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Contribution of Anti-bribery management system to sustainable development

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Abstract

Standardized management system offers a set of tools to create a cohesive set of interacting elements designed to establish the organization and to overcome challenges. The anti-bribery management system provides a pathway to organization's sustainability and resilience if properly implemented and maintained. The aim of this research was to explore the understanding of European managers of how the anti-bribery management system (ABMS) of their organization can contribute to sustainable development since there is currently very little practical information on this topic. Data was collected through interviews with 119 managers of small and medium-sized enterprises that had implemented the ABMS. Cluster analysis and other qualitative methods were used to analyze the data. The findings of this research point to a gap in the understanding of the connection between sustainable development and ABMS that represents the potential for improvement. Stakeholder management remains the main point of connection perceived by all managers. Managers in organizations with more mature ABMS can better tailor their activities towards sustainability. Managers are aware of how ABMS benefits can directly contribute to sustainable development. Bribery risk analysis conducted as part of ABMS is not generally used to uncover threats to sustainable development. Understanding the connection between ABMS and sustainable development serves not just as a set of measures designed to support organization's progress, but also contribute to more sustainable society. Therefore, the findings of this research contribute to shaping the near future through tailoring the management systems of organizations to more sustainable means.

Keywords Bribery, Management system, Small and medium enterprises, Implementation of anti-bribery measures, Bribery risk management, Sustainable development, ISO 37001, Cluster analysis

1 Introduction

In recent decades, the global drive for sustainable development has increasingly emphasized not only environmental and social progress, but also the imperative of ethical governance. Countless enterprises have implemented a standardized management system. Few have done so with sustainable development as the main aim of such an endeavor. However, the connection between a proper standardized management system and a

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responsible future is unquestionable. Perhaps it is so clear that it is instinctual, and managers believe that they do not need to actively strive to achieve both. Various authors have dedicated their research to exploring how standardized management systems can contribute to sustainable development [17, 22, 27]. However, the opinions and experiences of managers have not yet been explored to understand the hindrance and obstacles they face in order to develop guidelines to overcome them and utilize potential of standardized management systems to contribute to sustainable development.

Implementing an anti-bribery management system (ABMS) is crucial for small and medium enterprises for several reasons. Bribery can lead to significant financial losses and legal penalties. ABMS helps to identify and mitigate these risks, saving companies from potential fines and reputational damage. Furthermore, ABMS ensures that companies comply with international anti-bribery laws and regulations, avoiding legal consequences and fostering a culture of integrity. By demonstrating a commitment to ethical practices, companies can enhance stakeholder confidence and trust in their operations. A robust ABMS helps maintain and improve a company's reputation, showing that it values transparency and ethical behavior. ABMS ensures that business decisions are made based on merit rather than illicit payments, promoting fair competition and reducing distorted decision-making processes [4, 15].

This information provides a list of main benefits of ABMS implementation, however the connection to sustainable development has not yet been clearly elaborated in current research [34]. stated that ABMS can play a significant role in promoting sustainable development, especially since through the promotion of ethical governance since ABMS ensures that companies operate with integrity and transparency, which are essential for sustainable business practices [17]. also stated that by preventing bribery, companies can ensure that resources are allocated efficiently and fairly, however, these benefits are perceived mainly in local communities and improving public services like education and healthcare according to [39] and [38]. Furthermore [31], believe that the biggest issue of bribery is the distortions of markets that hinder economic growth. Therefore, by implementing ABMS, companies contribute to a stable and fair economic environment, which is crucial for sustainable development. Few research studies even focused on exploring how the ABMS supports sustainable development goals [5, 13, 32]. Corruption, particularly in the form of bribery, undermines institutional trust, distorts fair competition, and hinders equitable resource distribution—posing a direct threat to the achievement of the United Nations Sustainable Development Goals (SDGs) [12]. Specifically, SDG 16 focuses on promoting peaceful, just, and inclusive societies by reducing corruption and bribery. Effective anti-bribery measures help achieve these goals by fostering trust and fairness in institutions. However, there is little evidence on how these principles applied in a business environment and that is what this research aims to contribute to.

Overall, it is obvious that integrating anti-bribery practices into a company's operations not only supports ethical governance but also aligns with broader sustainable development objectives, ensuring long-term success and positive societal impact. However, there is still a lack of evidence on how managers of small and medium enterprises perceive the connection between ABMS and sustainable development and what targeted activities they implement to ensure their long-term effects. Therefore, this research aims to contribute to understanding this connection and providing explanations that would be acceptable for practitioners since they would be based in their own experiences and

opinions. Connecting the theoretical aspects of academic research and practical examples of managerial work is necessary for shaping the future development of societies and making them more sustainable.

