Belás, J., Jr., Petráková, Z., Streimikis, J., & Kozová, K. (2024). Participative management style in SMEs: Influence of CSR factors. Empirical evidence from the Visegrad Group. *Journal of International Studies*, *17*(3), 133-147. doi:10.14254/2071-8330.2024/17-3/7

# Participative management style in SMEs: influence of CSR factors. Empirical evidence from the Visegrad Group

## Jaroslav Belás, Jr.

Alexander Dubček University in Trenčín, Faculty of Social and Economic Relations, Slovakia jaroslav.belas@tnuni.sk ORCID 0000-0003-1796-8598

## Zora Petráková

Slovak University of Technology in Bratislava, Faculty of Civil Engineering, Institute of Civil Engineering, Slovakia zora.petrakova@stuba.sk ORCID 0000-0002-1398-9415

## Justas Streimikis

Lithuanian Centre for Social Sciences, Institute of Economics and Rural Development, Lithuania justas.streimikis@gmail.com ORCID 0000-0003-2619-3229

#### Kristína Kozová

Alexander Dubček University in Trenčín, Faculty of Social and Economic Relations, Slovakia kristina.kozova@tnuni.sk ORCID 0009-0008-4296-7654

**Abstract**. The aim of this study was to define significant corporate social responsibility (CSR) factors that determine the use of participative management style in SMEs and quantify this influence. In order to achieve this objective, a questionnaire survey was conducted on a sample of 1,398 SMEs across V4 countries. The data was collected through computer-assisted web interviewing by MNFORCE, a well-known market research firm. The empirical research was conducted in June 2022. The fundamental relationships and interconnections between CSR and the use of a participatory management approach were substantiated through the

Received: October, 2023 1st Revision: July, 2024 Accepted: September, 2024

DOI: 10.14254/2071-8330.2024/17-3/7

Journal of International Studies

> Centre of Sociological Research

Scientific Papers

application of regression analysis. The research results demonstrated that a portion of these CSR factors significantly affects the application of participative leadership in SMEs. The strongest impact is observed for entrepreneurs' belief that CSR makes it possible to acquire satisfied, loyal, and motivated employees. The second most significant factor determining the application of participative leadership style was factor X3 (the average value of the correlation coefficient was 0.208). The potential opportunity to gain competitive advantage through the implementation of CSR also motivates entrepreneurs to apply participative leadership in SMEs; as the third most significant factor, it had an average correlation coefficient of 0.199. Finally, entrepreneurs' belief that implementing CSR has an impact on improving firm performance also proved motivating for SMEs. This study has significant practical implications. The results should motivate managers to implement essential attributes of the CSR concept, especially concerning their own employees. Managers should also recognize the importance of assessing and implementing appropriate HRM policies regarding skills, motivation, and opportunities for their employees in order to enhance business performance.

Keywords: corporate social responsibility, participative management style, SMEs

JEL Classification: M14, L26, J53

#### **1. INTRODUCTION**

Corporate social responsibility (CSR) is a rapidly developing field within business management, the effects of which are seen in the practical management of organizations (Betakova et al., 2023). CSR extends the responsibility of businesses beyond their economic interests as it also emphasizes other attributes of their activities. It responds to the needs of internal and external stakeholders, especially the needs of employees, but also to the needs of society and consumers, and particularly to environmental challenges. CSR can be perceived as a concept wherein companies integrate social and environmental factors into their business activities on a voluntary basis. CSR is a response to issues such as climate change, population growth, and the impact of corporate activities on the communities in which they operate (Armstrong, 2020). In this conceptualisation, the company is held responsible for all stakeholders (Varzaru et al., 2021). The CSR concept suggests that companies should optimize their performance by maximizing synergies between the economic, social, and environmental pillars and minimizing conflicts between these pillars in the context of setting corporate goals (Apospori, 2018).

The nature and focus of CSR activities have undergone a significant transformation over time. In its nascent stages, CSR was perceived as a philanthropic concept, with its primary practitioners being large corporations. Over time, scientific knowledge has shifted CSR ideas towards shaping new corporate strategies in the context of potential benefits and their acceptance in SMEs to potentially enhance their competitiveness (Apospori, 2018; Khan et al., 2023).

The implementation of CSR in the SME segment creates the conditions for the application of progressive approaches to human resource management (HRM) in relation to the social pillar of CSR, in which the key role is played by the approach of enterprises to their employees.

This study focuses on evaluating the impact of selected CSR factors on the implementation of participative leadership style in the SMEs segment. We draw from extensive empirical research conducted on a sample of 1,398 respondents in the Visegrad Group countries (V4 countries).

The originality of the research lies in the selection of corporate social responsibility factors and the subsequent quantification of the impact these have on the implementation of progressive leadership styles in SMEs. The findings provide a wealth of ideas for future business practice.

The structure of the article is as follows. The theoretical part presents the results of scientific studies in the field of CSR and participative leadership style in human capital management within the company. The next part of the article introduces the research objective, applied methodology, and describes the data. The third part of the article presents the results of empirical research in the V4 countries. A brief discussion follows on these results, along with the presentation of the basic research conclusions.

# 2. LITERATURE REVIEW

CSR is a strategic orientation that focuses on meeting broader societal needs as perceived by society, including environmental protection, community involvement, working conditions and relations, and the creation of public goods (Hartwell et al., 2023). CSR is considered self-regulation of firms in carrying out business activities responsible to internal and external stakeholders to achieve sustainability in business activities (Waheed et al., 2022).

The extent of a firm's engagement in CSR activities is determined both internally, in terms of the specific areas of involvement, and externally, in relation to the existing institutional structures. The necessity for CSR arises not only from the firm's own actions but also from the way it is organised and the pressure society places on it.

Stakeholders involved in CSR activities include employees, shareholders, managers, consumers, nongovernmental organizations, governments, ecosystems, suppliers, and communities (Font & Lynes, 2018). Examples of CSR activities include improving benefits for employees, reducing energy consumption, protecting the environment, conducting philanthropic activities such as donations and volunteering, producing products integrating social attributes, and supporting local communities. The degree and scope of an organisation's responsibility towards society is contingent upon the manner in which its corporate social responsibility (CSR) strategies define and engage with its stakeholders (Qiu et al., 2021).

