

PERCEPTION OF SAFETY CULTURE IN THE ASPECT OF CSR

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Abstract: This article focuses on employees' perception of the safety culture in the context of corporate social responsibility. The main assumption of this approach is based on the belief that protecting the health and life of employees, as well as caring for the environment, are key elements of responsible business operations. This study employs econometric modeling to examine the impact of corporate social responsibility (CSR) on employee behavior related to workplace safety. The analysis, based on four logit models (two full and two reduced), reveals that the perception of safety culture is primarily determined by employees' position within the organizational hierarchy. Lower-level employees tend to perceive safety culture less strongly in the context of CSR, whereas those in higher positions are more likely to recognize the positive influence of CSR initiatives on its development.

Keywords: corporate social responsibility, safety culture, Goldberg models

1. INTRODUCTION

Over the past few decades, corporate social responsibility (CSR) has become an extremely relevant and topical issue for both managers and researchers (Freeman and Liedtka, 1991; McWilliams and Siegel, 2000; Aguinis and Glavas, 2012; Husted, 2015; Sidhoum and Serra, 2017; Banker et al., 2022). Due to its multifaceted nature, the concept has gained particular importance. It is not only part of firms' strategies but also a key factor influencing their reputation, competitiveness and long-term development (Byung-Jik et al., 2022). Much of the literature emphasises that (1) CSR encompasses economic, environmental and social aspects of corporate governance; (2) CSR is voluntary; and (3) CSR goes beyond mere compliance, meaning that companies engaging in CSR invest in human capital, the environment and stakeholder relations (Buchner, 2012; Godfrey et al., 2009; Pelozo & Shang, 2011; Carroll 2021; Okumus et al., 2020; Kumar et al., 2021; Pfajfar et al., 2022). It is argued that CSR, beyond making profits, involves integrating responsible practices into business operations, creating positive community relationships and contributing to social well-being (Li and Li, 2024). The literature on CSR can be broadly summarised at the macro level (political, economic and social dynamics), meso level (relational issues between organisations) and micro level (psychological underpinnings between individuals) (Li and Chen, 2023). This study focuses on the micro level in relation to safety culture and its impact on corporate social responsibility. Safety

culture refers to the shared safety beliefs, values and practices of an organisation, and its formation is key to promoting responsible action (Fleming et al., 2018; Kalteh et al., 2021; Sá, et. al 2025). Safety culture is assumed to represent the system of meanings that individuals, small groups and larger communities attribute to threats and the rules of conduct that must be followed in risky situations. In defining safety culture, five key attributes are identified (Sujová, 2013):

- all employees take responsibility for their own safety, the safety of their colleagues and the safety of third parties,
- safety is placed above financial and production goals,
- identification, communication and solutions to safety problems are promoted,
- it is ensured that everyone can learn from undesirable events that affect safety,
- adequate resources, structures and accountability are guaranteed to implement effective safety systems.

As Cooper (2000) argues, safety culture results from the effective interaction of three organisational elements: (1) environmental structures and processes in the organisation, (2) employee attitudes and perceptions and (3) safety-related behaviour of individuals. Many authors indicate that safety culture influences employees' safety attitudes and behaviours (García-Herrero et al., 2013; Choi and Lee, 2016; Zhang et al., 2016), perceptions of organisational policies, procedures and practices, including safety (Bieder, 2018; Tear et al., 2020). Organisations that promote a safety culture invest not only in technology and procedures but, more importantly, in the awareness and education of their employees. As a result, employees are more likely to comply with health and safety rules, which translates into fewer accidents and incidents in the workplace (Zohar, 2010). In the context of CSR, safety culture acquires an ethical dimension in which employers are responsible for creating safe working conditions (Górny, 2014). Pursuing CSR measures can significantly improve employees' safety-related behaviour by reducing occupational stress and strengthening organisational identification. Given the importance of safety-related behaviours in the workplace, adopting CSR represents a valuable investment to enhance various company outcomes. This finding is supported by previous research showing how CSR improves organisational performance by raising the perceptions and attitudes of an organisation's members (Hong nad Roh, 2024). Like CSR, a safety culture relies on voluntary participation, defined values, effective communication and a focus on employees. When implemented and upheld, these principles increase the organisation's overall value in the eyes of the public, thus creating a competitive advantage over entities that have not implemented such systems (Sujová, 2013) (Fig. 1).

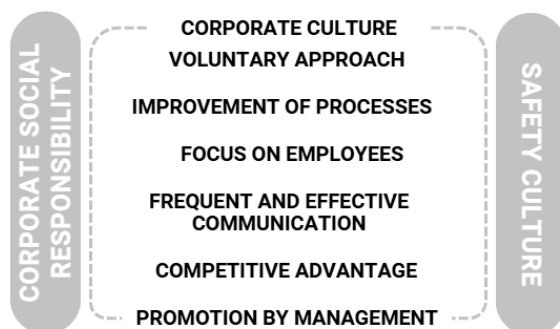


Fig. 1. Parallels between corporate responsibility and safety culture.