2 Literature review

The intersection of ABMS and business activities represents a crucial area of focus in fostering a healthy culture that is necessary for sustainable development. The interplay between governance, ethical business practices, and sustainable development has garnered increasing attention in recent years, particularly as global businesses confront the repercussions of bribery [27, 28]. ABMS has emerged as a critical mechanism in fostering accountability and promoting ethical conduct within organizations. As evidenced in various research studies, enterprises reveal a concerning lack of maturity in their anti-bribery disclosures, revealing compliance mainly in conduct code reporting while neglecting whistle-blowing transparency. Furthermore, the corporate world often grapples with a disjunction between espoused values and actual practices; many multinational corporations engage in unethical behaviors that starkly contradict their commitments to social responsibility [29].

As [27] proved that effective ABMSs are critical components in fostering ethical business practices and promoting sustainable development. Defined as a structured framework designed to prevent, detect, and respond to bribery, ABMS not only bolster corporate integrity but also enhance transparency and accountability within organizations. The implementation of such systems plays a significant role in aligning corporate operations with socio-economic objectives that sustain community well-being. For instance, research underscores the importance of robust anti-bribery measures in corporate sustainability reporting, revealing a concerning gap in disclosure practices among enterprises, particularly in regions like the Gulf Cooperation Council [20]. Furthermore, larger corporations listed on indices like the FTSE 100 have been actively integrating sustainability initiatives into their operations, reflecting a growing recognition of the need for compliance with international standards [16]. Thus, ABMS stands as a pillar of both ethical governance and sustainable development. By integrating effective ABMS, organizations can not only combat bribery but also align their operations with sustainable development goals, thereby enhancing their credibility and societal contributions.

The implementation of ABMS is pivotal in fostering ethical business practices, ultimately contributing to sustainable development. Given the increasing propensity for companies to engage in bribery and other unethical practices for profit, as highlighted by the evidence of multinational corporations employing corrupt tactics to secure contracts, the establishment of robust ABMS is essential for promoting accountability and transparency in business operations [29]. These systems help organizations not only to comply with legal mandates but also to align their strategies with sustainable development goals. By embedding ethical considerations within their operational frameworks, businesses can enhance their corporate social responsibility offerings and create a more positive rapport with stakeholders. Moreover, evidence from sustainability assessments indicates that companies committed to ethical practices are gradually integrating sustainability into their core strategies, yet further improvements in compliance and engagement with stakeholder needs remain necessary [16].

The promotion of transparency and accountability within organizations is pivotal for cultivating an environment resistant to bribery, thereby advancing sustainable development as proved by [37]. ABMS, rooted in rigorous governance frameworks, empower organizations to effectively mitigate unethical practices that undermine institutional integrity. As highlighted in recent studies, the interplay between transparency and efforts to combat bribery directly affects corporate governance and accountability, particularly in sectors prone to bribery [17, 36]. The intricacies of such bribery often hinder the achievement of Sustainable Development Goal 16, emphasizing the need for systems that reinforce transparency and trust within governance structures [22]. Furthermore, empirical evidence indicates that when organizations prioritize ethical standards, they enhance stakeholder confidence, thereby fostering economic resilience and sustainable growth [2, 13]. Ultimately, the implementation of anti-bribery measures not only curtails bribery but also bolsters an organization's commitment to sustainable practices, aligning with broader societal goals.

As [24] and [10] proved, managers of enterprises implementing ABMS are aware of its legal framework, however, its connection to fostering economic development is less clear, particularly in regions plagued by systemic bribery. In an increasingly interconnected global economy, fostering fair competition is paramount for enhancing foreign investment and promoting sustainable development. A robust ABMS serves as a foundational element in this endeavor, ensuring that multinational enterprises operate under ethical frameworks that discourage corrupt practices. By embracing Environmental, Social, and Governance (ESG) principles and Corporate Social Responsibility (CSR), enterprises can align their operational ethos with the expectations of their stakeholders, thereby cultivating trust and transparency within international markets [43]. This alignment not only enhances corporate image but also addresses the concerns of foreign investors, particularly when legal frameworks and international agreements emphasize ethical conduct in business operations. Moreover, as highlighted by the ongoing challenges faced by Chinese enterprises in establishing a credible global presence, effective governance and risk management strategies are essential for achieving mutual benefits with various stakeholders and reinforcing the notion of responsible global citizenship [23].