As outlined by Allui and Pinto (2022), the implementation of corporate social responsibility (CSR) can confer a number of advantages to companies. These include enhanced risk management capabilities, improved access to human resource management, the potential for increased profits through cost reduction, enhanced company image, motivation to attract potential employees, fostering innovation, and greater attractiveness to potential investors.

Importantly for SMEs, the implementation of CSR can potentially bring them an increase in financial performance and competitiveness and improve their image. These are factors that can strongly motivate SMEs to implement the CSR concept.

Rossi et al. (2021) emphasize the positive influence between CSR practice and financial performance of enterprises. Higher financial performance is reported by enterprises that engage more in CSR activities. CSR practices positively affect firm financial performance. Cho et al. (2019) examined the relationship between CSR performance and financial performance. The results confirmed that CSR performance is partially positively correlated with profitability and firm value. The research also proves that social contribution to environmental protection and employee satisfaction have a positive impact on firm performance. The similar findings with stress on the role of innovations in achieving higher performance are obtained by Oliinyk et al. (2023). Corporate social responsibility (CSR) can indirectly influence the market value of a company through the positioning of its product in the market. In other words, the product's positioning is a means through which CSR contributes to the creation of the firm's market value (Bardos, 2020; Kot & Brzezinski, 2015).

Al-Issa et al. (2022) report that firms with higher CSR commitment spend proportionately less on marketing and have higher market value. The results of their research suggest that focusing on firms' environmental responsibility alone does not sufficiently contribute to increasing firm value because stakeholders are more interested in the firm's social commitment, which therefore needs to be communicated openly and transparently with the public. Rashiti & Skenderi (2023) argue that marketoriented CSR activities have a significant positive impact on increasing the competitiveness of SMEs. If an enterprise consistently focuses on the needs of its customers it is more likely to increase its competitiveness. Also from the customers' perspective, CSR is very important in the enterprise from which they purchase products or services. CSR has a positive impact on brand loyalty and brand image, which allows for increasing the competitive advantage of an enterprise (Lu et al., 2020, Bendova et al., 2017; Sánchez-Torné et al., 2021; Martiskova et al., 2022). Szczanowicz & Saniuk, (2016) point out that consumer expectations, sustainability trends and social security concerns lead to CSR being implemented in the SME sector. CSR enables SMEs to build their value and competitive advantage. The authors consider it is the small size of the firm and the simple organisational structures of SMEs that are a potential advantage in the regional market. In short, these firms are able to respond quickly to the needs of the regional market and society, thus building good relationships and competitive advantage.

The social aspects of corporate social responsibility (CSR) are inextricably linked to the economic aspects of CSR. In order for a company to implement its social policy, it must generate a profit that will enable it to finance its social objectives. In this context, Berniak-Wozny et al. (2023) present the most significant advantages of engaging in CSR in relation to the external environment. According to the authors, it is the building of trust, the building of customer relationships and the improvement of image that represent the most significant benefits for SMEs. According to Hamrouni et al. (2019), CSR disclosure provides lenders with relevant non-financial indicators, which leads to lower information asymmetry and improves transparency or investor interest.

According to Torres et al. (2023), the management of issues related to employees and working conditions is gradually being incorporated into the main components of CSR tools. It is clear that a company paying attention to the health and safety of employees, the quality of employment policies, the care for the education and retraining of employees, should also employ people with poorer employment opportunities. We must not forget that the implementation of CSR from a social perspective also includes gender equality, respect for fundamental human rights and others.

The impact of the social aspect of Corporate Social Responsibility (CSR) activities can also be observed with respect to the satisfaction of employees and the management of human resources in the small and medium-sized enterprise (SME) sector. Barrena-Martinez et al. (2018) published a study focused on 9 different categories of the social pillar of CSR. The authors examined factors of socially responsible human resource management practices according to nine categories. These factors are as follows: (1) improving employee welfare and satisfaction; (2) enhancing the working environment among employees; (3) increasing employee performance; (4) motivating and retaining existing employees; (5) attracting new talents to the company; (6) access to public subsidies; (7) maintaining or improving the company's reputation; (8) meeting competitiveness pressure in the market; and (9) others. The authors found that human resource managers most value factors that result in improving employee performance. Welfare and employee satisfaction ranked second. The lowest values observed in the study were found to be related to factors concerning the company's access to public subsidies. These results indicate the genuine interest of human resource managers in ensuring excellent and responsible outcomes of implementing socially responsible practices in HRM. The main conclusion was that when a company implements socially responsible practices in personnel management, it has a positive impact on employee satisfaction and can thereby increase their productivity and stability within the company.

The participative leadership style can be classified as one of the progressive forms implemented in HRM. A definition of a participatory management organization may be provided by stating that such an entity is one where, with regard to its objectives, certain stakeholders possess at least partial decision-making authority (Pestoff & Hulgard, 2016). Newman et al. (2016) and Qing & Hua (2023) define participatory leadership as behavior related to a leadership style in which leaders encourage their subordinates to take on certain work responsibilities with full trust in decision-making Coffeng et al. (2023) discuss that in the context of participative leadership, supervisors encourage team members not to be afraid to express their opinions, and will take them into account even if they disagree with them. At the same time, however, it is these suggestions that will be used as the basis for decision-making. Several authors have pointed out that participation in decision-making leads to an increase in social capacity and also that the quality of decisions has an impact on increasing employee motivation, quality of work life, work environment or job training (Chan 2019; Ghaffari et al. 2017; Mishchuk et al., 2021). It was also pointed out that the results of the organization and individuals are influenced by decision-making of a participatory nature, with this impact being attributed to an increased level of employee motivation.

The involvement of employees in the decision-making process has been demonstrated to enhance the quality of decisions made, as it enables leaders to gain a comprehensive understanding of the fundamental issues at play in a given situation (Odoardi et al., 2019). In this regard, trust and communication between leaders and employees have a significant role (Kuráth et al., 2023). Research has also shown that participation in decision-making increases employees' inclination to loyally follow the decisions of leaders (Lythreatis et al. 2019; Raineri 2016). It may also be noted that managers who apply a participatory leadership style value the opinions and perspectives of their employees and actively seek their contributions or suggestions (Rana et al. 2019; Khassawneh & Abaker 2022). In their study, Khassawneh & Elrehail (2022) found a statistically significant positive correlation between participatory leadership and employee loyalty. They also found a positive relationship between employee loyalty and job performance.

