

What is the relationship between business ethics and the perceived implementation of ESG elements in SMEs in Poland and Hungary?

Jaroslav Belas Jr.,¹ Roman Hlawiczka,² Matej Huzevka³ & Sándor Kovács⁴

Abstract

This study examines how business ethics relate to the perceived adoption of ESG practices in Polish and Hungarian SMEs, and highlights differences by country. About 700 SME entrepreneurs and managers in these countries responded to a survey. Researchers assessed the influence of ethical attitudes, the presence of a code of ethics, and anti-corruption measures on respondents' ratings of their companies' ESG implementation (a subjective perception). The study used regression and correlation analysis at a 5% significance level. The results show business ethics are significantly related to perceived ESG implementation in both countries, though the relevant factors differ. In Poland, anti-corruption and formal ethical instruments stand out; in Hungary, entrepreneurs' ethical attitudes are key. The findings underline that national and cultural contexts shape how business ethics affect ESG action. This paper adds to knowledge of ESG drivers in Central Europe and offers guidance for policy and practice.

Keywords: ESG, SMEs, business ethics, anti-corruption practices

JEL: M14, L26, Q56

Introduction

ESG (Environmental, Social, Governance) has become a central framework for assessing corporate sustainability and social responsibility. This growing significance is driven by heightened scrutiny from investors, regulators, customers, and the public, leading firms to embed ESG factors into their strategies and daily operations. However, successful ESG implementation depends less on formal regulation or reporting and more on the ethical values and moral attitudes of those within the business environment. This study specifically investigates how business ethics relate to ESG implementation among SMEs in Poland and Hungary, focusing on whether national and cultural contexts influence this relationship.

Research finds that successfully implementing ESG aligns with strong corporate governance and ethical values, especially in SMEs. Ethical behavior in companies is shaped not just by following rules, but by the firm's culture, environment, and its leaders' values. Sroka and Szántó highlight that business ethics strengthen trust, transparency, and long-term sustainability in Central Europe's transforming economies (Sroka & Szántó, 2018).

Studies show that governance quality and ethics help firms incorporate environmental and social goals into their strategies. Firms with stronger ethical governance and transparency tend to achieve better sustainability outcomes, thereby improving ESG performance (Gangi et al., 2020). Ethical values and quality governance are key to sustainable business, particularly where institutions and regulation are weak (ElGammal et al., 2018). These findings suggest that business ethics are crucial for ESG, especially in SMEs, where owners' personal values strongly influence choices.

Business ethics are values, principles, and norms that guide responsible business and affect firms' sustainability efforts. Studies show ethical companies are more engaged in environmental

¹ Alexander Dubček University in Trenčín (Slovak Republic); email: jaroslav.belas@tuni.sk; ORCID: 0000-0003-1796-8598

² Pan-European University in Prague (Czech Republic); email: roman_hlawiczka@centrum.cz; ORCID: 0000-0002-6429-2095

³ Alexander Dubček University in Trenčín (Slovak Republic); email: matej.huzevka@tuni.sk; ORCID: 0000-0003-0137-4656

⁴ University of Debrecen (Hungary); email: kovacs.sandor@econ.unideb.hu; ORCID: 0000-0002-1216-346X

protection, social responsibility, and good governance - key ESG pillars (Zvarikova et al., 2024b; Leal Filho et al., 2024). The ethics of managers and owners influence both strategy and the drive to adopt sustainable practices.

SMEs are the backbone of European economies. Unlike large firms, SMEs have fewer resources and less formal management, relying more on owner values. Thus, business ethics are especially important; personal ethics often take the place of formal controls (López-Concepción et al., 2022). Research finds that, in SMEs, ESG implementation is closely related to perceived ethics, codes of ethics, and anti-corruption measures (Belas et al., 2024). In Central and Eastern Europe, where economies have transformed and face institutional challenges, ethics and ESG are especially relevant. Poland and Hungary are comparable: similar SME structures, but different cultural and ethical business norms. Evidence suggests some countries favor formal codes, while others rely on personal values (García-Sánchez, 2021; Shaikh, 2022). Yet, there is little comparative quantitative research on how business ethics affect ESG in Central Europe's SMEs. This study examines that relationship in Poland and Hungary.

