

Corporate sustainability and economic performance in small and medium sized enterprises



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ABSTRACT

Various studies have investigated drivers of corporate sustainability, however only a few attempts have been made to link corporate sustainability and economic performance of enterprises by measuring labour productivity in new European Union member states that have transitioned from socialism. This paper analyses the link between corporate sustainability and economic performance, by simultaneously using the following control variables: human capital, the innovation process, leadership, and European Union policy for small and medium sized enterprises. Findings from a sample of 645 Slovenian small and medium sized enterprises reveal that the corporate sustainability and economic performance of enterprises represent complementary performances. Thus, enterprises should constantly balance their economic performance with social responsibility and environmental protection to maintain successful sustainable operations in the highly competitive markets. It was also shown that leadership has a significant positive effect on corporate sustainability. Additionally, leadership should create a favourable and collaborative environment for the innovation process and invest in human capital. Human capital causes innovation, which has a significant positive influence on corporate sustainability, which in turn has an effect on the economic performance of enterprises. Small and medium sized enterprises could improve corporate sustainability also by familiarising themselves with European Union policy support mechanisms that target their growth, development and competitiveness. The findings helped to develop an original structural equation model on simultaneous causalities between corporate sustainability and economic performance with selected control variables.

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1. Introduction

Sustainability has become an increasingly important strategic consideration for enterprises (Moore and Manring, 2009), including those in former post-socialist countries. This paper investigates Slovenia, which has been an independent state since 1991 after the collapse of former Yugoslavia. Since integration into the European Union (EU) in 2004, Slovenian enterprises have started to realise the necessity of balancing their economic performance (EP) with social responsibility and environmental protection to maintain successful sustainable operations in the highly competitive regional and global markets. Despite the increasing awareness of corporate sustainability (CS), there is still a trade-off

between sustainability declarations and unsustainable trends in practice. In time of economic crisis, enterprises focus more on EP, which is in direct contradiction with sustainability principles (Robertson, 2014).

The EU has adopted different policy measures to ensure sustainable economic growth of SMEs, which in the EU represent 99% of businesses (European Commission, 2015). The adoption of these measures is important, but not sufficient for CS. Sustainability should become a more strategic and integral part of businesses. In this process leadership plays a vital role. Azapagic (2003) pointed out that leadership is responsible for building successful, sustainable and competitive businesses and for projecting a long-term vision. Showing commitment to sustainability and demonstrating how the vision of an enterprise integrates economic, social and environmental performance is a part of that process. In addition to this, the move towards CS requires constant innovation; it should be understood as a core business process (Tidd et al., 2005), essential for the long-term success of enterprises. Innovation

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capacity is one of the central assets of an enterprise on which CS can be built. As stressed by [Mariz-Pérez et al. \(2012\)](#), a crucial driver of the innovation capacity is undoubtedly human capital. It is important that enterprises invest in human capital and in this way make a step towards sustainable growth.

This paper focuses on the link between CS and EP, which is empirically quantified by the structural equation modelling (SEM) results for a sample of 645 Slovenian small and medium-sized enterprises (SMEs). It supplements the literature on CS and EP of SMEs in four directions. Firstly, there has been no research to date that would attempt to find an association between CS and EP of enterprises with the simultaneous inclusion of control variables for human capital, the innovation process, leadership, and EU policy for SMEs. Secondly, this is the first study on the association between CS and EP for Slovenian SMEs and a rare study for a new EU member state or any former post-socialist country. Thirdly, there has been no previous research that investigates the association between CS and EU policy measures for SMEs. Finally, this research contributes to the development of theory and the conceptual framework for analysis of the association between CS and EP of enterprises, which is controlled by additional explanatory variables. The empirical results and findings can raise awareness among top managers that CS and EP of SMEs are complementary performances and that EU policies could be a source for achieving CS.

The rest of this paper is organised as follows; in Section 2 hypotheses are developed on the basis of a literature review. Section 3 goes on to present the research methods. Section 4 presents the unique survey data for the sample of 645 Slovenian SMEs and discusses the empirical results in detail regarding the association between CS, EP of SMEs, human capital, the innovation process, leadership, and EU policy for SMEs. Finally, Section 5 extracts the main conclusions and findings of this paper as well as implications and directions for future research.

2. Theory

The term sustainable development is defined as development that “meets the needs of present generations without compromising the ability of future generations to meet their own needs” ([World Commission on Environment and Development, 1987](#)). It is the process of reaching the goal of sustainability ([Baumgartner and Ebner, 2010](#)), where economic growth, social cohesion and environmental protection – the so-called “triple bottom line” ([Elkington, 1997](#)) – are treated equally and are mutually supportive. When this concept is incorporated by an enterprise, it is called CS. [Lozano \(2012\)](#) defined CS as corporate activities that proactively seek to contribute to sustainability equilibria, including the economic, environmental, and social dimensions of today, as well as their inter-relations within and throughout the time dimension while addressing the company's system and its stakeholders. This paper focuses on inter-relations between CS, which essentially comprises activities relating to social and environmental dimension of sustainability, and EP of enterprises. Given that CS has been identified as the key for defusing sustainability demands, the research question arises how sustainability management can be implemented in a way that at least does not jeopardize, and at best even fosters, the EP of enterprises ([Orlitzky et al., 2003](#); [Orsato, 2006](#)). The answer to this research question is in different studies which hypothesized a positive association between CS and EP of enterprises. For example, [Lourenço and Branco \(2013\)](#) showed that leading Brazilian CS performance enterprises have a larger return on equity (as an indicator of EP) than their counterparts. [Ameer and Othman \(2012\)](#) argued that enterprises which place importance on CS practices have a more superior EP (measured by return on assets,