The presence of organizational values was also supported in participatory leadership, specifically through psychological attitudes (Qing et al. 2020). This has an impact on aspects such as increasing the level of satisfaction and also the results of the company (Ishaque et al. 2022; Lucjan et al., 2023). Rogiest and colleagues (2018) conducted a study which indicated that the implementation of participatory leadership techniques may have an adverse effect on the affective commitment of individuals who exhibit a high level of dominance in their leadership roles. Conversely, it can be observed that there is a contribution to affective engagement for change in those individuals who have a high orientation towards development in the field of leadership.

## 3. METHODOLOGY

The aim of the research was to define significant CSR factors that determine the utilization of participative management style in the SMEs segment and quantify this influence.

A questionnaire survey was administered on a random sample of 1,398 small and medium-sized enterprises (SMEs) operating in each of the four Visegrad countries. The questionnaire consisted of two parts. The first part investigated the economic and social parameters of the respondents (company size, legal form of the company, area of operation, length of business, respondent's gender, age, education, position in the company: owner or manager). The second part formulated statements related to the researched areas, which were HRM and CSR. The questionnaire was secured against automatic filling by the computer. The questionnaire also included a control question designed to verify the consistency of the respondent's attitudes. The respondent had to answer the statements in the second part of the questionnaire by choosing one of the following responses: strongly agree, agree, neutral, disagree, and strongly disagree with the statement (Likert scale of responses). The questionnaire may be answered by the proprietor or senior management representative of the small-to-medium-sized enterprise (SME), hereafter referred to as the SME or respondent.

Data collection was carried out by the renowned external firm MNFORCE using "Computer Assisted Web Interviewing" (CAWI Research Method) according to the questionnaire created by the research team. The empirical research took place in June 2022.

Based on defined requirements from the research team, MNFORCE Agency ensured an adequate structure of respondents in terms of size (the number of microenterprises and small and medium-sized enterprises corresponded to the structure of these companies in individual economies), the representativeness of the survey (analysis of the sample size of respondents showed that it more than doubled the minimum number of SMEs in the individual V4 countries). Respondent selection was realized by the method of random selection from the agency's professional database.

Based on qualitative analysis of literary sources, the following scientific hypothesis was formulated:

H1: The implementation of participative management style in the SMEs segment is determined by defined CSR factors.

The research identified the key characteristics of CSR for SMEs, which were then subjected to qualitative analysis:

X1: I am familiar with the concept of Corporate Social Responsibility (CSR).

X2: I take the concept of CSR into account when managing a company.

X3: The implementation of the CSR concept enables our company to gain competitive advantages in the market (better company image, higher customer loyalty, new business opportunities).

X4: The implementation of the CSR concept has a positive impact on the long-term relationship with business partners.

X5: CSR enables our company to win new customers.

X6: CSR enables our company to attract quality employees.

X7: CSR enables our company to gain satisfied, loyal and motivated employees.

X8: CSR has a positive impact on our company's performance.

The research identified a dependent variable in the field of personnel management, namely:

Y1: I apply a participative management style (I take into account the opinions of colleagues and employees when making decisions).

Basic relationships and correlations were verified through regression analysis:

YPMn = f(XCSRn)

where: X1-8 - independent variables - defined CSR factors,

Y - dependent variable - participative management style,

n - number of defined factors.

# 4. EMPIRICAL RESULTS AND DISCUSSION

In the Czech Republic, the total number of respondents was 347, of which 170 were owners and 177 were managers in higher management positions. The structure of respondents in terms of company size was as follows: 45.2% micro-enterprises, 30.8% small enterprises, and 23.9% medium-sized enterprises. Of the total number of Czech respondents, 47.3% were female and 52.7% were male. The educational level of respondents was: 18.2% with basic or secondary education without final exam, 52.2% with completed secondary education with final exam, 9.2% with bachelor's degree, 18.7% with master's/engineering degree, and 1.7% with doctoral degree. The age structure of respondents was: 28.2% aged up to 35 years, 35.4% aged 36-45 years, 28.0% aged 46-55 years, and 8.4% aged over 55 years.

In Slovakia, the total number of respondents was 322, of which 179 were owners and 143 were managers in higher management positions. The structure of respondents in terms of company size was as follows: 51.9% micro-enterprises, 26.7% small enterprises, and 21.4% medium-sized enterprises. Of the total number of Slovak respondents, 52.8% were female and 47.2% were male. The educational level of respondents was: 9.3% with basic or secondary education without final exam, 50.9% with completed secondary education with final exam, 5.9% with bachelor's degree, 31.1% with master's/engineering degree, and 2.8% with doctoral degree. The age structure of respondents was: 37.3% aged up to 35 years, 35.4% aged 36-45 years, 20.8% aged 46-55 years, and 6.5% aged over 55 years.

In Poland, the total number of respondents was 381, of which 198 were owners and 183 were managers in higher management positions. The structure of respondents in terms of company size was as follows: 47.2% micro-enterprises, 27.8% small enterprises, and 25.0% medium-sized enterprises. Of the total number of Polish respondents, 51.2% were female and 48.8% were male. The educational level of respondents was: 1.8% with basic or secondary education without final exam, 33.9% with completed secondary education with final exam, 19.2% with bachelor's degree, 42.5% with master's/engineering degree, and 2.6% with doctoral degree. The age structure of respondents was: 37.8% aged up to 35 years, 32.6% aged 36-45 years, 18.6% aged 46-55 years, and 11.0% aged over 55 years.

In Hungary, the total number of respondents was 348, of which 209 were owners and 139 were managers in higher management positions. The structure of respondents in terms of company size was as follows: 50.0% micro-enterprises, 28.2% small enterprises, and 21.8% medium-sized enterprises. Of the total number of Hungarian respondents, 54.9% were female and 45.1% were male. The educational level of respondents was: 2.0% with basic or secondary education without final exam, 41.7% with completed secondary education with final exam, 32.8% with bachelor's degree, 22.4% with master's/engineering degree, and 1.1% with doctoral degree. The age structure of respondents was: 38.0% aged up to 35 years, 34.2% aged 36-45 years, 17.5% aged 46-55 years, and 10.3% aged over 55 years.