Source: Sujová, E. (2013). Firemná kultúra - nástroj zlepšovania manažérstva BOZP a motivácie k bezpečnosti. In Bezpečnost a ochrana zdraví při práci 2013: sborník přednášek XIII. ročníku mezinárodní konference, Ostrava, VŠB-TU

This article aims to gain an understanding of how employees perceive an organisation's safety culture in the context of corporate social responsibility. Therefore, it was important to answer the following questions:

RQ1: Does an organisation's safety culture influence employees' perceptions of its social responsibility?

RQ2: Do CSR activities contribute to improving safety culture in the workplace?

This study makes several significant contributions to the literature. Firstly, it examines the relationship between safety culture and perceptions of an organisation's social responsibility, which provides a better understanding of how these aspects interact in an organisational context. Employees who perceive a strong safety culture may relate more confidently to CSR values, which may translate into their commitment and loyalty to the company. Secondly, this study provides evidence that CSR can positively impact workplace safety culture. Introducing CSR programmes that focus on improving working conditions, protecting workers' health and assessing risks can help raise workers' awareness of safety rules and promote proactive attitudes in identifying and reporting risks. Finally, the study contributes to a broader dialogue on the role of organisational culture in creating responsible business practices and the importance of safety and health in the context of social responsibility. This approach can inspire further research and the implementation of innovative solutions in human resource management.

2. METHODOLOGY OF RESEARCH

Building on Kunasz and Mazur-Wierbicka (2017), this study applied econometric modelling tools in the form of probit and logit models, in practice referred to as Goldberg models. Such models determine the probability of a particular phenomenon (the exogenous variable) occurring in a given group of respondents (the endogenous variable) compared to the group designated as the reference group. Only the zero-one variables coded by the respondents' answers were included in the estimated models (exogenous variables – Tab. 1). It is assumed that the exogenous variable (y) defines the respondent as follows:

- $y_i = 1$, if the i -th employee agrees with the statement (has a positive view of CSR in the context of safety culture),
- $y_j = 0$, jeżeli j -th employee disagrees with the statement (has a negative view of CSR in the context of safety culture),

Table 1.

Structure of respondents' answers to the questions on the basis of which the exogenous variables were coded (y)

Question	Yes (%)	No (%)
RQ1: Does an organisation's safety culture influence employees' perceptions of its social responsibility? – y_1	47.5	52.5
RQ2: Do CSR activities contribute to improving safety culture in the workplace? – y_2	53.0	47.0

Source: Own elaboration

Respondents more often report that social responsibility activities contribute to the improvement of safety culture (53% of responses) and that its existence in the workplace positively influences the perception of these activities (47.5% of responses).

The input set of independent variables (x) included four categories of variables relating to the characteristics of the study participants (Tab. 2).

Table 2.

List of endogenous variables x

Statistical data of the respondents Yes (%)		Independent variable	Value %
Gender	Female	F	39.1*
	Male	M	61.4
Age	Up to 24 years	A24	23.3*
	25–34 years	A25–34	28.2
	35–44 years	A35–44	13.4
	Above 45 years	A.55	19.8
Position	Rank-and-file worker	RW	50.5*
	Lower-level manager	LM	27.7
	Middle manager	MM	22.3
	Senior manager	SM	29.2
Size of the company	Micro	MI	46.0
	Small	S	25.2
	Medium	ME	49.5
	Large	L	27.2*

* Reference group

Source: Own elaboration

The sample comprises 61.4% men and 39.1% women (reference group). The largest group consists of people aged 25 to 34, followed by young people up to 24 (reference group). Just over half of the respondents (50.5%) hold non-managerial positions (reference group), while the rest hold managerial positions. Large companies were identified as the reference group among respondents in the company size category (27.2% of responses). The largest group in this category were those employed in medium-sized enterprises (49.5%), followed by micro-sized enterprises (46%).

3. RESULTS AND DISCUSSION

Four logit models were developed using the Gretl software, two models for each of the y endogenous variables considered, including:

- 2 full models taking all variables (x) into account,
- 2 reduced models taking into account only those variables (x) with potential significance.

The results (Table 3) indicate that neither gender nor age are statistically significant determinants of the probability of variable y_1 . Such a relationship existed between different groups of employees according to their position in the company and company size. The relationship at $\alpha=0.1$ (full model) is evident for the ME variable, at $\alpha=0.01$ for the LM (full model) and ME (reduced model) variables, and at $\alpha=0.05$ for the LM variable (reduced model). Considering the marginal effects observed, it can be concluded that

a lower position in the company reduces the likelihood (decrease by 0.24% in the full model, by 0.23% in the reduced model) of perceiving the safety culture in terms of CSR.

Table 3.