Theoretical background

Business ethics are the guiding principles, values, and norms for business conduct. ESG can be seen as a 'soft regulatory framework' bringing ethics and societal expectations into company practices, beyond legal requirements (Schmidt, 2023; Shaikh, 2022). Today, businesses are expected to take on greater responsibility, embrace sustainability, and be more open. ESG has become central in strategic decision-making, not just as a reporting tool but as a sign of a firm's ethical commitment (Belas et al., 2024; Leal Filho et al., 2024). Evidence from SMEs supports the role of value-driven management in responsible practices (Belas & Rahman, 2023). Governance structures are shaped by ethics, which in turn affect firms' social and sustainability outcomes (Veldman et al., 2023).

From a theoretical perspective, business ethics forms the foundation for ESG implementation, through which firms respond to societal expectations regarding responsibility, transparency, and sustainability, with its importance increasing particularly in an environment of growing complexity of business decision-making (Aastha & Shazi, 2019; Amodu, 2018). Ethical values influence how firms approach environmental protection, social responsibility, and governance quality. This relationship is particularly pronounced within the governance dimension, which directly reflects principles of fairness, transparency, accountability, and integrity (van Wyk & Venter, 2022). The ethical attitudes of managers and entrepreneurs, therefore, play a key role in decisions to implement ESG initiatives in the SME segment, where strategic decisions are strongly influenced by owners' personal values. Empirical research conducted in V4 countries suggests that entrepreneurs' ethical beliefs are associated with the scope and intensity of sustainability practices in SMEs, with sectoral and regional specificities playing an important moderating role (Khan et al., 2023).

Empirical studies suggest that firms with a higher ethical orientation are more willing to implement sustainability and corporate social responsibility principles (Belas et al., 2024). This finding supports the assumption that perceiving the application of business ethics principles as a correct approach to business represents a significant factor associated with the perceived implementation of ESG elements, corresponding to the independent variable X1 in this research. Studies in the field of ethical leadership indicate that the personal values and moral convictions of SME owners and managers are closely linked to sustainability- and ESG-related strategic decision-making (Joshi et al., 2023). In the literature, business ethics is often seen as the foundation of firms' reputational capital, fostering stakeholder trust and creating conditions for long-term sustainability and the implementation of ESG principles (Amodu, 2018).

SMEs represent a specific business environment characterized by limited resources, less formalized governance structures, and a strong dependence on the personal attitudes of owners

or managers. Unlike large corporations, SMEs often lack comprehensive sustainability strategies; however, ethical values and the entrepreneur's personal responsibility frequently substitute for formal governance mechanisms (Schmidt, 2023). Research on SMEs in Central Europe indicates that entrepreneurs' personal values significantly influence their approach to responsible business conduct and ESG implementation, with this influence stronger in smaller, family-owned enterprises (Belas et al., 2024).

Belas et al. (2024) point out that ethical decision-making in SMEs is closely linked to the entrepreneur's moral compass, which significantly influences corporate behavior and long-term sustainability. Ethical awareness among SME owners positively influences responsible behavior toward employees, customers, and local communities, thereby directly supporting the social pillar of ESG. At the same time, firms with ethically oriented leadership tend to perceive sustainable practices more as an opportunity to build trust and reputation rather than as an additional cost. This approach is consistent with findings showing that SMEs with a higher degree of value-oriented management achieve greater organizational stability and better adaptability in a dynamic business environment (Gallo et al., 2023).

From a broader theoretical framework, business ethics is perceived as one of the key mechanisms through which firms internalize sustainability and social responsibility principles into their strategic and operational decisions. Numerous studies indicate that ethical corporate behavior constitutes an important prerequisite for long-term performance and stability, as it contributes to building trust, reputation, and high-quality stakeholder relationships. Mansour et al. (2022) emphasize that ethically oriented governance supports the systematic integration of environmental and social aspects into corporate strategies, thereby creating favorable conditions for the implementation of ESG principles. This approach is particularly relevant in the SME segment, where ethical decision-making often compensates for the absence of formal governance mechanisms.