gross profit, and cash flow) than companies which do not place emphasis on CS. In addition, [Wagner \(2010\)](#) confirmed a positive association of CS performance with EP (measured by Tobin's q) using panel data for a set of American enterprises. Similarly, [Chang and Kuo \(2008\)](#) found that stronger sustainability performers tend to have a more positive influence on EP (measured by return of equity, return of asset, and return of sales). There is also research that shows a positive association between individual dimensions of CS and corporate performance, e.g. environmental dimension such as the environmental management systems (EMS) ([Pereira-Moliner et al., 2012](#)) and recycling ([da Cruz et al., 2014](#)), as well as socio-political dimension such as the corporate social performance in the context of corporate humanitarian work ([Brammer and Millington, 2008](#)), socially responsible services ([Hasoneh and Alafi, 2012](#)) and regulation ([Simões and Marques, 2012](#)).

In spite of these results, the association between CS and EP, measured by labour productivity defined as value added per employee, is still an open research question, only partially discussed by few studies. For example, [Nishitani et al. \(2012\)](#) used panel data from Japanese manufacturing enterprises and found that voluntary implementation of EMS simultaneously reduced an enterprise's environmental impact and improved its productivity. [Delmas and Pekovic \(2013\)](#) proved with empirical results based on data of 5520 enterprises from a French employer-employee survey, that the adoption of environmental standards is associated with higher levels of labour productivity. [Sánchez and Benito-Hernández \(2015\)](#), on a sample of 929 Spanish micro and small manufacturing enterprises, found that internal dimensions of corporate social responsibility related to relationships with employees and the improvement of operational processes, innovation and product quality, contribute most to increases in labour productivity. Based on this, it is hypothesised that:

Hypothesis 1. CS has a positive association with the EP of enterprises.

The CS challenges can be related to the notion of innovation as a complex process of the implementation of a new or significantly improved product, process, marketing or organisational method in business practice, workplace organisation, or external relations ([OECD, 2005](#)). As enterprises become more sophisticated with respect to CS, they gradually develop awareness of the synergy between innovation and sustainability ([Hansen et al., 2009](#)). [Bos-Brouwers \(2010\)](#) in research conducted amongst Dutch rubber and plastics enterprises, gave further insight into the characteristics of innovation within enterprises and found that sustainable innovation efforts provided opportunities to improve CS. It is also pointed out that enterprises orientated towards sustainability and innovation processes showed evidence of value creation, such as the development value of new products and cooperation value with stakeholders. Innovation is actually essential for enterprises to pursue CS. [Sezen and Çankaya \(2013\)](#), on a sample of Turkish enterprises from the automotive, chemistry and electronic sectors, demonstrated that eco-process innovation has a significant positive impact on CS. [Lai et al. \(2015\)](#) in research conducted amongst Taiwanese enterprises found that corporate innovation capability can positively influence CS. Considering the importance of the innovation process for CS, it is hypothesised that:

Hypothesis 2. The innovation process has a positive association with CS.

One of the critical success factors to achieve CS is leadership. Leadership is about inspiring people to achieve results, creating vision, developing and adopting values, and mobilizing people to create value for the organization and for society ([Kohlireser and](#)

Székely, 2013). Leaders need to send the right signals to promote CS and to set guidelines in how sustainable principles are to be followed (Székely and Knirsch, 2005). They should create a clear definition of CS values, which is consistently communicated and reinforced throughout the enterprise (Stoughton and Ludema, 2012). Bonn and Fisher (2011) argued that for enterprises to become more sustainable, leaders should address the different dimensions of sustainability at the strategic level, during both the strategic decision-making process and as part of the strategy deployment process at a corporate, business and operational level. In addition, Quinn and Dalton (2009) mentioned that a critical basis for change towards CS is a leader's introduction and discussion of sustainability principles, the redesign of an enterprise's distribution of resources, decision making, production processes, and the effective and continued engagement of employees and stakeholders. The importance of the association between leadership and CS is also emphasised in other studies. For example, Maletić et al. (2014) in their conceptual framework stated that the main enablers for the successful implementation of sustainability practices and the achievement of performance benefits (e.g., triple-bottom-line results) are top management support, integration of sustainability into vision and strategy, and establishment of a sustainability-centred culture. This perspective is consistent with prior findings that indicate that foundational organisational enablers, such as values, top management support, and strategic integration, play a crucial role in strengthening CS (Fairfield et al., 2011). Based on these studies, it is hypothesised that:

Hypothesis 3. Leadership has a positive association with CS.