These systems not only enhance transparency but also foster accountability, which is essential for effective governance. The findings presented in discussions surrounding the G20 Summit highlight the critical role that reforming international economic institution plays in addressing bribery, ultimately linking it to sustained economic growth and resilience [14, 42]. Furthermore, the adoption of innovative tools such as e-Procurement significantly bolsters anti-bribery efforts, particularly in regions plagued by unethical practices, as demonstrated in the construction sector in Nigeria. The capabilities of e-Procurement to enhance record-keeping, accountability, and competition further illustrate the profound impact of such systems on curbing bribery and supporting project delivery [1]. Therefore, the establishment of robust anti-bribery frameworks is fundamental to achieving long-term sustainable development goals.

Furthermore, these systems not only aim to combat unethical practices but also significantly enhance transparency and accountability within organizations. By systematically enforcing anti-bribery policies, companies can build trust with stakeholders, thereby attracting foreign investment and promoting sustainable economic growth. The analysis

presented in various research studies highlights a troubling state of limited anti-bribery disclosures, suggesting that companies need to improve their reporting of anti-bribery measures to advance overall economic stability [20]. Additionally, the disparity between corporate claims of ethical conduct and actual practices undermines the potential for sustainable development, as seen in multinational corporations operating in developing countries [29]. Thus, the adoption of robust ABMS not only curtails bribery but also fosters an environment conducive to economic prosperity and development.

The integration of an ABMS serves as a pivotal mechanism in promoting sustainable development by safeguarding ethical standards across various sectors. The interplay between ABMS and sustainable development is increasingly significant, particularly as it pertains to corporate accountability and ethical business practices. Bribery undermines efforts toward sustainability, as evidenced by research indicating that companies exposed to high levels of bribery are less likely to engage in sustainability reporting, thus hindering their contributions to societal well-being and environmental stewardship [8, 13]. Furthermore, the discrepancy between corporate anti-bribery policies and the actual practices of multinational corporations highlights the pervasive nature of ethical lapses within the business ecosystem. Firms often assert commitments to corporate social responsibility while engaging in corrupt activities to gain competitive advantages, raising serious concerns about integrity and ethical conduct [29]. As future implications unfold, it becomes imperative for organizations to bolster anti-bribery frameworks to enhance transparency and truly support sustainable development goals.

3 Methodology

The main aim of this research was to discover how the implementation of ABMS can contribute to sustainable development. This study involved practical research. Qualitative research was selected as the main method.

The qualitative data obtained from participants were analyzed manually following the analytical framework proposed by [25], which has been effectively applied in prior studies [11, 30, 32, 41]. Data was collected using through semi-structured interviews carried out by research project team members with training in both management systems and qualitative research techniques. Interviews were recorded with the consent of participants to ensure that the analysis could be carried out by multiple researchers to avoid subjectivity. Special emphasis was placed on identifying recurring patterns across responses of individual managers, with consideration given to the national context in which each enterprise operates. This phase of the research was instrumental for discovering the relationship between ABMS and the broader concepts of sustainability. The final stages of analysis involved synthesizing and comparing the collected data. Members of the researcher project concentrated on identifying shared characteristics that illustrate the findings related to hypotheses.

Managers of small and medium businesses from various member states of the European Union were individually interviewed over the period spanning from July 2024 to February 2025. The requirement for participation in the study was the organization's proactive measures to combat bribery. Only small and medium-sized businesses, whose managers disclosed during the interview that their organization had implemented measures and procedures to prevent bribery beyond the obligations mandated by law, were included in the study sample. Frequently, this encompassed their personalized bribery

risk management strategies or even the adoption of an anti-bribery management system in line with ISO 37,001 standard according to [18]. The composition of the sample set is outlined in Fig. 1. The sample comprised 7 organizations from 17 European Union member countries included in the study (Austria, Bulgaria, Cyprus, Czechia, Denmark, Estonia, France, Germany, Greece, Hungary, Ireland, Italy, Malta, Poland, Romania, Slovakia, Spain). Altogether, interviews were conducted with 119 managers.

