction of corporate social performance indicators for Czech manufacturing industry. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 61(2): 309–315.

GHALAYINI, A. M. and NOBLE, J. S. 1996. The changing basis of performance measurement. *International Journal of Operations & Production Management*, 16(8): 63–80.

GLOBAL REPORTING INITIATIVE, 2013. *G4 Sustainability Reporting Guidelines – Implementation Manual*. [Online]. Available at: https://www.globalreporting.org/resourcelibrary/GRIG4-Part2-Implementation-Manual.pdf [Accessed: 2015, September 15].

HORNUNGOVÁ, J. 2014. Factor Analysis: An Instrument for Selection of Social Performance Factors. *Revista de Metodos Cuantitativos para la Economia y la Empresa*, 17: 121–136.

HŘEBÍČEK, J., FALDÍK, O., KASEM, E. and TRENZ, O. 2015. Determinants of Sustainability Reporting in Food and Agriculture Sectors. *Acta Universitatis agriculturae et silviculturae Mendelianae Brunensis*, 63(2): 539–552.

HŘEBÍČEK, J., TRENZ, O. and VERNEROVÁ, E. 2013. Optimal set of agri-environmental indicators for the agricultural sector of Czech Republic. *Acta Universitatis agriculturae et silviculturae Mendelianae Brunensis*, 61(7): 2171–2181.

HÜBLER, O. and JIRJAHN, U. 2003. Works councils and collective bargaining in Germany: the impact on productivity and wages. *Scottish Journal of Political Economy*, 50(4): 471–491.

INTERNATIONAL LABOUR OFFICE-GENEVA. 2001. *Guidelines on occupational safety and health management systems ILO-OSH 2001*. [Online]. Available at: http://www.ilo.org/wcmsp5/groups/public/@ed_protect/@protrav/@safework/documents/normativeinstrument/wcms_107727.pdf [Accessed: 2016, October 6].

INTERNATIONAL LABOUR OFFICE-GENEVA. 2006. *Freedom of Association*. [Online]. Available at: http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---normes/documents/publication/wcms_090632.pdf [Accessed: 2016, October 6].

INTERNATIONAL STANDARDS OFFICE. 2010. *Guidance on Social Responsibility*. ISO 26000:2010. Geneva: ISO.

INTERNATIONAL STANDARDS OFFICE. 2008. *Occupational health and safety management systems-Requirements*. OHSAS 18001. Geneva: ISO.

IVANOVIC-DJUKIC, M. and LEPOJEVIC, V. 2015. Corporate social responsibility and enterprises' success in Serbia. *Engineering Economics*, 26(5): 551–559.

KAPLAN, R. S. and NORTON, D. P. 1996. *Balanced Scorecard: Translating Strategy into Action*. Boston: Harvard Business School Press.

KAPLAN, R. S. and NORTON, D. P. 2001. Transforming the Balanced Scorecard from Performance Measurement to Strategic Management: Part I. *Accounting Horizons*, 15(1): 87–104.

KENNERLEY, M. and NEELY, A. 2003. Measuring performance in a changing business environment. *International Journal of Operations & Production Management*, 23(2): 213–229.

KOCMANOVÁ, A., HŘEBÍČEK, J., CHVÁTALOVÁ, Z. et al. 2013. *Měření podnikové výkonnosti*. Brno: Littera.

KOCMANOVÁ, A., HORNUNGOVÁ, J. and KLÍMKOVÁ, M. 2010. *Udržitelnost: Integrace environmentální, sociální a ekonomické výkonnosti podniku*. Brno: CERM, Akademické nakladatelství.

KRUSE, C. and LUNDBERGH, S. 2010. The Governance of Corporate Sustainability. *Rotman International Journal of Pension Management*, 3(2): 46–51.

MELUZÍN, T., ZINECKER, M. and KOVANDOVÁ, S. 2013. IPO Timing Determinants: Empirical Evidence on the Polish Capital Market. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 61(7): 2499–2506.