In globally competitive economic environment, enterprises are challenged to be continuously innovative. Oke et al. (2009) mentioned that the requisite technological or research and development (R&D) capabilities and complementary assets such as marketing and distribution capabilities are key enablers of innovation. But having the right type of leadership to drive the innovation process efficiently and effectively is of paramount importance. In addition, they pointed out that unique leadership capabilities are the hallmark of enterprises that are able to manage different types of innovative activities successfully. Good leaders are constantly pushing their organisations to remain at the forefront of innovation. This association is stressed in various researches; for example, Lee (2008) in research conducted among R&D professionals in Singapore found that transformational leadership has a positive association with innovativeness, while transactional leadership has a negative association with innovativeness. Makri and Scandura (2010) used a sample of 77 high-technology enterprises and found a significant positive relationship between creative and operational leadership and the quantity of innovation. Birasnav et al. (2013) in research carried out among service enterprises located in Bahrain established that transformational leadership has direct influence over product and process innovation. Ryan and Tipu (2013) used a sample of Pakistani organisations to demonstrate that active leadership has a strong and significant positive effect on innovation propensity, while passive-avoidant leadership has a significant but weakly positive effect on innovation propensity. İşcan et al. (2014) underlined the positive effect of transformational leadership on innovation in research conducted among Turkish SME's. Accordingly to these studies, it is hypothesised that:

Hypothesis 4. Leadership has a positive association with the innovation process.

In order to navigate the 21st century's dynamic, complex and uncertain competitive environment effectively, leadership must acquire, develop and effectively manage its resources (Hitt and Duane,

2002). Human capital, as possessed knowledge, skills, abilities and capacity to develop and innovate by employee (Baron and Armstrong, 2007), is a critical enterprise resource, perhaps the most important one (Hitt and Duane, 2002). Pickett (2005) stressed that leadership is the foundation for ensuring that human capital is developed, sustained, and deployed successfully. In addition, Memon et al. (2009) emphasised that the performance of human capital is affected by the ability of (strategic) leadership in formulating and implementing human capital policies. This association is also shown in different studies. For example, Bontis and Fitz-enz (2002) on a sample of 25 financial service enterprises found that leadership is the foremost antecedent construct in human capital management. The same findings were previously obtained by Edmondson (1996). Liu et al. (2003) provided a typology of employment mode that matches leadership styles with different employee groups, which have different characteristics and expectations. They specifically showed that a directive leadership approach is the most effective for contract labour, transactional leadership is the most effective for the acquisition and job-based employment mode, transformational leadership is the most effective for alliance and partnership, and empowering leadership is the most effective for internal development and knowledge-based employees. Birasnav et al. (2010), on a sample of Indian manufacturing enterprises, showed that transformational and interim leadership have a positive association with perceived human capital benefits. According to these studies, it is hypothesised that:

Hypothesis 5. Leadership has a positive association with human capital.

It is widely accepted in literature that an enterprise's capability to innovate is closely tied to its human capital. Bozbura et al. (2007) argue that human capital management is a key organisational element for obtaining sustainable competitive advantages. Its effective administration sets up enormous potential for value creation in the enterprise, and therefore directly affects innovation. Mariz-Pérez et al. (2012) stressed that the innovation process of an enterprise largely depends on the incorporation of human capital to productive realities and this, in turn, is supported by organisational structure and organisational external relations. This association is also emphasised in other studies. For example, Leiponen (2005) used panel data on Finnish manufacturing enterprises and found that high technical skills are complementary with product or process innovation. Human capital can thus be seen as an enabling factor in profitable innovation. Anker (2006), on a sample of manufacturing and service enterprises in Denmark, showed that the share of highly educated employees, application of human resource management practices within the enterprise, and development of a closer relationship with both vertically related actors and knowledge institutions is positively correlated with the ability to innovate. Alpan et al. (2010) in research conducted among manufacturing enterprises in Turkey found that human capital and organisational support – especially its dimensions of managerial support and tolerance for risk taking – exert significant and positive impacts on innovative performance. Using a sample of innovative Spanish enterprises, Bornay-Barrachina et al. (2012) showed a statistically significant relationship between human capital and three different innovation measures, e.g. the number of new products, the number of improved products and radicalness. Based on these studies, it is hypothesised that:

Hypothesis 6. Human capital has a positive association with the innovation process.

SMEs are a key driver for economic growth, innovation, employment and social integration (European Commission, 2015).

At the same time, SMEs can be contributing factors to environmental degradation due to their high quantities and their cumulative effect. In this respect, EU policies, for example, different strategies, programmes, and action plans, have an important role in guiding SMEs towards CS. One of them is the Europe 2020 Strategy (European Commission, 2010). Among the seven flagship initiatives conceived in order to reach a smart, sustainable and inclusive growth, the aim has been to strengthen and further develop the role of EU financial instruments to support innovation such as through structural funds and R&D framework programme, to improve the business environment, notably for SMEs, and to support the development of a strong and sustainable industrial base able to compete globally. In 2014, two new programmes were implemented, their aim being to stimulate competitiveness, research and innovation in EU enterprises, including SMEs: the Competitiveness of Enterprises and SMEs (COSME) 2014–2020 programme (European Commission, 2013a) and Horizon 2020 (European Commission, 2013b). Another important policy is the Green action plan for SMEs (European Commission, 2014). It proposes to exploit the business opportunities that the transition to a green economy offers, by improving productivity and driving down costs in European SMEs through resource efficiency, supporting green entrepreneurship and exploiting and developing Europe's leadership in green processes and technologies. Such EU policies can encourage SMEs to operate profitably through mainstreamed responsibility and transparency, and provide innovative solutions for citizens, in close cooperation with all stakeholders, or increase their awareness that sustainability and responsibility are becoming critical drivers of sustainable growth and stable economic development. Both EU policies and SMEs and their managers should take on the commitment to continuously improve CS performance. The process of CS improvement should be self-sustaining, driven by the commitment and interest of enterprises, and supported by enabling policies. Accordingly, it is hypothesised that:

Hypothesis 7. EU policy for SMEs has a positive association with CS.