In order to enable quantitative analysis of the qualitative interview material, all transcripts were systematically coded using a structured coding scheme developed iteratively from the data. Each interview was segmented into meaning units and assigned categorical codes that captured recurring themes relevant to the research hypotheses. To ensure consistency in the coding process, a second researcher independently coded a subset of the transcripts, and inter-coder reliability was assessed to verify the stability of the coding framework. The resulting coded data consisted of ordinal and frequency-based variables, which did not meet the assumptions of normality required for parametric statistical procedures. For this reason, non-parametric tests were employed, as they are more appropriate for analyzing ranked or non-normally distributed data derived from qualitative coding.

Four hypotheses were formulated to guide the research. The main hypothesis was directly related to the main aim this research:

H0 Implementation of ABMS contributes to sustainable development.

This assumption explores the level of awareness of European managers whose organizations had previously adopted the ABMS. Managers must understand and actively enable the connection between ABMS and sustainable development through contributions of their organizations, mainly through specifically selected measures that target key areas in their organizations with potential for development. This hypothesis was verified using nonparametric binominal test and cluster analysis.

An essential part of ABMS is the bribery risk analysis that organization must conduct and that includes the risks related to processes, activities, projects, employees and key business partners or other stakeholders. This research assumed that if such risk analysis is conducted thoroughly, it can uncover other potential threats, including those related to sustainable development. Therefore, the first partial hypothesis was formulated as follows:

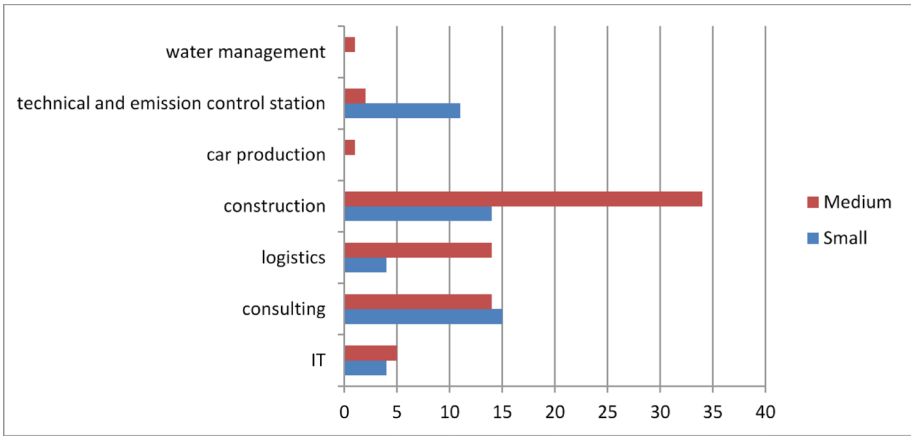


Fig. 1 Sample file according to size and business orientation of enterprises*Source*: own elaboration

H1 Bribery risk analysis can uncover threats to sustainable development.

Several statistical tests were used not only to verify the hypotheses, but also to formulate the depth of the findings from results. Spearman rank correlation coefficient was calculated to explore dependency between various researched factors and to verify this hypothesis. The test was conducted according to methodology previously used by other researchers [21, 44].

Achievements in sustainable development are generally evaluated through the Sustainable Development Goals. Therefore, a hypothesis was formulated to explore the possibility of ABMS' contribution to the achievement of Sustainable Development Goals as follows:

H2 A developed ABMS can better contribute to achievement of Sustainable Development Goals.

The aim was not only to explore the knowledge of managers of the Sustainable Development Goals, but most importantly, of the contribution of ABMS to their achievement. Therefore, the interviews included not only discussions on the knowledge of managers of Sustainable Development Goals, but also on how the ABMS measures can contribute to specific areas within these goals. To verify this hypothesis non-parametric, Pearson chi-square test was used.

The last part of the research focused on the benefits of ABMS implementation in organizations. Since only organizations with mature ABMS were included in the research sample, their managers were a good source of information about the benefits ABMS can bring to organization. This research also explored the awareness of managers of how these benefits can also contribute to sustainable development. A hypothesis was also formulated to explore this area of ABMS implementation:

H3 At least 10 perceived ABMS implementation benefits can directly contribute to sustainable development.

This hypothesis was verified using several nonparametric binominal tests. Each of the benefits was tested separately.

4 Results

This research focused on exploring how the ABMS can contribute to achievement of sustainable development. The current literature provided evidence mostly on the negative impacts of bribery on several sustainable development areas. This research therefore aims to explore the understanding of European managers of how their ABMS can contribute to positive achievements.