The total number of respondents from V4 countries was 1,398. The structure of respondents by nationality was: 24.8% in the Czech Republic, 27.3% in Poland, 23.0% in Slovakia, and 24.9% in Hungary. In the empirical research, 54.1% were owners and 45.9% were managers in higher management positions. The structure of respondents in terms of company size was: 48.5% micro-enterprises, 28.4% small enterprises, and 23.1% medium-sized enterprises. Of the total number of respondents from V4 countries, 48.5% were male and 51.5% were female. The educational level of respondents was: 7.6% with basic or secondary education without final exam, 44.3% with completed secondary education with final exam, 17.0% with bachelor's degree, 29.0% with master's/engineering degree, and 2.1% with doctoral degree. The age structure of respondents was: 35.3% aged up to 35 years, 34.3% aged 36-45 years, 21.2% aged 46-55 years, and 9.2% aged over 55 years.

Table 1 contains basic descriptive characteristics (mean and standard deviation) of the dependent variable (Y1) and independent variables (X1, ..., X8) according to the country where SME attitudes were collected.

Table 1

						1		1		
V	CR		SR		PL		HU		V4	
	MV	SD	MV	SD	MV	SD	MV	SD	MV	SD
Y1	2,029	0,921	1,960	0,821	1,898	0,908	1,810	0,899	1,923	0,892
X1	2,510	1,126	2,332	1,001	1,787	0,888	1,663	0,708	2,062	1,005
X2	2,533	1,021	2,311	0,912	1,929	0,916	1,787	0,764	2,131	0,955
X3	2,553	1,037	2,295	0,942	1,976	0,950	1,882	0,850	2,170	0,983
X4	2,533	1,026	2,270	0,920	1,927	0,962	1,824	0,877	2,131	0,988
X5	2,496	0,963	2,270	0,909	1,782	0,844	1,723	0,771	2,057	0,931
X6	2,516	0,951	2,323	0,894	1,874	0,864	1,888	0,809	2,139	0,923
X7	2,473	0,938	2,311	0,936	1,869	0,864	1,830	0,799	2,111	0,926
X8	2,478	0,947	2,283	0,933	1,898	0,884	1,821	0,862	2,112	0,945
NT ( NT	V V 11 MV M VI CD C 1 1D C									

Selected descriptive statistics characteristics of the dependent variable and independent variables

*Notes*: V - Variable; MV - Mean Value; SD - Standard Deviation. *Source*: own elaboration

The highest level of agreement with the above statements is among Hungarian respondents (average MV = 1.779). The Czech respondents exhibited the lowest level of agreement with the aforementioned statements, with an average MV value of 2.341. The strongest heterogeneity of SMEs' attitudes is in responses to the above statements among Czech respondents (average SD = 0.981). Conversely, the greatest homogeneity of SMEs' attitudes is in responses to the above statements among Hungarian respondents (average SD = 0.815).

The results of the correlation analysis between the dependent variable Y1 and the independent variables (X1; ...; X8) are presented in Table 2.

Table 2

DV		Independent variables								
		X1	X2	X3	X4	X5	X6	X7	X8	
	ČR	0,320	0,356	0,365	0,393	0,398	0,432	0,482	0,408	
Y1	SR	0,259	0,329	0,362	0,353	0,336	0,362	0,410	0,409	
	PL	0,423	0,453	0,495	0,404	0,472	0,503	0,456	0,423	
	HU	0,267	0,360	0,379	0,335	0,283	0,315	0,357	0,415	
	V4	0,327	0,383	0,409	0,382	0,381	0,412	0,432	0,419	

Dependence between the dependent variable Y1 and the independent variables

*Notes*: DV – dependent variable. *Souce*: own elaboration

The results indicate that the pairwise coefficients of dependence between Y1 and CSR indicators range from 0.259 (SR:ry1;x1) to 0,503 (PL: ry1;x6). All correlation coefficients in Table No. 2 are statistically significant at the 0.05 significance level.

A stepwise regression analysis was conducted to identify the most parsimonious model that best describes the causal relationships between the dependent variable Y1 and the independent variables (X1; ...; X8). This was achieved by removing statistically insignificant regression coefficients. The results of this analysis are presented in Table 3.

	1		1							
RCH	Regression model by SME country of operation									
KCII	Czechia (CZ)	Slovakia (SK)	Poland (PL)	Hungary (HU)	Countries (V4)					
MCC	0,488	0,427	0,556	0,434	0,466					
KD	0,238	0,183	0,309	0,189	0,217					
AKD	0,231	0,177	0,304	0,184	0,214					
MSE	0,808	0,745	0,757	0,810	0,791					
Ν	347	322	381	348	1398					
ANOVA – Analysis of variance										
F- ratio	35,680	32,615	56,327	40,252	64.379					
p-value	0,000***	0,000***	0,000***	0,000***	0,000***					
Validation of regression coefficients using t Stat.										
Constant	6,401 (0,000***)	9,263 (0,000***)	7,095 (0,000***)	8,051 (0,000***)	15,1 (0,000***)					
X1	-	_	-	-	-1,078 (0,281)					
X2	_	_	_	_	1,685 (0,092)					
X3	-0,710 (0,478)	_	4,504 (0,000***)	2,680 (0,008**)	2,840 0,005**)					
X4	1,369 (0,172)	_	-0,697 (0,486)	-	_					
X5	_	_	_	_	_					
X6	-	—	5,924 (0,000***)	_	1,564 (0,118)					
<b>X</b> 7	6,101 (0,000***)	2,411 (0,016*)	_	_	3,513 (0,000***)					
X8	-	2,393 (0,017*)	—	4,402 (0,000***)	2,288 (0,022*)					

Evaluation of regression models to the dependent variable Y1

Table 3

Notes: RCH - Regression characteristics; MCC - Multiple correlation coefficient; KD - Coefficient of determination; AKD - Adjusted coefficient of determination; MSE - Mean square error; N - number of respondents; \*  $\alpha = 0.05$ ; \*\*  $\alpha = 0.01$ ; \*\*\*  $\alpha = 0.001$ .

Source: own elaboration

Linear regression models in selected research countries examining the causal relationship between Y1 and CSR indicators are statistically significant at the 0.1% significance level (see Table 3). The results of the linear regression models demonstrate that they explain from 17.7% (SK) to 30.4% (PL) of the variability in the dependent variable, Y1.