The importance of business ethics for sustainable corporate behavior is also suggested by empirical evidence from developing and transforming economies. Turyakira (2018) notes that ethical norms and managerial values are associated with the level of corporate social responsibility and sustainability in SMEs, with this effect being amplified in environments with weaker institutional support. Similarly, Sangue Fotso (2018) identifies business ethics as a significant factor influencing the ability of small and medium-sized enterprises to adapt to growing societal and environmental expectations. These findings support the assumption that entrepreneurs' ethical convictions are an important factor in ESG implementation, particularly among SMEs operating in economically and institutionally heterogeneous regions.

From the perspective of the governance dimension, business ethics is closely linked to the quality of corporate governance, transparency of decision-making processes, and the prevention of unethical practices. Patterson and Rowley (2019) note that the systematic integration of ethical principles into corporate governance structures enhances firms' ability to respond effectively to regulatory and societal demands. In the SME segment, this integration often takes the form of informal norms and the personal example of owners, which may nevertheless produce effects comparable to formal governance mechanisms in large corporations. These theoretical foundations strengthen the argument that business ethics serves as a conceptual bridge between firms' value orientation and the practical implementation of ESG principles.

The literature also emphasizes that the ethical orientation of SMEs enhances their resilience and competitiveness, particularly in transforming economies of Central and Eastern Europe (Cheglakova, Bataeva & Melitonyan, 2018). In these countries, where trust in institutions may be lower and the regulatory environment less stable, internal ethical standards gain exceptional importance. Empirical studies from the V4 region confirm that the quality of the business environment and institutional support significantly influence SMEs' ability to implement ethical and sustainable business practices (Zvarikova et al., 2024a). Building on this

perspective, Zvarikova et al. (2024b) propose an integrated sustainability model for SMEs in V4 countries, demonstrating that ethical governance and managerial value orientation function as key coordinating mechanisms linking environmental, social, and economic dimensions of sustainability.

In addition to individual ethical attitudes, the institutionalization of ethics through formal instruments - such as codes of ethics, internal guidelines, and policies to prevent unethical practices - also plays an important role. The literature indicates that formal ethical tools contribute significantly to the institutionalization of ethical values within firms and help stabilize decision-making processes, particularly in the SME environment (Gatto & Parziale, 2024; Vărzaru, Bocean & Nicolescu, 2021). Research shows that ESG disclosure practices significantly affect SME performance and sustainability by increasing awareness of social and environmental aspects of business and strengthening stakeholder trust (Shalhoob & Hussainey, 2022). From a corporate governance perspective, ethical frameworks and governance principles help align managerial behavior with stakeholder interests and support the long-term sustainability of corporate decisions (Aggarwal & Jha, 2019). These tools enable the transformation of abstract ethical values into concrete rules of conduct and decision-making. Studies indicate that firms with formalized ethical frameworks achieve higher levels of transparency, accountability, and stakeholder trust (van Wyk & Venter, 2022). In the SME segment, the existence of a code of ethics is often associated with a higher level of organizational maturity and governance quality.

Belas et al. (2024) report that formal ethical documents contribute to the consistency of decision-making processes and reduce the risk of opportunistic behavior. These aspects directly support the ESG governance pillar and, indirectly, influence firms' environmental and social activities by fostering a responsible organizational culture. Empirical studies confirm that SMEs with codes of ethics are more likely to engage in sustainable practices and respond more effectively to stakeholder ESG expectations (Schmidt, 2023). These theoretical foundations support the significance of the independent variable X2, which reflects the degree of formalization of ethical standards within firms.

Anti-corruption measures represent a key element of business ethics and corporate governance, particularly in economies with historically higher levels of perceived corruption. Several studies emphasize that anti-corruption policies in SMEs serve not only as risk-prevention tools but also as signals of reputational integrity to investors and business partners (Abalala, Islam & Alam, 2021; Liedong, 2021). Corruption undermines fair competition, weakens trust in institutions, and distorts market mechanisms. For this reason, anti-corruption policies are increasingly considered an integral part of the governance dimension of ESG (Cheglakova, Bataeva & Melitonyan, 2018). Empirical evidence from the SME environment suggests that implementing anti-corruption measures is associated with higher transparency and improved firm ability to respond to regulatory and societal demands.