Only those organizations that had implemented certain anti-bribery measures beyond the legal obligations were included in the research. During the interviews, special attention was paid to risk analysis as the main tool for preventing bribery and also to revealing critical points that could represent an opportunity for bribery to occur. Interviewers observed which managers mentioned this tool, how often it was mentioned and in what context. It is systemically given that if risk analysis is carried out consistently, its results will bring various positives and further the progress in revealing bribery opportunities. What has not yet been sufficiently explored is the potential of bribery risk analysis to reveal opportunities for improving the organization's sustainable development. An

intermediate step between ABMS and sustainable development are the activities that an organization carries out in the area of corporate social responsibility. Therefore, the interviews included questions related other ISO standards. Figure 2 provides the results of the survey of managers' opinions on the benefits of bribery risk analysis in their organization. It indicates the proportion of managers who stated that their organizations' bribery risk analysis can detect threats to sustainable development. The results show a difference in managers' opinions regarding the standards implemented in their organization. It was discovered that only 37.3% of managers of organizations with implemented ISO 37,001 requirements considered the analysis of bribery risks in their organization to be an effective tool for detecting threats to sustainable development. Managers of organizations that implemented the requirements of ISO 26,000 [19] in addition to the requirements of ISO 37,001 showed the highest proportion of uncovering threats to sustainable development in the analysis of bribery risks (86.67%). On the other hand, this share was lowest for managers of organizations with implemented ISO 31,000 requirements (25%).

According to these finding, organizations should consider to implement both standards to achieve higher effectiveness in detecting threats to sustainable development and to support ethical business, transparency and sustainability in general. The next recommendation could also be to focus on reviewing the risk analysis methodology within ISO 37,001 and better integrating it into strategic sustainability planning since only 37.3% of managers that implemented the ISO 37,001 standard alone considered corruption risk analysis effective in relation to sustainable development.

However, it is also important to consider the depth of the bribery risk analysis carried out. All 119 interviewed European managers reported that their organization regularly conducts process and stakeholder risk analysis. However, less than half of managers (48.36%) reported that their bribery risk analysis also includes an assessment of corporate social responsibility risks. This number was higher only in those organizations that had also implemented requirements from the ISO 26,000 standard (79.63%).

Based on this, it is important to include social responsibility risks in the bribery analysis. Organizations should expand the scope of bribery risk analysis to include social responsibility factors such as impact of corruption on employees, communities,

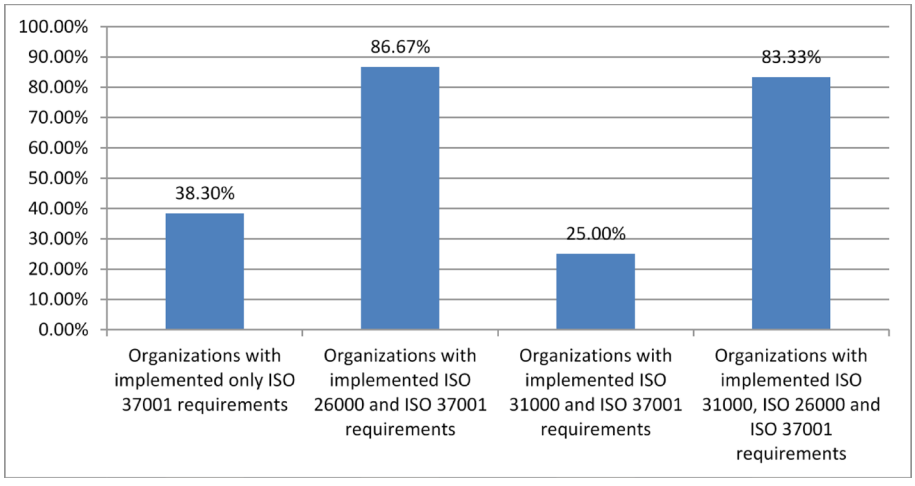


Fig. 2 Bribery risk analysis contribution to sustainable development*Source*: own elaboration

environmental processes and reputation. The implementation of standard ISO 26,000 can be helpful for a boarder and deeper understanding of bribery risks with an impact on sustainability and business ethics. Organizations could also comprehensively adapt their existing risk analysis methodologies to cover all relevant areas, including ethical, social and environmental risks. Although all organizations should carry out process and stakeholder analyses, they do not always sufficiently connect with societal aspects. However, this is an area that would require deeper analysis.