The forms of regression functions in selected countries with respect to the dependent variable Y1 are as follows:

> CZ:  $Y1 = 0,820 - 0,071 \times X3 + 0,141 \times X4 + 0,418 \times X7$ SK:  $Y1 = 1,060 + 0,196 \times X7 + 0,195 \times X8$ PL:  $Y1 = 0,715 + 0,318 \times X3 - 0,047 \times X4 + 0,344 \times X6$ Y1= 0,899 + 0,189×X3 + 0,305×X8 HU:

Y1= 0,880 - 0,040×X1 + 0,080×X2 + 0,117×X3 +0,070×X6 + 0,166×X7 + 0,096×X8 V4: The results of testing multicollinearity in LRM\_V4 (X3: VIF = 3.662; X7: VIF = 4.272; X8: VIF =

3.486) did not confirm a significant dependence between independent variables in the regression model.

According to Czech respondents, the independent variable X7 positively determines Y1. The other independent CSR indicators are not statistically significant. For Czech respondents, perceiving CSR as a means to acquire satisfied, loyal, and motivated employees (X7) is the only statistically significant indicator positively influencing Y1. Other independent CSR indicators are not considered statistically significant. This suggests that for Czech entrepreneurs, the most important factor in forming their attitudes expressed by Y1 is the perception of CSR as a means to acquire satisfied, loyal, and motivated employees.

According to Slovak respondents, independent variables X7 and X8 positively determine Y1. The influence of indicator X7 has the most significant impact on Y1. The Slovakian respondents consider corporate social responsibility (CSR) to be an effective means of attracting and retaining satisfied, loyal, and motivated employees (X7) and to have a positive effect on the company's overall performance (X8). These two aspects are considered key factors influencing the attitude expressed by Y1.

According to Slovak respondents, the most significant impact on Y1 comes from indicator X7 (CSR as a means of acquiring satisfied, loyal, and motivated employees).

According to Polish respondents, independent variables X3 and X6 positively determine Y1. The influence of indicator X6 on Y1 is stronger than that of indicator X3. For Polish respondents, the implementation of CSR concept (X3) and acquiring quality employees through CSR (X6) are important factors influencing the attitude expressed by Y1. Interestingly, the influence of indicator X6 (acquiring quality employees through CSR) on Y1 is stronger than the influence of X3 (implementation of CSR). These findings suggest that in Poland, entrepreneurs consider the perception of CSR as a means to acquire quality employees as a key factor in forming their attitudes expressed by Y1.

According to Hungarian respondents, independent variables X3 and X8 positively determine Y1. The influence of indicator X8 is the most pronounced on Y1. In the case of Hungarian respondents, the introduction of the concept of corporate social responsibility (CSR) (X3) and the positive effect of CSR on organisational performance (X8) represent significant variables that shape the expressed attitude (Y1). Interestingly, the influence of indicator X8 (positive impact of CSR on company performance) is considered the strongest on Y1. These findings indicate that in Hungary, entrepreneurs consider the perception of positive CSR impact on company performance as a key factor in forming their attitudes expressed by Y1.

Respondents in the V4 countries consider independent variables X3, X7, and X8 as statistically significant CSR indicators that positively influence Y1. The strongest effect on Y1 comes from indicator X7. According to respondents from the V4 countries (Czech Republic, Slovakia, Poland, Hungary), the implementation of CSR concept (X3), considering CSR as an opportunity to acquire satisfied, loyal, and motivated employees (X7), and the positive impact of CSR on company performance (X8) are considered statistically significant indicators positively influencing the attitudes of entrepreneurs from the V4 countries expressed by Y1. It is noteworthy that the greatest impact on Y1, as perceived by respondents from the V4 countries, is attributed to indicator X7, which assesses the potential of corporate social responsibility (CSR) as a means of acquiring satisfied, loyal, and motivated employees. These findings suggest that in these countries, entrepreneurs consider perceiving CSR as a means to acquire satisfied, loyal, and motivated employees as a key factor in forming their attitudes or perspectives expressed by Y1.

Table 4

Yn	X1	X2	X3	X4	X5	X6	X7	X8	
Y1/ČR							0,418		
Y1/SR							0,196	0,195	
Y1/PL			0,318			0,344			
Y1/HU			0,189					0,305	
Y1/V4			0,117				0,166	0,096	
Priemer			0,208			0,344	0,260	0,199	

Significant coefficients of the regression function for the dependent variable

Source: own elaboration

The entrepreneur's attitude, as expressed by the dependent variable Y1 (Applying a participatory management style), is most influenced by factors X3, X7, and X8. The most significant determinants shaping entrepreneurs' positive attitudes towards participative management are three main factors: the

implementation of CSR focusing on gaining competitive advantages (X3), the ability to acquire satisfied, loyal, and motivated employees through CSR (X7), and the positive impact of CSR on company performance (X8). This means that entrepreneurs in these countries, who apply a participatory management style, mostly perceive the benefits associated with CSR implementation, including competitive advantage, employee satisfaction, and overall company performance growth.

In this way, entrepreneurs' attitudes towards participatory management reflect their belief that employee involvement and positive results in corporate social responsibility are key aspects for successful company leadership in these countries.

CSR factors X1, X2, X4, and X5 did not show a significant influence on the application of participative leadership style within this study.

The research confirmed that implementing the CSR concept yields positive results in HRM. This conclusion is in line with the findings of several studies. CSR has both internal and external dimensions. Internal CSR practices focus on areas related to employees' physical and psychological work, their health and well-being, and the internal dimension of CSR promotes their greater commitment to the company (Ferreira & Real de Oliveira, 2014). In a further contribution to this discussion, Berber et al. (2014) suggest that, within the internal dimension of CSR, HRM represents an area that is typically included in CSR procedures, on the basis that employees and managers may be considered crucial for the successful implementation of CSR. Su & Lin (2023) state that the better the company's CSR performance, the higher the efficiency of investments in work, as CSR helps SMEs allocate human capital more effectively, reducing unnecessary waste of human resources and achieving their sustainability. In this context, Karatas-Ozkan et al. (2022) emphasize that companies should approach CSR more effectively in terms of employee engagement because they assume that employees' perception of CSR authenticity and local needs will change the CSR-HRM relationship dynamics and organizational commitments.