Results of the estimation of logit models for

* the observations used 1–202

Independent variables	Coefficients	Standard error	z-score	p-value	Odds ratio
MODEL 1					
const	-0.579278	0.449346	-1.289	0.1973	
M	0.390643	0.306910	1.273	0.2031	0.0967188
A25–34	0.182771	0.364519	0.5014	0.6161	0.0455916
A35–44	-0.233266	0.483309	-0.4826	0.6293	-0.0576546
AA5	0.342179	0.409481	0.8356	0.4034	0.0853323
LM	-1.03090	0.398703	-2.586	0.0097 ***	-245166
MM	0.176301	0.366710	0.4808	0.6307	0.0439944
SM	-0.137981	0.385706	-0.3577	0.7205	-0.342972
Mi	0.182651	0.352642	0.518	0.6045	0.0454920
S	0.295607	0.403760	0.7321	0.4641	0.073731
ME	0.528353	0.300225	1.760	0.0784 *	0.130898
MODEL 2					
const	-0.131740	0.221344	-0.5952	0.5517	
LM	0.592016	0.291506	2.031	0.0423***	-0.236504
ME	-0.990497	0.338072	-2.930	0.0034***	0.148012
MODEL 3					
const	0.590033	0.448949	1.314	0.1888	
M	-0.345779	0.306312	-1.129	0.2590	-0.0855625
A25–34	-0.281563	0.364026	-0.7735	0.4392	-0.0701727
A35–44	0.128615	0.482043	0.7896	0.2668	0.0318699
AA5	-0.309434	0.408776	-0.757	0.4491	-0.0771696
LM	1.0863	0.401109	2.708	0.0068***	0.256392
MM	-0.0569364	0.365552	-0.1558	0.8762	-1.41804
SM	0.0134287	0.38386	0.03498	0.9721	0.00334064
MI	-0.116053	0.350459	-0.3311	0.7405	-0.0288772
S	-0.492849	0.405843	-1.214	0.2246	0.11225585
ME	-0.466684	0.299221	-1.560	0.1188	-0.115621
MODEL 4					
const	-0.137201	0.165911	-0.8270	0.4083	
LM	0.967549	0.334650	2.891	0.0038***	0.230675

Explanation: The level of significance of the parameters. *** $\alpha = 0.01$ ** $\alpha = 0.05$ * $\alpha = 0.1$

Source: Own elaboration

Bisbey et al. (2021) confirm that management commitment expresses personal interest and concern for employee safety, including in shaping safety culture and CSR activities. In contrast, increasing the size of the company increases the probability of y1 (0.13% increase in the full model, 0.14 increase in the reduced model). A similar relationship was shown by Otero-González et al. (2021), indicating that an increase in the size of

companies determines an increase in the implementation of CSR activities, including occupational health and safety measures.

Taking y_2 into account, a relationship was only found for LM at $\alpha=0.01$ (full and reduced models). Marginal effects showed that a higher position in the company increases the likelihood of perceiving the impact of CSR activities on improving the safety culture in the workplace by 0.23% (full model) and 0.25% (reduced model). These results suggest that higher positions in the organisational hierarchy may foster a more positive perception of CSR programmes and thus influence the perceived quality of safety culture. Employees in higher positions may be more aware of and appreciate the importance of CSR activities, which may be due to their greater responsibility for decisions and direct impact on the company culture (Jasiulewicz-Kaczmarek et al., 2022).

An assessment of the quality of the estimated models is presented in Table 4.

Table 4.

Measures of fit of the data to the estimation of logit models 1–4

FULL MODELS	MODEL1	MODEL3
Likelihood ratio test	18.0234 [0.0546]	13.5416 [0.0011]
McFadden's R-squared	0.031403	0.018567
Adjusted R-squared	-0.005672	-0.020219
Akaike information criterion	283.5128	284.4541
Bayesian information criterion	319.9037	320.845
Hannan–Quinn information criterion	298.2366	99.1779
Log likelihood	-130.7564	-131.2270
Number of 'correct predictions'	124 (61.4%)	112 (59.7%)
REDUCED MODELS	MODEL 2	MODEL 4
Likelihood ratio test	13.5416 [0.0011]	8.85233 [0.0029]
McFadden's R-squared	0.022444	0.015113
Adjusted R-squared	0.008962	0.008061
Akaike information criterion	271.9946	274.4658
Bayesian information criterion	281.9194	281.0824
Hannan–Quinn information criterion	276.0102	277.1429
Log likelihood	-132.9973	-135.2329
Number of 'correct predictions'	124 (61.4%)	117 (57.9%)

Source: Own elaboration

Analysing the measures of fit of the data to the estimated models, it can be concluded that all models showed statistical accuracy. This means that the models effectively reflect the actual phenomena in the population under study, and their predictions are consistent with observations.

3. CONCLUSION

In conclusion, research into the relationship between an organisation's safety culture and its social responsibility indicates significant interactions between the two areas. An organisation's safety culture has a significant impact on employees' perceptions of its social responsibility. Organisations that strongly emphasise safety are often perceived as more socially responsible, as they show that they care about the well-being of their employees and the environment. Employees who feel safe and comfortable in the workplace are more likely to perceive the positive aspects of an organisation's CSR activities. Conversely, corporate social responsibility (CSR) can also contribute to an improved safety culture in the workplace. Investment in training, health programmes and sustainability can improve employee morale and commitment to safety standards.

Implementing CSR objectives can create an environment that fosters a concern for safety, increasing awareness and responsibility within the team.

In conclusion, safety culture and CSR are interrelated and mutually supportive. Organisations that successfully integrate them can expect more engaged employees and a better perception of their values in the social environment.

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