The literature indicates that firms implementing anti-corruption measures benefit from enhanced credibility, reduced legal risk, and improved stakeholder relationships. At the same time, in environments characterized by imperfect institutional frameworks, entrepreneurs' ethical values function as informal regulatory mechanisms that guide business behavior and decision-making and support the adoption of responsible and sustainable business practices (Liedong, 2021).

Leal Filho et al. (2024) emphasize that anti-corruption practices significantly strengthen firms' ESG performance by reinforcing ethical governance structures and supporting long-term sustainability. In the SME environment, adopting anti-corruption documents signals a proactive ethical approach and a commitment to responsible business conduct. Empirical evidence from Central and Eastern European countries suggests that anti-corruption measures play a particularly important role in shaping ESG outcomes, primarily due to the specific institutional

context of these economies (Belas et al., 2024). These findings directly support the significance of the independent variable X3 in the analyzed model.

Poland and Hungary share several common characteristics, including a similar level of economic development, the dominance of SMEs, and a shared experience of post-socialist transformation. Nevertheless, differences exist between these countries in terms of ethical culture, governance quality, and institutional environments. Research conducted in Poland indicates a stronger emphasis on formal compliance and governance mechanisms, potentially increasing the importance of codes of ethics and anti-corruption measures in ESG implementation (Belas et al., 2024).

In contrast, studies focusing on Hungary emphasize the importance of entrepreneurs' personal values, ethical attitudes, and individual responsibility in shaping business behavior (Schmidt, 2023). This value-oriented approach suggests that subjective ethical convictions may be more strongly associated with ESG implementation than formal ethical instruments. These differences indicate that the same attributes of business ethics may operate with varying intensity across different national contexts.

From a theoretical perspective, these findings justify a comparative research approach and support the assumption that the relationship between business ethics and ESG implementation is conditioned by the national context. On this basis, the present study aimed to quantify the impact of ethical attitudes, formal ethical instruments, and anti-corruption practices on the implementation of ESG elements in SMEs in Poland and Hungary.

Aim, methodology, data

The objective of the study was to examine the relationship between selected attributes of business ethics and the perceived implementation of ESG elements in SMEs in Poland and Hungary. The research aimed to identify the opinions and attitudes of SME owners and managers toward the ESG concept and its implementation in Poland (PL) and Hungary (HU).

To ensure high-quality data collection, the survey was conducted by a reputable external research agency, MN Force, in May 2025, using a stratified random sampling technique drawn from the agency's proprietary panel of verified business entities, stratified by firm size and industry sector. For each of the examined countries, a separate language version of the questionnaire was developed. To address issues of cross-cultural validity, a back-translation procedure was employed: the original English items were translated into Polish and Hungarian by native speakers and subsequently back-translated into English to verify conceptual equivalence.

The target group consisted of SME owners and managers. Each respondent represented one firm. The survey targeted owners and managers who were assumed to possess sufficient knowledge about internal ethical practices, governance structures, and ESG-related activities within their companies, as these roles are typically directly involved in strategic decision-making and organizational processes. Respondents were asked to express their attitudes toward the examined statements using a five-point Likert scale (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree). The final sample comprised 391 respondents from Poland and 385 respondents from Hungary. The research team identified three significant factors characterizing the field of business ethics and formulated one dependent variable measuring the perceived implementation of ESG elements within firms. While single-item measures were utilized to reduce respondent burden, they were designed to capture concrete management artifacts (e.g., the physical existence of a code or document) rather than abstract latent constructs.

The dependent variables (X1, X2, X3, and the independent variable (Y) were defined as follows:

X1: *I consider the application of business ethics principles to be a correct approach to*

conducting business.

X2: *Our company has developed a code of ethics for employees and guidelines to prevent unethical practices.*

X3: *Our company has developed a document outlining anti-corruption measures and applies them in its business activities.*

Y: *Our company implements ESG elements*

Statistical Hypotheses

H1: Selected attributes of business ethics are positively associated with the perceived implementation of ESG elements in SMEs in Poland.

H2: Selected attributes of business ethics are positively associated with the perceived implementation of ESG elements in SMEs in Hungary.