A number of authors have observed that the relationship between corporate social responsibility (CSR) and human resource management (HRM) is reciprocal, with HRM influencing CSR. The implementation of a CSR strategy is enhanced by the dynamic support provided by HRM. Implementing appropriate HRM tools (employee recruitment and selection) can ensure diversity and continuity of the workforce in a socially responsible manner; professional training and development can promote CSR values and ensure that employees have skills in effective stakeholder management; performance appraisal and reward systems can include economic and social criteria, rewarding employees' social and environmental engagement (Sánchez-Marín et al., 2022). Since implementing CSR requires employee support and initiating meaningful changes in organizational culture, involving HRM in formulating CSR policy is highly desirable. Implementing CSR strategy in the organization is a potentially broad area that includes understanding employees' ethical attitudes, involving them in CSR practices, addressing employee reactions to projected CSR activities, aligning CSR with employees' routine tasks and functions, and promoting meaningful changes in organizational culture. These people-related CSR aspects may require support from the human resources department (Sarvaiya et al., 2018 citing other authors). Companies with better-developed HRM have better-developed CSR policies. This subsequently has a positive impact on organizational performance and financial results (Buciuniene & Kazlauskaite, 2012).

HRM systems directly and significantly positively influence employees' abilities, motivation, and opportunities for participation. Despite the fact that motivation has been demonstrated to be significantly related to HRM, it is not as strongly related as the relationship between motivation and the ability or opportunity to participate in HRM systems. This is in accordance with the findings of Almutawa (2016). Saks (2022) states that properly setting up HRM systems will result in creating an appropriate organizational climate to which employees will respond with increased interest in the organization and a higher level of engagement for the company's benefit.

Transformational leadership is an indispensable element that focuses on employees' personal development and creates a positive environment for their development through motivation and individual care. In short, it is a leadership style that creates a positive environment for employee development (Zhu & Huang, 2023).

The participative leadership style brings many benefits to the company, which are presented by many authors in their research (Newman et al., 2016; Qing & Hua, 2023; Lythreatis et al. 2019; Raineri 2016; Rana et al. 2019; Khassawneh & Abaker 2022). However, for the company to effectively implement this leadership style, adherence to its basic principles is essential. To illustrate this point, we can cite the research of Muñoz et al. (2021). The authors dealt with understanding the extent of participatory management and its impact on practices and decision-making processes in social enterprises in the context of Chile. A clear tendency was identified whereby top managers of social enterprises consider participatory management to be an extremely important organisational aspect. Furthermore, the study identified an intriguing finding: five of the enterprises under investigation (including three organisations) that had explicitly espoused a commitment to participatory management were, in fact, managed in an autocratic manner. Last but not least, they also found that among the various types of social enterprises, cooperatives were the ones that had the most standardized participatory management procedures.

## **5. CONCLUSION**

The aim of the research was to define significant CSR factors that determine the utilization of participative management style in the SMEs segment and quantify this influence. Within the research, significant CSR factors that could determine the use of participatory leadership style in the SMEs segment were defined.

The results of the empirical research demonstrated that some of these CSR factors significantly determine the application of participatory leadership style in the SMEs segment.

The entrepreneur's attitude, as expressed by the dependent variable Y1 (Implementing participatory management style), is influenced most intensely (the average value of the correlation coefficient was 0.260) by factor X7. Entrepreneurs' belief that CSR has the ability to acquire satisfied, loyal, and motivated employees thus most strongly determines the application of participatory leadership style in SMEs.

The second most significant factor determining the implementation of participatory leadership style was factor X3 (the average value of the correlation coefficient was 0.208). The potential to gain competitive advantages through the implementation of CSR motivates entrepreneurs to apply participatory leadership style in SMEs.

Factor X8, the third most significant factor in empirical research, has an average value of the correlation coefficient of 0.199. The conviction of entrepreneurs that the implementation of corporate social responsibility (CSR) has an impact on the growth of company performance serves as a motivating factor for small and medium-sized enterprises (SMEs) to adopt a participatory leadership style.

Our research has significant implications for practical application. The results should motivate managers to implement substantial attributes of the CSR concept, especially concerning their own employees. Managers should also recognize the importance of assessing and implementing appropriate HRM policies in the areas of skills, motivation, and opportunities for their employees to increase business performance.

The research results need to be viewed in the context of their limitations. The empirical research was conducted in the V4 countries and cannot be generalized to other countries. However, the described methodological approach could be applied in different parts of the world, which could contribute to the expansion of scientific discussion on this topic.

Future scientific research will focus on determining the significance of defined CSR factors for company sustainability, comparing CSR/ESG policies, and the gender impact on shaping CSR/ESG policies.