All these seven hypotheses are incorporated in a testable research model (Fig. 1). It graphically depicts the causal modelling relationships.

3. Research methods

The target population consisted of 6323 Slovenian SMEs, which were registered as active enterprises on the 9th April 2013 in the business registry of Slovenia (BIZI.SI). The research was limited to SMEs because they represent the main pillar of the economy.

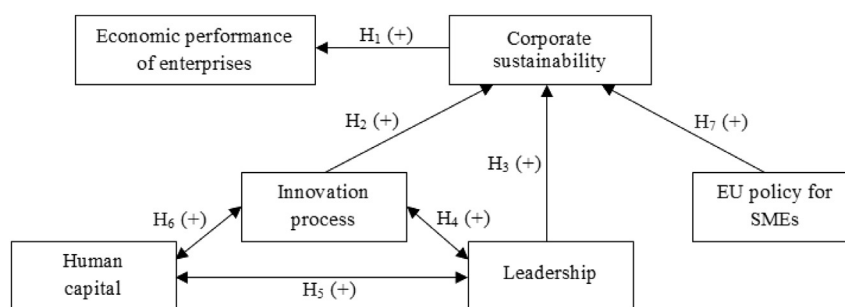
Data were collected using a written questionnaire. Its third and fourth part was developed on the basis of an accurate review of the scientific and professional literature in different databases (e.g. ScienceDirect, Science Research Network, Emerald, ProQuest and EBSCO). A pre-test of the questionnaire with ten randomly selected SMEs was also carried out. Five of them provided useful guidance for improving the clarity of the terminology used in the questionnaire.

The questionnaire contained closed-ended questions in the first, second and third part, whilst in the fourth part, statements using the Likert's 5-graded marking scale, in which '1' meant 'I do not agree at all' and '5' meant 'I agree completely' were used. The first part of the questionnaire was used to gather data about the profiles of enterprises, such as the sector in which they operate, the size of the enterprise (small with 10–49 employees or medium sized with 50–249 employees) and the number of years the enterprise has been in existence. In the second part, data on the respondents, such as their gender, age, years of work experience, level of education and their role in the enterprise were collected. The third part was used to gather data about the EP of enterprises, measured by labour productivity, and the fourth part contained leadership assessment regarding five selected factors or constructs: CS, human capital, the innovation process, leadership, and EU policy for SMEs.

In the period between April and May 2013, the questionnaire was sent by email and by post to all top managers of SMEs included in the research. The range of the questionnaire receivers was limited to top managers of SMEs because they knew the most about the studied subject. A total of 234 completed questionnaires were returned after the first distribution, an additional 206 completed questionnaires after the second distribution, and an additional 205 completed questionnaires after the third distribution. In each of the three distribution phases, respondents had two weeks to return a completed questionnaire. Altogether, 645 completed questionnaires were returned out of 6323 sent. A response rate like this was expected (10.2%). Thus, 645 fulfilled questionnaires were included in the empirical analysis of this research.

The research results were statistically processed and analysed with the use of the IBM Statistical Package for the Social Sciences (SPSS) and IBM SPSS Amos software. Throughout the research, the following methods were used: descriptive statistical analysis and SEM. In addition to the descriptive statistical analysis, some basic characteristics of sample items as well as of variables used are presented.

SEM was used to investigate the research model. This statistical method is preferable to others because it enables the simultaneous analysis between more variables. It follows a two-step approach constructing the measurement model and testing the structural



Note: (+) represents positive association.

Fig. 1. A conceptual illustration of a research model.
Source: Compiled by authors.

model (Byrne, 2010). The measurement model depicts the links between the latent variable (factor) and its measured variables. The convergent validity of latent variables was assessed by using confirmatory factor analysis, which includes the determination of the standardised weight of measured variables for certain latent variable and selected multiple fit indices: comparative fit index (CFI), incremental fit index (IFI), normed fit index (NFI), and root mean square error of approximation (RMSEA). Hair et al. (2006) argued that relevant weights should be greater than or equal to 0.5, while weights greater than or equal to 0.7 represent an ideal estimation. Hu and Bentler (1998, 1999) accented that CFI, IFI and NFI values greater than 0.9 are considered representative of a good-fitting model. RMSEA values less than or equal to 0.05 indicate good fit (Browne and Cudek, 1993), while values less than or equal to 0.08 represent marginal fit (Handley and Benton, 2009). The discriminant validity of latent variables was examined using Spearman's rank correlation coefficient. Field (2006) argued that correlation is statistically significant when the p-value at certain correlation coefficient is less than or equal to 0.05. The reliability of the latent variables was assessed using Cronbach's alpha coefficient. Field (2006) argued that a value greater than 0.7 showed good reliability of latent variables. In contrast, the structural model depicts the links among the variables, included in the model. Correlation and regression analysis were used to determine correlation coefficients (ρ) and the standardised regression coefficients (β) or weights. To determine the goodness-of-fit between the research model and the sample data, the aforementioned multiple fit indices were used.

4. Results and discussion

The following section presents descriptive statistics, SEM and hypotheses testing results.

4.1. Descriptive statistics

Almost half of the analysed SMEs came from the manufacturing sector (26.5%) and from the construction sector (19.1%). 80.9% of enterprises were small and 19.1% were medium sized. Most of them had been in existence for between 20 and 30 years (32.4%) or more than 30 years (20.2%).