MELUZÍN, T., ZINECKER, M. and LACE, N. 2016. Going Public: Key Factors to Consider by IPO Candidates on Emerging Markets of Poland and the Czech Republic. *Engineering Economics*, 27(4): 392–404.

NEELY, A., GREGORY, M. and PLATTS, K. 2005. Performance measurement system design: A literature review and research agenda. *International Journal of Operations & Production Management*, 25(12): 1228–1263.

OECD. 2008. *Handbook on Constructing Composite Indicators. Methodology and User Guide*. OECD publishing.

OECD. 2011. *OECD Guidelines for Multinational Enterprises*. [Online]. Available at: http://www.oecd.org/daf/inv/mne/48004323.pdf [Accessed: 2014, June 10].

ROOS, G. and ROOS, J. 1997. Measuring your company's intellectual performance. *Long Range Planning*, 30(3): 413–426.

SAEIDI, S. P., SOFIAN, S., SAEIDI, P. et al. 2015. How does corporate social responsibility contribute to firm financial performance? The mediating role of competitive advantage, reputation, and customer satisfaction. *Journal of Business Research*, 68(2): 341–350.

SOCIAL ACCOUNTABILITY INTERNATIONAL. 2008. *Social Accountability 8000*. [Online]. Available at: http://www.sa-intl.org/document/docWindow.cfm?/fuseaction=document.view/ Document&documentid=269&documentFormatId=752 [Accessed: 2016, October 27].

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, pp. 82–106.

ŠKALOUDOVÁ, A. 2010. *Factoral analysis* [In Czech: *Faktorová analýza*]. [Online]. Available at: http://kps. pedf.cuni.cz/skalouda/fa/ [Accessed: 2016, October 29].

UNCTAD. 2008. *Guidance on Corporate Responsibility Indicators in Annual Reports*. New York: United Nations.

UNITED NATIONS. 2011. *The Ten Principles*. [Online]. Available at: https://www.unglobalcompact.org/what-is-gc/mission/principles [Accessed: 2016, October 24].

WADDOCK, S. and SMITH, N. 2000. Corporate responsibility audits: Doing well by doing good. *Sloan Management Review*, 41(2): 75–83.

WILLIAMS, B., BROWN, T. and ONSMAN, A. 2012. Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, 8(3): 1–13.

WOOD, D. J. and JONES, R. E. 1995. Stakeholder Mismatching: A Theoretical Probelm In Empirical Research On Corporate Social Performance. *International Journal of Organizational Analysis*, 3(3): 229–267.

Appendix 1: Basic set of KPIs

Indicator	Performance indicator
SI1 – Relationship with the surrounding community	Number of complaints received from the community
	Philanthropy – value of gifts and contributions to charity
SI2 – Equal opportunities	Rate of discrimination
	Wages discrimination
SI3 – Human rights	Upholding of human rights
SI4 – Expenditures on training and development	Expenditures on training and development of employees
SI5 – Fluctuation	Rate of employee fluctuation
SI6 – Relations with trade unions	Percentage of employees under collective agreement
SI7 – Relationships on the workplace	Complaints about relationships on the workplace
SI8 – Ethical code	Violations of the ethical code
SI9 – Work related accidents	Overall rate of accidents
	Fatalities
	Occupational diseases
	Rate of absenteeism
SI10 – Safety and health of customers	Percentage of products and services assessed for their influence on health and safety of customers, assessed throughout the product and service lifecycle with the aim of their innovation and improvement
SI11 – Customer satisfaction	Expenditures on identifying and ensuring customers satisfaction

Source: own research

Contact information

Marie Pavláková Dočekalová: docekalova@fbm.vutbr.cz
Alena Kocmanová: kocmanova@fbm.vutbr.cz
Iveta Šimberová: simberova@fbm.vutbr.cz
Jiří Koleňák: jiri.kolenak@newtoncollege.cz