## REFERENCES

- Almutawa, Z., Muenjohn, N., & Zhang, J. (2016). The Effect of Human Resource Management System on Employees' Commitment: The Mediating Role of The AMO Model. *The Journal of Developing Areas*, 50, 1729. https://doi.org/10.1353/jda.2016.0147
- Allui, A., & Pinto, L. (2022). Non-Financial Benefits of Corporate Social Responsibility to Saudi Companies. Sustainability, 14(6), 3446. https://doi.org/10.3390/su14063446
- Apospori, E. (2018). Regional CSR Policies and SMEs' CSR Actions: Mind the Gap The Case of the Tourism SMEs in Crete. *Sustainability*, 10, 2197. https://doi.org/10.3390/su10072197
- Armstrong, A. (2020). Ethics and ESG. Australasian Accounting, Business and Finance Journal, 14(3), 2020, 617. https://doi.org/10.14453/aabfj.v14i3.2
- Bardos, K. S., Ertugrul, M., & Gao, L. S. (2020). Corporate social responsibility, product market perception, and firm value. *Journal of Corporate Finance*, 62, 101588. https://doi.org/10.1016/j.jcorpfin.2020.101588
- Bendova, S., Stepankova, M., & Kaneva, V. (2017). CSR, Employer Branding and employee engagement in Bulgarian power company. *Journal of Tourism and Services*, 8(14), 7-17. https://doi.org/10.1016/000419329400002
- Berber, N., Stangl Susnjar, G., Slavic, A., & Baosic, M. (2014). Relationship between Corporate Social Responsibility and Human Resource Management - as New Management Concepts – in Central and Eastern Europe. *Inzinerine Ekonomika-Engineering Economics*, 2014, 25(3), 360-369. http://dx.doi.org/10.5755/j01.ee.25.3.4222
- Betakova, J., Pietrzak, M. B., & Iglinski, B. (2023). Effect of demographic characteristics of enterprises on the implementation of corporate social responsibility in SMEs context. *Journal of Business Sectors*, 1 (1), 53-62. https://doi.org/10.62222/XQKO8567
- Buciuniene, I., & Kazlauskaite, R. (2012). The linkage between HRM, CSR and performance outcomes. Baltic Journal of Management, 7(1), 5-24. https://doi.org/10.1108/17465261211195856
- Chan, S. C. H. (2019). Participative leadership and job satisfaction: The mediating role of work engagement and the moderating role of fun experienced at work. *Leadership & Organization Development Journal*, 40(3), 319-333. https://doi.org/10.1108/LODJ-06-2018-0215
- Coffeng, T., Van Steenbergen, E. F., De Vries, F., Steffens, N. K., & Ellemers, N. (2023). Reflective and decisive supervision: The role of participative leadership and team climate in joint decision-making. *Regulation & Governance*, 17(1), 290-309. https://doi.org/10.1111/rego.12449
- Cho, S., Chung, C., & Young, J. (2019). Study on the Relationship between CSR and Financial Performance. *Sustainability*, 11(2), 343. https://doi.org/10.3390/su11020343
- Ferreira, P., & Real de Oliveira. E. (2014). Does corporate social responsibility impact on employee engagement? *Journal of Workplace Learning*, 26 (3/4), 232-248. http://dx.doi.org/10.1108/JWL-09-2013-0070
- Font, X., & Lynes, J. (2018). Corporate social responsibility in tourism and hospitality. *Journal of Sustainable Tourism*, 26(7), 1027-1042. https://doi.org/10.1080/09669582.2018.1488856
- Ghaffari, S., Mad, I. S., Burgoyne, J., & Aziz, J. S. (n.d.). Investigating the Mediation Role of Respect for Employees on the Relationship between Participative Leadership and Job Satisfaction: A Case Study at Universiti Teknologi Malaysia. *Australian Journal of Basic and Applied Sciences*, 11(6), 27–39.
- Hamrouni, A., Boussaada, R., & Toumi, N. B. F. (2019). Corporate social responsibility disclosure and debt financing. *Journal of Applied Accounting Research*, 20(4), 394-415. https://doi.org/10.1108/JAAR-01-2018-0020
- Hartwell, C. A., & Devinney, T. M. (2023). A Responsibility to Whom? Populism and Its Effects on Corporate Social Responsibility. Business & Society, 000765032311635. https://doi.org/10.1177/00076503231163536
- Ishaque, S., Liaquat, M., Irshad, S., & Khakwani, M. S. (2022). How Does Participative Leadership Influences Employee Engagement via the Mediational Effect of Employee Perceived Corporate Social Responsibility? An Analysis of Front-line Employees of Hotels. *Review of Applied Management and Social Sciences*, 5(2), 129-139. https://doi.org/10.47067/ramss.v5i2.218

- Al-Issa, N., Khaki, A. R., Jreisat, A., Al-Mohamad, S., Fahl, D., & Limani, E. (2022). Impact of environmental, social, governance, and corporate social responsibility factors on firm's marketing expenses and firm value: A panel study of US companies. *Cogent Business & Management*, 9: 2135214. https://doi.org/10.1080/23311975.2022.2135214
- Khan, K. A., Akhtar, M. A., Vishwakarma, R. K., & Hoang, H. C. (2023). A sectoral perspective on the sustainable growth of SMEs. Empirical research in the V4 countries. *Journal of Business Sectors*, 1(1), 10-21. https://doi.org/10.62222/CVFW6962
- Khassawneh, O., & Abaker, M. O. S. M. (2022). Human Resource Management in the United Arab Emirates: Towards a Better Understanding. In T. A. Adisa & C. Mordi (Eds.), HRM in the Global South (pp. 103–128). Springer International Publishing. https://doi.org/10.1007/978-3-030-98309-3\_5
- Khassawneh, O., & Elrehail, H. (2022). The Effect of Participative Leadership Style on Employees' Performance: The Contingent Role of Institutional Theory. *Administrative Sciences*, 12(4), 195. https://doi.org/10.3390/admsci12040195
- Kot, S., & Brzezinski, S. (2015). Market orientation factors in sustainable development and corporate social responsibility. *Asian Journal of Applied Sciences*, 8(2), 101-112. https://doi.org/10.3923/ajaps.2015.101.112
- Kuráth, G., Bányai, E., Sipos, N., Venczel-Szakó, T., & Konczos-Szombathelyi, M. (2023). Trust and communication in the context of leaders and employees. *Journal of International Studies*, 16(3), 159-174. doi:10.14254/2071-8330.2023/163/9
- Lu, J., Ren, L., Zhang, C., Wang, C., Shahid, Z., Shaheed, Z., Bhutto, A., & Streimikis, J. (2020). The Influence of a Firm's CSR Initiatives on Brand Loyalty and Brand Image. *Journal of Competitiveness*, 12(2), 106-124. https://doi.org/10.7441/joc.2020.02.07
- Łucjan, K., Szostek, D., Balcerzak, A.P., & Rogalska, E. (2023). Relationships between leadership style and organizational commitment: The moderating role of the system of work. *Economics and Sociology*, 16(4), 11-39. doi:10.14254/2071789X.2023/16-4/1
- Lythreatis, S., Mostafa, A. M. S., & Wang, X. (2019). Participative Leadership and Organizational Identification in SMEs in the MENA Region: Testing the Roles of CSR Perceptions and Pride in Membership. *Journal of Business Ethics*, 156(3), 635-650. https://doi.org/10.1007/s10551-017-3557-8
- Barrena-Martínez, J., López-Fernández, M., & Romero-Fernández, P. M. (2017). Socially responsible human resource policies and practices: Academic and professional validation. *European Research on Management and Business Economics*, 23(1), 55-61. https://doi.org/10.1016/j.iedeen.2016.05.001
- Sánchez-Marín, G., Lozano-Reina, G., & Beglaryan, M. (2022). HRM Policies and SMEs Performance: The Moderating Role of CSR Orientation. *Central European Business Review*, 11(1), 85-110. <u>https://doi.org/10.18267/j.cebr.279</u>
- Martiskova, P., Waldhauserova, T., & Skibinski, A. (2022). Corporate social responsibility activities as a way of creating value for consumers. *Polish Journal of Management Studies*, 26(1), 189-201. https://doi.org/10.17512/pjms.2022.26.1.12
- Mishchuk, H., Samoliuk, N., & Yurchyk, H. (2021). Decent work: evaluation and ensuring in human capital management: monograph: Szczecin: Centre of Sociological Research. 140 p. DOI: 10.14254/978-83-959336-5-3/2021 URL: https://csr-pub.eu/?49.en\_decent-work-evaluation-and-ensuring-in-human-capital-management
- Muñoz, C. A., Dávila, A. M., Mosey, S., & Radrigán, M. (2021). Exploring Participatory Management in Social Enterprise Practice: Evidence from Chile. *International Journal of Voluntary and Nonprofit Organizations*, 32(5), 1096-1112. https://doi.org/10.1007/s11266-021-00367-1
- Newman, A., Rose, P. S., & Teo, S. T. T. (2016). The Role of Participative Leadership and Trust-Based Mechanisms in Eliciting Intern Performance: Evidence from China. *Human Resource Management*, 55(1), 53-67. https://doi.org/10.1002/hrm.21660
- Odoardi, C., Battistelli, A., Montani, F., & Peiró, J. M. (2019). Affective Commitment, Participative Leadership, and Employee Innovation: A Multilevel Investigation. Revista de Psicología Del Trabajo y de Las Organizaciones, 35(2), 103-113. https://doi.org/10.5093/jwop2019a12
- Karatas-Ozkan, M., Özgören, Ç., Yamak, S., Ibrahim, S., Pinnington, A., Nicolopoulou, K., Tunahoğlu, M. N. & Baruch, Y. (2022). Dual nature of the relationship between Corporate Social Responsibility (CSR) and Human