According to gender, 41.2% of the respondents were female and 58.8% were male. Most of them were between 40 and 50 years old (34.4%) or more than 50 years old (30.7%), and had between 15 and 25 years (31.3%) or 25–35 years (29.0%) of work experience. More than half of the respondents had higher education (58.7% with university education and 12.6% with master or doctorate). 58.1% of the respondents worked as general managers.

In assessing the EP of enterprises, it was determined that labour productivity in the last five years improved in 42.8% of enterprises, in 37.1% it remained relatively the same, and in 20.2% it deteriorated.

The results of leadership assessment regarding the five selected factors are presented in Table A.1 in the Appendix. As can be seen, in the context of CS variables, the respondents gave the highest mark to the statement that their enterprise operations are based on sustainable growth, social responsibility and environmental protection, while the statement that ecological constraints force them to think about relocating production to countries where ecological requirements are lower, received the lowest mark. This indicates that SMEs are striving to integrate sustainability into their business models. They realise that CS will help secure a long-term future for their enterprise, or they see CS as an advantage in a highly competitive market. Despite rigorous ecological regulations, they will keep production in Slovenia. In fact, they exploit

environmental challenges and legislation to their advantage by developing new, greener products.

Concerning human capital variables, the respondents gave the highest mark to the statement that employees are encouraged to apply new knowledge in practice. This indicates that SMEs know that the success of businesses depends critically on the quality of knowledge which is applied to their key business processes. That is to say why they invest in employee training and make good use of their acquired knowledge. The lowest mark, but still with a good average, was given to the statement relating to the establishment of human capital management. SMEs know that human capital management is important for their success, but in spite of this they do not pay sufficient attention to the practices and processes for managing the existing human capital of employees.

Regarding the innovation process variables, the respondents emphasised that innovation is defined as a commitment of the entire enterprise, not just as the domain of the R&D department. This reflects the awareness of SMEs that all employees are an important factor in the innovation process. Challenging and involving all employees is in fact a key requirement to establish an improved innovation climate. In this respect, it is important not only to allow all employees to submit great ideas, but also, to give them an opportunity to comment and participate in the ongoing innovation process. The respondents ranked the statement about protecting intellectual property which arises from the innovation process in last place. This can be interpreted as SMEs, due to the expensive and long-lasting procedures, do not regularly protect intellectual property rights, but they prefer immediate market penetration.

With regard to leadership variables, the respondents gave the highest mark to the statement that leadership takes into account employees' views and suggestions, while the lowest mark, but still with a good average, was given to the statement that leadership involves employees in the decision-making process. This indicates the presence of participative management in SMEs. Managers are aware of the importance of treating the ideas and suggestions of employees with consideration and respect. Allowing employees to take part in decision making is also an important aspect, employees feel a part of a team with a common goal, and find their sense of self-esteem and creative fulfilment heightened.

With regard to EU policy for SMEs, the respondents gave low marks to all statements. This reflects that SMEs have relatively little interest for EU policy support that targets their growth, development and competitiveness, which can be explained by four possible reasons: they do not have the sufficient capacity to compete for EU policy support or they are not sufficiently acquainted with EU policy support or there is a question of information access or they are not in a need to apply for EU policy support.

4.2. SEM and hypotheses testing

In the first step, the measurement models were tested. As can be seen from Table 1, factors are determined by measured variables, where standardised weights are greater than or equal to 0.5. Variables, where standardised weights were less than 0.5 were excluded from further analysis. In all cases, CFI, IFI and NFI are greater than 0.9, which indicates a good-fitting model. These results confirm a convergent validity of factors.

Table 2 shows an adequate level of discriminant validity of factors with p-value at certain Spearman's rank correlation coefficient less than or equal to 0.05. It also shows a good reliability of all factors included in the model with Cronbach's alpha coefficient greater than 0.7 criteria.

Table 1
Convergent validity of factors included in SEM.

Factor	Measured variable	Standardised weight	CFI	IFI	NFI	RMSEA
CS_f	CS_1	0.670	0.981	0.981	0.978	0.100
	CS_2	0.897				
	CS_3	0.910				
	CS_4	0.599				
	CS_7	0.654				
HC_f	HC_3	0.797	0.959	0.960	0.956	0.128
	HC_4	0.853				
	HC_5	0.799				
	HC_6	0.706				
	HC_7	0.780				
	HC_8	0.792				
	INO_3	0.718				
	INO_4	0.832				
INO_f	INO_5	0.878	0.996	0.996	0.994	0.061
	INO_8	0.704				
LEAD_f	LEAD_1	0.755				0.105
	LEAD_2	0.865				
	LEAD_3	0.852				
	LEAD_4	0.831				
	LEAD_5	0.741				
EU_f	EU_1	0.568	0.913	0.913	0.912	0.345
	EU_2	0.959				
	EU_4	0.960				
	EU_5	0.486				

Note: CS_f – corporate sustainability; HC_f – human capital; INO_f – innovation process; LEAD_f – leadership; and EU_f – EU policy for SMEs. Source: Authors' calculations from their own survey data.

Table 2
Discriminant validity and reliability of factors included in SEM.

Spearman's ρ	CS_f	HC_f	INO_f	LEAD_f	EU_f	Cronbach's α
CS_f	1	0.487*	0.464*	0.468*	0.301*	0.862
HC_f		1	0.625*	0.615*	0.127*	0.906
INO_f			1	0.465*	0.315*	0.862
LEAD_f				1	0.113*	0.902
EU_f					1	0.850

Note: * $p \leq 0.05$. Source: Authors' calculations from their own survey data.