The formulated statistical hypotheses will be tested using regression and correlation analyses at the $\alpha = 5\%$ significance level. Data processing was performed using R 4.2.3 software (R Core Team, 2023). The study examines whether the independent variables are statistically significant in relation to the dependent variable and the direction of their relationships. To ensure methodological rigor and address potential validity threats, several diagnostic tests were conducted. The normality of data distribution was assessed using skewness and kurtosis. Multicollinearity was formally tested using Variance Inflation Factors (VIF). The assumption of linearity was verified using the Ramsey Regression Equation Specification Error Test (RESET). Furthermore, to assess the potential risk of Common Method Bias (CMB) inherent in self-reported single-source data, Harman's Single Factor Test was computed. Given the limitations of this diagnostic, the test was used only as a supplementary indicator and does not permit CMB to be ruled out. Finally, to formally test whether the relationships between these variables differ between the two nations, a pooled regression model with interaction terms (Country $\times$ Predictor) was estimated. All examined variables met the assumptions required for regression and correlation analyses. Based on the relevant diagnostic tests, the data were assessed as normally distributed (Skewness/Kurtosis < 2); according to the Durbin–Watson statistic, no autocorrelation was detected (values approximated 2.0); the assumption of linearity was formally verified using the Ramsey RESET test; and no presence of multicollinearity was identified (VIF < 3). This methodology enables the assessment of whether selected attributes of business ethics are associated with the perceived implementation of ESG elements.

Results

The following tables present the findings of regression and correlation analyses. Based on the descriptive statistics for both analyzed countries (Table 1), it is possible to assess respondents' agreement with the individual statements.

Table 1: Descriptive Statistics

N	Mean	Standard Deviation	Skewness	Kurtosis	Variable	Country
391	1.829	0.813	0.922	0.988	X1	Poland
391	2.077	0.919	0.796	0.371	X2	Poland
391	2.199	0.993	0.614	-0.125	X3	Poland
391	2.532	1.120	0.554	-0.267	Y	Poland
385	1.883	0.881	1.141	1.609	X1	Hungary

385	2.021	0.932	1.074	1.266	X2	Hungary
385	2.179	0.993	0.751	0.320	X3	Hungary
385	2.491	1.114	0.576	-0.242	Y	Hungary

Source: own processing

In Poland, the highest level of agreement was observed for statement X1 (“I consider the application of business ethics principles to be an appropriate approach to doing business”), with a mean of 1.829. At the same time, a high degree of homogeneity in respondents’ answers to this statement was observed, as indicated by the low standard deviation (SD = 0.813). The skewness (ranging from 0.554 to 0.922) and kurtosis (ranging from -0.267 to 0.988) suggest that the data are approximately normally distributed.

Comparable results were also recorded for the second country analyzed. In Hungary, respondents likewise expressed the highest level of agreement with statement X1 (Mean = 1.883), while the remaining independent variables and the dependent variable were, on average, evaluated positively. The lowest variability in respondents’ answers was again observed for statement X1, with a standard deviation of 0.881. Based on the skewness (ranging from 0.576 to 1.141) and kurtosis (ranging from -0.242 to 1.609) values, the assumption of normality was also supported in this case.

Table 2 presents the results of the regression and correlation analysis of responses obtained from respondents in Poland. The regression model was statistically significant (p-value < 0.001) and explained 22.5% of the variability in the dependent variable ($R^2 = 0.225$). The Durbin-Watson statistic was 1.836, close to the threshold of 2.0, indicating no autocorrelation in the residuals. Methodological concerns regarding multicollinearity were addressed by calculating Variance Inflation Factors (VIF). As shown in Table 2, the VIF values for all predictors ranged from 1.565 to 2.096, well below the threshold of 3.0, confirming that multicollinearity is not a significant issue. Additionally, the Ramsey RESET test yielded a p-value of 0.460, failing to reject the null hypothesis and thus confirming that the linear functional form of the model is appropriate.

Regarding Common Method Bias, Harman’s Single Factor Test indicated that the first unrotated factor explained 51.43% of the variance. Although this result provides only limited diagnostic evidence, it suggests that common method bias may be present and therefore cannot be ruled out. The findings should consequently be interpreted with appropriate caution.