Resource Management (HRM): A blessing or a curse? Corporate Social Responsibility and Environmental Management. https://doi.org/10.1002/csr.2305

- Oliinyk, O., Mishchuk, H., Vasa, L., & Kozma, K. (2023). Social Responsibility: Opportunities for Integral Assessment and Analysis of Connections with Business Innovation. *Sustainability*, 15 (6), 5608. <u>https://doi.org/10.3390/su15065608</u>
- Pestoff, V., & Hulgård, L. (2016). Participatory Governance in Social Enterprise. International Journal of Voluntary and Nonprofit Organizations, 27(4), 1742-1759. https://doi.org/10.1007/s11266-015-9662-3
- Qing, M., Asif, M., Hussain, A., & Jameel, A. (2020). Exploring the impact of ethical leadership on job satisfaction and organizational commitment in public sector organizations: The mediating role of psychological empowerment. *Review of Managerial Science*, 14(6), 1405-1432. https://doi.org/10.1007/s11846-019-00340-9
- Qiu, S. Ch., Jiang, J., Liu, X., Chen, M.H., & Yuan, X. (2021). Can corporate social responsibility protect firm value during the COVID-19 pandemic? *International Journal of Hospitality Management*, 93, 102759. https://doi.org/10.1016/j.ijhm.2020.102759
- Qing, M., & Hua, J. Z. (2023). The Influence of Participative Leadership on the Voice Behavior of Public Servants. *Public Personnel Management*, 52(3), 291-316. https://doi.org/10.1177/00910260221147692
- Raineri, A. (2016). Leaders' Induced Justice Climate as mediator of Participative Leadership and Team Learning. Academy of Management Proceedings, (1), 16432. https://doi.org/10.5465/ambpp.2016.16432abstract
- Rana, R., K'Aol, G., & Kirubi, M. (2019). Influence of supportive and participative path-goal leadership styles and the moderating role of task structure on employee performance. *International Journal of Research in Business and Social Science* (2147- 4478), 8(5), 76-87. https://doi.org/10.20525/ijrbs.v8i5.317
- Rogiest, S., Segers, J., & Van Witteloostuijn, A. (2018). Matchmaking in organizational change: Does every employee value participatory leadership? An empirical study. *Scandinavian Journal of Management*, 34(1), 1-8. https://doi.org/10.1016/j.scaman.2017.05.003
- Rashiti, M., & Skenderi, N. (2023). Impact Of Corporate Social Responsibility as Competitive Factor on Small and Medium Businesses in Kosovo. QUALITY- Access to Success. 24 (192), 261-270. https://doi.org/10.47750/QAS/24.192.30
- Rossi, M., Chouaibi, J., Chouaibi, S., Jilani, W., & Yamina Chouaibi, Y. (2021). Does a Board Characteristic Moderate the Relationship between CSR Practices and Financial Performance? Evidence from European ESG Firms. *Journal of Risk and Financial Management* 14: 354. https://doi.org/10.3390/jrfm14080354
- Sánchez-Torné, I., Pérez-Suárez, M., Morán-Álvarez, J.C., & Pérez-López, J.A. (2021). Internal corporate reputation in the ICT sector: A case study. *Economics and Sociology*, *14*(4), 31-46. doi:10.14254/2071-789X.2021/14-4/2
- Sarvaiya, H., Eweje, G., & Arrowsmith, J. (2018). The Roles of HRM in CSR: Strategic Partnership or Operational Support? J Bus Ethics 153:825-837. https://doi.org/10.1007/s10551-016-3402-5
- Su, J. & Lin, X. (2023): ESG Performance, Demographic Trend, and Labour Investment Efficiency in China. Applied Economics Letters. https://doi.org/10.1080/13504851.2023.2212956
- Szczanowicz, J., & Saniuk, S. (2016). Evaluation and reporting of CSR in SME sector. *Management*, 20(1), 96-110. https://doi.org/10.1515/manment-2015-0027
- Torres, L., Ripa, D., Jain, A., Herrero, J., & Leka, L. (2023). The potential of responsible business to promote sustainable work – An analysis of CSR/ESG instruments. Safety Science, 2106151. https://doi.org/10.1016/j.ssci.2023.106151
- Varzaru, A. A., Bocean, C. G., & Nicolescu, M. M. (2021). Rethinking Corporate Responsibility and Sustainability in Light of Economic Performance. *Sustainability* 13, 2660. https://doi.org/10.3390/su13052660
- Waheed, A., & Zhang, Q. (2022). Effect of CSR and Ethical Practices on Sustainable Competitive Performance: A Case of Emerging Markets from Stakeholder Theory Perspective. *Journal of Busuness Ethics* 175, 837-855. https://doi.org/10.1007/s10551-020-04679-y
- Berniak-Wozny, J., Kwasek, A., Gasinski, H., Maciaszczyk, M., & Kocot, M. (2023). Business Case for Corporate Social Responsibility in Small and Medium Enterprises- Employees' Perspective. Sustainability, 15, 1660. https://doi.org/10.3390/su15021660
- Zhu, J., & Huang, F. (2023). Transformational Leadership, Organizational Innovation, and ESG Performance: Evidence from SMEs in China. *Sustainability* 15, 5756. https://doi.org/10.3390/su15075756