In the second step, the structural model was tested. The multiple fit indices show that the model represents the data fairly well (CFI = 0.929, IFI = 0.929, NFI = 0.906, and RMSEA = 0.065).

From structural model results (Table 3 and Figure A.1 in Appendix), it can be concluded that CS has a significant effect on the EP of SMEs ($\beta = 0.193$, $p \leq 0.001$), thus the set H1 cannot be rejected. This suggests that SMEs' knowledge about CS, their operations toward sustainable growth, social responsibility and environmental protection, consideration of CS as one of the essential components of corporate culture, exploitation of environmental challenges and legislation to their advantage by developing new, greener products, and by taking CS as an important route for long-term development, positively affect EP of SMEs.

Regarding the association between the innovation process and CS, it is seen that the innovation process has a significant effect on CS ($\beta = 0.260$, $p \leq 0.001$), thus the set H2 cannot be rejected. This shows that SMEs offer employees various trainings in the field of innovation and creative thinking, establish a reward system for employees' innovation activity, use the concept of open innovation, and establish a system for monitoring innovation performance, which is important for CS.

Regarding the association between leadership and CS, leadership has a significant effect on CS ($\beta = 0.402$, $p \leq 0.001$), thus the set H3 cannot be rejected. This shows that leadership clearly defines enterprises' objectives and strategy for their achievement, clearly defines employees' responsibilities, directs employees' activities

and oversees their efficiency and effectiveness, implements changes in the enterprise according to the demand of the environment in which it operates, and ensures correct, accurate and understandable information, which has a positive effect on CS.

With regard to the association between leadership and the innovation process, between leadership and human capital, and between human capital and the innovation process, there is a significant correlation in all cases ($\rho = 0.526$, $p \leq 0.001$ in the first case; $\rho = 0.666$, $p \leq 0.001$ in the second case; and $\rho = 0.713$, $p \leq 0.001$ in the third case). Therefore, the set H4, H5 and H6 cannot be rejected. This finding revealed the importance of strong positive simultaneous causalities between leadership, human capital, and the innovation process.

Finally, EU policy for SMEs also has a significant effect on CS ($\beta = 0.185$, $p \leq 0.001$), thus the set H7 cannot be rejected. This suggests that enterprises' acquaintance with the EU support schemes for SMEs are satisfied with the actions that the EU is taking to strengthen the growth and development of SMEs, being acquainted with Horizon 2020, and COSME 2014–2020, positively affect their CS.

5. Conclusions and policy implications

The research findings indicate that CS and EP of SMEs represent complementary performances, in which human capital, the innovation process, leadership, and EU policy for SMEs, play an important role. It was shown that leadership has a significant positive effect on CS by defining objectives and strategy for their achievement, defining employees' responsibilities, directing employees' activities and overseeing their efficiency and effectiveness, implementing changes in the enterprise according to the demand of its market environment, and by ensuring correct, accurate and understandable information. In addition, leadership should create a favourable and collaborative environment for the innovation process by offering employees various trainings in the field of innovation and creative thinking, using the concept of open innovation, establishing a reward system for employees' innovation activity

Table 3

Standardised regression and correlation coefficients between variables included in structural model.

Structural path			Standardised regression and correlation coefficient	Conclusion
EP	<←	CS_f	0.193***	H ₁ cannot be rejected.
CS_f	<←	INO_f	0.260***	H ₂ cannot be rejected.
CS_f	<←	LEAD_f	0.402***	H ₃ cannot be rejected.
INO_f	<→	LEAD_f	0.526***	H ₄ cannot be rejected.
HC_f	<→	LEAD_f	0.666***	H ₅ cannot be rejected.
HC_f	<→	INO_f	0.713***	H ₆ cannot be rejected.
CS_f	<←	EU_f	0.185***	H ₇ cannot be rejected.
CS_1	<←	CS_f	0.668 ^{fixed}	
CS_2	<←	CS_f	0.888***	
CS_3	<←	CS_f	0.905***	
CS_4	<←	CS_f	0.600***	
CS_7	<←	CS_f	0.652***	
HC_8	<←	HC_f	0.801 ^{fixed}	
HC_7	<←	HC_f	0.781***	
HC_6	<←	HC_f	0.726***	
HC_5	<←	HC_f	0.802***	
HC_4	<←	HC_f	0.837***	
HC_3	<←	HC_f	0.788***	
INO_8	<←	INO_f	0.693 ^{fixed}	
INO_5	<←	INO_f	0.851***	
INO_4	<←	INO_f	0.848***	
INO_3	<←	INO_f	0.740***	
LEAD_5	<←	LEAD_f	0.744 ^{fixed}	
LEAD_4	<←	LEAD_f	0.835***	
LEAD_3	<←	LEAD_f	0.848***	
LEAD_2	<←	LEAD_f	0.854***	
LEAD_1	<←	LEAD_f	0.765***	
EU_5	<←	EU_f	0.961 ^{fixed}	
EU_4	<←	EU_f	0.958***	
EU_2	<←	EU_f	0.487***	
EU_1	<←	EU_f	0.569***	

Note: *** $p \leq 0.001$, fixed – standardised regression coefficient was fixed at 1 and it is not estimated. Source: Authors' calculations from their own survey data.

and a system for monitoring innovation performance. This requires the leadership to encourage investment in human capital for regular professional training of employees and the acquisition of leadership skills, to set up competency-based reward system, and dissemination and exchange of knowledge and experiences among employees. Leadership should consider investment in human capital as a way of creating an enterprise value and not as a cost, because human capital causes innovation, which also significantly positively affects CS. CS in turn, affects the EP of SMEs.