Table 2: Regression and Correlation Analysis for Poland

Correlation	X1	X2	X3	Y	
X1	1	0.574	0.519	0.343	
X2		1	0.674	0.401	
X3			1	0.446	
Y				1	
Regression Statistics					
R^2	0.225				
Significance F	<0.001				
Regression	Coefficients	StdError	tValue	P-value	VIF
Intercept	1.171	0.141	8.287	<0.001	
X1	0.151	0.077	1.957	0.051	1.565

X2	0.169	0.079	2.141	0.033	2.096
X3	0.334	0.070	4.763	<0.001	1.926

Source: own processing

The relationships among the analyzed variables were examined using correlation analysis. The correlation matrix indicates that all independent variables (X1, X2, X3) are positively correlated, with the strongest relationship between X2 and X3 ($r = 0.674$), suggesting a strong linear relationship. The correlations between the independent variables and the dependent variable Y are positive and moderate. The strongest association was identified between the independent variable X3 and the dependent variable Y ($r = 0.446$). Based on the individual regression coefficients, the independent variables have positive effects. The independent variable X3 (“Anti-corruption measures”) showed the strongest statistically significant association ($\beta = 0.334$, $p < 0.001$), followed by X2 ($\beta = 0.169$, $p = 0.033$). Variable X1 was on the borderline of statistical significance ($p = 0.051$).

The given regression model is constructed using the following variables:

$$YPL = 1.171 + 0.151 X1 + \mathbf{0.169 X2} + \mathbf{0.334 X3}$$

Based on the results obtained, hypothesis H1 was accepted.

The second country included in the analysis is Hungary, with results presented in Table 3. The overall statistical significance of the regression model was verified (p -value < 0.001). The coefficient of determination was 0.245, indicating that the model explained 24.5% of the total variability in the dependent variable. Diagnostic tests confirmed the model’s validity. The Durbin-Watson statistic was 2.026, indicating independent residuals. VIF values ranged from 1.532 to 1.921, indicating no multicollinearity. The Ramsey RESET test (p -value = 0.589) confirmed the linearity of the relationship. Harman’s Single Factor Test revealed that the single factor explained 50.69% of the variance, which is comparable to the Polish sample, and this result does not allow the absence of common method bias to be established. Accordingly, common method bias cannot be ruled out, and the findings should be interpreted with caution.

Table 3: Regression and Correlation Analysis for Hungary

Correlation	X1	X2	X3	Y	
X1	1	0.549	0.518	0.417	
X2		1	0.646	0.412	
X3			1	0.424	
Y				1	
Regression Statistics					
R Square	0.245				
Significance F	<0.001				
Regression	Coefficients	StdError	tValue	P-value	VIF
Intercept	1.075	0.136	7.878	<0.001	1.532
X1	0.284	0.070	4.083	<0.001	1.921
X2	0.183	0.074	2.489	0.013	1.837
X3	0.234	0.068	3.457	<0.001	1.532

Source: own processing

The correlation analysis revealed positive relationships among all independent variables,

with the strongest association observed between variables X2 and X3 ($r = 0.646$), indicating a moderate linear relationship. The correlations between the independent variables and the dependent variable are positive and moderate. The magnitude of the relationships across all three predictors was relatively similar, with correlation coefficients ranging from $r = 0.412$ to $r = 0.424$. The highest correlation was observed between variable X3 and the dependent variable Y ($r = 0.424$), suggesting a stronger association with Y than with the other predictors. Based on the regression coefficients, all predictors show a positive and statistically significant association with the dependent variable Y. Unlike in Poland, the strongest effect in Hungary was observed for variable X1 ($\beta = 0.284$, $p < 0.001$), followed by X3 ($\beta = 0.234$, $p < 0.001$) and X2 ($\beta = 0.183$, $p = 0.013$).

The model is constructed using the following variables:

$$Y_{HU} = 1.0753 + 0.2844 X1 + 0.1834 X2 + 0.2338 X3$$

Based on the results, hypothesis H2 was accepted.

Finally, to rigorously compare the results between the two countries, a pooled regression analysis with interaction terms was conducted (Table 4). This analysis tests whether the regression coefficients differ significantly between Poland and Hungary. The results indicate that the interaction terms for all three independent variables (X1: Country, X2: Country, X3: Country) were not statistically significant ($p > 0.05$). This implies that there is no statistical evidence to suggest that the relationship between business ethics and the perceived implementation of ESG elements differs structurally between Polish and Hungarian SMEs. The drivers of ESG implementation appear consistent across both examined national contexts.

Table 4: Cross-Country Comparison (Interaction Effects)

Term	Estimate	P-Value
(Intercept)	1.075	<0.001
X1	0.284	<0.001
X2	0.183	0.0139
X3	0.234	<0.001
Country	0.096	0.6262
X1: Country	-0.133	0.1994
X2: Country	-0.014	0.8941
X3: Country	0.100	0.3054

Source: own processing

Discussion

The research findings indicate that aspects of business ethics are significantly associated with the perceived implementation of ESG elements within the SME segment in both examined countries. In both countries, the strongest perceived element of business ethics was factor X1, reflecting the belief in the appropriateness of an ethical approach to business as such, which corresponds with recent empirical evidence showing that ethical leadership and moral convictions of SME owners significantly shape ESG-related behavior beyond formal governance mechanisms (Zhu, Zhi & Fang, 2025).

This result suggests that ethics is perceived more as a fundamental value and norm of business behavior rather than merely as a formal governance tool. Respondents' answers were relatively balanced, indicating a homogeneous perception of the importance of ethics across firms. The other examined areas, such as the existence of a code of ethics and anti-corruption measures, were also evaluated positively, albeit with slightly greater variability in responses, which may indicate differing levels of practical implementation of ethical principles. From a normative ethical perspective, these findings suggest that ESG implementation in SMEs should be understood not merely as a managerial or regulatory response, but as an expression of moral responsibility and ethical self-commitment on the part of business actors.

The comparison between Poland and Hungary shows that the fundamental attitudes toward evaluating business ethics are very similar in both countries. In both cases, respondents exhibit an overall favorable orientation toward ethical corporate behavior, with cross-country differences being marginal rather than substantial and primarily related to the intensity with which specific ethical instruments are perceived. This suggests that the business environments in both countries are, to a certain extent, culturally and value-wise comparable, at least within the context of the examined SMEs.

The results suggest that selected attributes of business ethics are associated with higher perceived levels of ESG implementation among SMEs. In the case of Poland, the findings indicate that not all independent variables carry the same weight in influencing ESG implementation. This pattern is consistent with findings suggesting that in environments characterized by stronger regulatory pressure and formal governance expectations, institutionalized ethical instruments tend to show a stronger effect than purely value-based ethical orientations (Kozłowska & Ustinovicius, 2025). The strongest effects are observed for formal instruments of ethical governance, such as anti-corruption measures and ethical rules governing employee behavior, as anti-corruption practices are increasingly recognized as a core component of the ESG governance pillar, particularly in institutional contexts with higher perceived corruption risks (Hong, Quan & Dat, 2025). In contrast, the mere belief in the importance of ethics, although strongly declared by respondents, appears in this case to function rather as a marginal or threshold factor. These findings are consistent with previous research suggesting that in economies characterized by differing levels of institutional quality, either formal governance mechanisms or individual ethical values of entrepreneurs may assume varying degrees of importance in the implementation of sustainable practices (Liedong, 2021; Patterson & Rowley, 2019).

In Hungary, the situation appears to be somewhat different. The results indicate that all examined aspects of business ethics are significantly associated with the perceived implementation of ESG elements. Owners' and managers' overall conviction about the importance of ethical business conduct plays a pronounced role, suggesting a stronger linkage between firms' value orientations and their practical actions in sustainability. This difference may be related to variations in strategic management approaches among SMEs across the two countries.

Overall, the findings suggest that business ethics is a key prerequisite for the successful implementation of ESG in the SME segment. At the same time, the results show that although general trends in Poland and Hungary are similar, differences emerge regarding which specific ethical instruments show a stronger association. These findings create scope for a deeper discussion of cultural, institutional, and managerial factors that may condition the relationship between ethics and sustainability in business practice.