The most interesting finding from the descriptive statistics is that SMEs have relatively little interest for EU policies related to supporting the growth, development and competitiveness of SMEs. On the contrary, the SEM research results clearly confirmed that EU policy for SMEs has a positive association with CS, which means that SMEs by knowing EU support programmes and other policies, which offer directions and access to funding, could improve their CS. Sustainable growth of SMEs is a crucial element of economic development. This development potential could not be successfully achieved without SMEs trying or making the effort to obtain the necessary information related to relevant EU financial instrument and prepare successful projects and their subsequent implementation towards CS. Government policy should support creating a favourable enabling institutional environment and the access to information that can support building the required capacity for SMEs to prepare competitive projects and consequently receive co-financing.

This research contributes to the development of theory and the conceptual framework on the link between CS and EP of SMEs in the new EU member states that have transitioned from socialism. The scientific value added by this paper is the original structural equation model, developed on simultaneous causalities between CS and EP with controlling variables for human capital, the innovation

process, leadership and EU policy measures for SMEs. The contribution of the findings and results to the theory and practice that CS and EP of SMEs are complementary performances and EU policies could be a source for achieving CS is of broader relevance to top managers in Slovenian SMEs and for other new EU member states with post-communist transition and emerging market economies.

Regarding possible topics for future research, it would be interesting to conduct similar research amongst large Slovenian enterprises (with over 250 employees) in order to combine results and define possible significant differences. In addition, variables and constructs used can be developed in a model of sustainability management with the new scope and relationships between used variables as relevant for different disciplines such as human resources management (human capital and leadership), organisational learning, innovation management, EU policy for SMEs and economic performance management. It could also be interesting to include stakeholder and/or consumer variables. The inclusion of other respondents, such as employees, might also bring another perspective on the situation in Slovenian SMEs than that of the top managers. Finally, this study can also be a starting point for similar studies and comparisons with other countries in the Central and South-Eastern European region, which have undergone transition from a former socialist system to a market economy, and new EU member states from this region. It would be interesting to perform a cross-country analysis on this topic as well as dynamic analysis in time and space.

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Appendix

Table A.1

Results of leadership assessment in association with corporate sustainability, human capital, innovation process, leadership and EU policy for SMEs.

Construct/Statement		Average value (1–5)	Standard deviation	Skewness	Kurtosis
Corporate sustainability (CS)					
CS_1	We know enough about corporate sustainability.	3.11	0.950	−0.485	−0.329
CS_2	Our operations are based on sustainable growth, social responsibility and environmental protection.	3.60	0.870	−0.820	0.839
CS_3	Our attitude is that sustainability is one of the essential components of corporate culture.	3.52	0.859	−0.736	0.816
CS_4	We exploit environmental challenges and legislation to our advantage by developing new greener products.	3.31	0.938	−0.359	0.017
CS_5	Ecological regulations restrict our business.	2.78	1.019	0.071	−0.469
CS_6	Due to ecological constraints we are thinking to relocate production to countries, where ecological requirements are lower.	2.03	0.960	0.758	0.092
CS_7	Sustainability is taken as an important route for long-term development of the enterprise.	3.56	0.946	−0.617	0.418
Human capital (HC)					
HC_1	We have established human capital management.	3.19	0.981	−0.442	−0.351
HC_2	We connect business strategy with human capital.	3.45	0.932	−0.766	0.321
HC_3	We provide regular professional training for employees.	3.73	0.909	−0.961	1.037
HC_4	Employees are encouraged to apply new knowledge in practice.	3.95	0.804	−1.101	2.230
HC_5	We encourage the acquisition of leadership skills.	3.62	0.907	−0.775	0.567
HC_6	We have established a competency-based reward system.	3.46	0.980	−0.727	0.148
HC_7	Corporate culture encourages dissemination and exchange of knowledge and experiences.	3.79	0.861	−0.966	1.385
HC_8	Investing in human capital is not considered as a cost but as an investment that can create an enterprise value.	3.82	0.946	−0.918	0.856
Innovation process (INO)					
INO_1	We have a clearly defined innovation strategy.	3.48	0.899	−0.498	0.104
INO_2	Innovation is defined as a commitment of the entire enterprise, not just as the domain of the research and development department.	3.52	0.925	−0.455	0.011
INO_3	We offer employees various trainings in the field of innovation and creative thinking.	3.35	1.016	−0.503	−0.280
INO_4	We have established a reward system for employees' innovation activity.	3.41	1.009	−0.392	−0.424
INO_5	We use the concept of open innovation.	3.18	0.964	−0.287	−0.203
INO_6	We always protect intellectual property, which arises from the innovation process.	2.79	1.028	0.080	−0.416
INO_7	Decisions regarding the innovation plan are accepted by leadership only.	3.29	0.996	−0.328	−0.340
INO_8	We have established a system for monitoring innovation performance.	2.93	0.998	−0.079	−0.345
Leadership (LEAD)					
LEAD_1	Objectives and strategy for their achievement are clearly defined by leadership.	3.89	0.794	−0.952	1.641
LEAD_2	Leadership clearly defines employees' responsibilities.	3.99	0.695	−0.825	1.943
LEAD_3	Leadership directs employees' activities and oversees their efficiency and effectiveness.	4.01	0.678	−0.701	1.625
LEAD_4	Leadership implements changes in the enterprise according to the demand of the environment in which it operates.	4.04	0.708	−0.773	1.646
LEAD_5	Leadership ensures correct, accurate and understandable information.	3.87	0.746	−0.836	1.641
LEAD_6	Leadership encourages teamwork.	4.08	0.762	−0.976	1.864
LEAD_7	Leadership takes into account employees' views and suggestions.	4.14	0.703	−0.843	2.005
LEAD_8	Leadership involves employees in the decision-making process.	3.77	0.848	−0.723	0.783
EU policy for SMEs (EU)					
EU_1	We are acquainted with the EU support schemes for SMEs.	2.80	1.003	−0.092	−0.619
EU_2	We are pleased with the actions and activities that the EU is taking to strengthen the growth and development of SMEs.	2.65	0.905	−0.018	−0.119
EU_3	The EU business environment is favourable for SMEs.	2.80	0.892	−0.209	0.040
EU_4	We are acquainted with Horizon 2020 – the EU research and innovation programme, which ensures an enhanced role of SMEs.	2.26	0.966	0.305	−0.568
EU_5	We are acquainted with COSME 2014–2020 – the EU programme for improving the business environment and competitiveness of SMEs.	2.23	0.979	0.451	−0.314