The study's results are consistent with prior research indicating that ethical and responsible business practices can contribute to firms' long-term value, even if their short-term financial effects are not always clear-cut. Companies that systematically apply ethical principles and responsible governance mechanisms tend to be perceived positively by stakeholders, which

may support long-term sustainability and value stability (Gu et al., 2024).

Conclusion

The present study aimed to examine the relationship between selected attributes of business ethics and the perceived implementation of ESG elements in SMEs in Poland and Hungary. The results of the empirical analysis suggest that business ethics is significantly associated with the perceived implementation of ESG elements in both analyzed countries, albeit with different structures of influence for individual factors across national contexts.

From a theoretical perspective, the research builds on the literature emphasizing that ESG should not be perceived solely as a regulatory or reporting framework, but primarily as an expression of firms' value orientation and ethical foundations. This assumption was particularly suggested by the significant association between entrepreneurs' ethical attitudes (X1) and the perceived implementation of ESG elements in Hungary, where this factor showed as the strongest factor associated with the examined phenomenon. This finding aligns with theoretical arguments suggesting that the personal values, moral convictions, and ethical leadership of owners and managers are closely related to strategic sustainability-related decision-making, especially in the SME environment characterized by lower formalized governance (Joshi et al., 2023; Amodu, 2018).

In contrast, the empirical results for Poland indicate the dominant role of formal ethical instruments and anti-corruption measures, while the belief in the appropriateness of ethical business conduct itself was found to be at the threshold of statistical significance. This difference can be interpreted in line with theoretical arguments emphasizing the institutionalization of ethics through formal mechanisms in environments characterized by stronger regulatory pressure and higher governance expectations (Gatto & Parziale, 2024; Vărzaru, Bocean & Nicolescu, 2021). The findings thus support the claim that the same ethical attributes may operate with differing intensity across national and institutional contexts.

Attention should be given to the role of anti-corruption measures, which were statistically significantly associated with the perceived implementation of ESG elements in both countries. This result supports the theoretical assumption that anti-corruption policies do not merely serve as tools to prevent legal and reputational risks, but also signal firms' ethical integrity to investors, business partners, and the wider public (Abalala, Islam & Alam, 2021; Liedong, 2021). In Central and Eastern Europe, characterized by specific institutional challenges, anti-corruption measures appear to be a key pillar of the ESG governance dimension, as supported by previous empirical evidence from the V4 region (Zvarikova et al., 2024b).

The study's findings further support the broader theoretical framework according to which business ethics in SMEs often compensates for the absence of complex governance mechanisms and functions as an informal regulatory system guiding business behavior. This conclusion is consistent with research conducted in transforming economies, which emphasizes the heightened importance of internal ethical standards in environments characterized by lower institutional trust and higher levels of uncertainty (Turyakira, 2018; Cheglakova, Bataeva & Melitonyan, 2018). At the same time, the findings extend the existing literature by providing a quantitative comparison of the effects of ethical factors in two comparable Central European countries.

From a practical perspective, the results suggest that efforts to support ESG implementation in the SME segment should consider national context-specific factors. In countries where formal approaches to ethics and governance prevail, it is appropriate to strengthen instruments for institutionalizing ethical principles, such as codes of ethics and anti-corruption policies. Conversely, in environments where entrepreneurs' personal values play a dominant role, policy measures and managerial initiatives should focus on developing ethical leadership, education, and promoting value-oriented entrepreneurship.

The study has several limitations that should be acknowledged. First, cross-sectional data do not allow for causal inference, and the identified relationships should therefore be interpreted with caution. Second, the data are based on self-reported responses from a single source, which introduces the potential for common method bias. Although Harman's Single Factor Test was applied, this diagnostic provides only limited evidence and does not allow common method bias to be ruled out. Third, the study relies on single-item measures, which, although designed to capture concrete management practices, may not fully reflect the complexity of the examined constructs. Finally, the findings are limited to SMEs in Poland and Hungary, and their generalizability to other institutional or cultural contexts may be constrained. Another limitation is treating SMEs as a single analytical category, even though ethical practices and perceived ESG implementation may differ across SMEs. Future research could therefore examine these relationships separately across firm-size categories.

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