Source: Authors' own research.

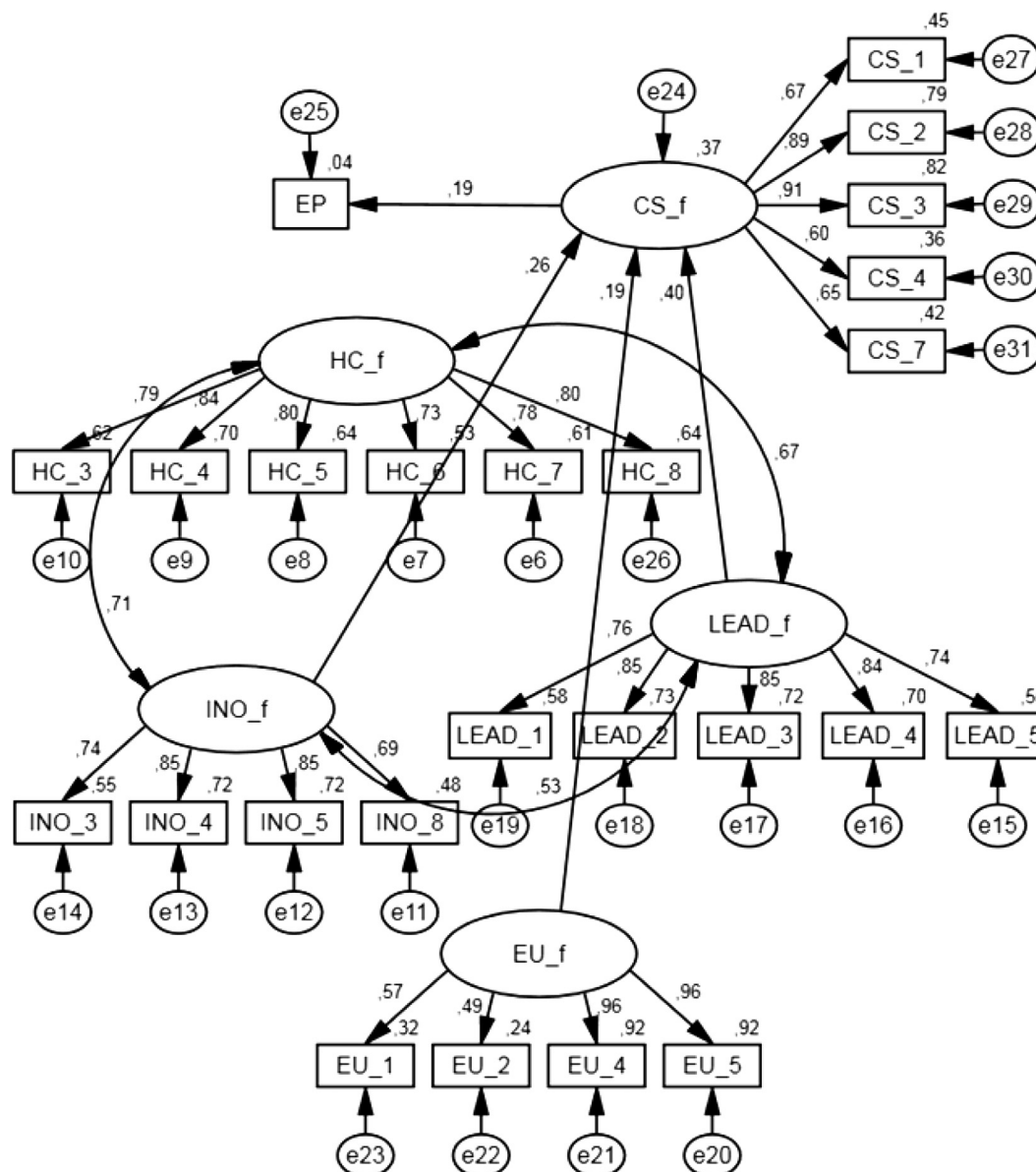


Fig. A.1. A standardised structural model. Note: e – measurement error.

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