Hypothesis H1 assumed that bribery risk analysis conducted as part of ABMS measures in organizations can uncover threats to sustainable development. The survey results show that organizations' managers only to a small extent focus their analysis of bribery risks on detecting threats to sustainable development. The results show that it is more the implementation of the requirements of the ISO 26,000 standard that contributes to achieving sustainable development through the risk management tool than the anti-bribery tool. In order to verify these results, Spearman correlation coefficient was calculated. It was discovered that the strength of the dependency was evaluated as weak ($r_s = 0.28$, $n = 119$, $p < 0.001$). Therefore, hypothesis H1 cannot be unequivocally confirmed.

Since the research included managers of organizations that implemented at least basic anti-bribery measures, it was possible to determine whether the level of ABMS implementation has an impact on achieving considerable contribution to sustainable development. The research involved managers of organizations, of which 52.94% had an ABMS implemented for less than 1 year, 23.53% had an ABMS implemented and certified for more than 1 year and the same proportion of organizations that have an ABMS still in the implementation stage, but had already carried out a risk analysis. The research results clearly show that a higher level of ABMS maturity represents a better information and knowledge base in organizations, which not only develops the depth of risk analysis, but also contributes to a better understanding of the connection between sustainable development and ABMS. The proportion of managers that believe that bribery risk analysis can uncover threats to sustainable development was significantly higher in organizations that have had ABMS implemented for a longer time (78.57%). This share was 46.03% in organizations with ABMS implemented and certified for less than 1 year. It was also discovered that the share of managers who believe that risk analysis performed as part of ABMS can detect threats to sustainable development was only 14.29%. The possible correlation between the level of ABMS implementation in the organization and managers' beliefs about risk analysis contribution to sustainable development threats discovery was verified using correlation test. Spearman correlation coefficient was calculated and it was concluded that the dependency was strong ($r_s = 0.79$, $n = 119$, $p < 0.001$). Based on this result, it can be concluded that developing ABMS in organizations through risk identification has a positive impact on managers' perceptions of their organization's contribution to achieving sustainable development. Organizations should therefore strive for a complete implementation of ABMS, including certification, to gain a more robust basis for risk analysis and decision-making; maintain and continuously improve ABMS with an emphasis on its maturity (regular evaluation, employee training and adaption to changing contexts). Organizations in the early stages of implementation should by supported through mentoring, external advice and the exchange of good practice examples to raise awareness of the values of ABMS.

Furthermore, hypothesis H2 assumed that a developed ABMS can better contribute to achievement of Sustainable Development Goals. Table 1 shows the proportion of managers that are aware of the connection between ABMS and individual SDG. This study examined how managers understand both the adverse effects of bribery on achieving different SDGs and the role of ABMS in generating positive outcomes. Current evidence indicates a direct association between ABMS and five specific SDGs, along with an indirect link to three additional SDGs. Managerial perspectives and experiences were gathered during interviews. Initially, managers discussed the subject without focusing on particular SDGs. It emerged that only 67% of the sample group could identify at least one SDG they believe ABMS influences. Later, interviews were supplemented with the presentation of a comprehensive list of all 17 SDGs. Findings revealed that 66.39% of managers are aware of their ABMS's role in advancing SDG No. 16, which focuses on promoting peace, justice, and strong institutions. This percentage was expected to be slightly higher due to the direct relevance of this goal to bribery mitigation measures. Additionally, around 50% of managers recognized links between ABMS and SDG No. 7, which pertains to affordable and clean energy. Managers explained that grants from the European Union targeting the energy sector are areas prone to concentrated bribery risks. Only 20% highlighted connections to SDG No. 8, associated with decent work and economic growth. The highest levels of awareness were observed for SDGs No. 9, No. 10, and No. 11, with 77.31% of managers acknowledging the contribution of anti-bribery practices to community development. For SDG No. 9, construction and similar enterprises focused on projects as key areas influenced by ABMS, describing this connection as significant for society. Similarly, SDG No. 10 connections were primarily justified through stakeholder engagement. Conversely, fewer than 14% of managers perceived links to SDGs No. 12, No. 13, and No. 15. The proportion of managers identifying connections between ABMS and other SDGs was below 5%, except for SDG No. 17, which stood slightly higher at 8.4%.

Table 1 Connection between ABMS and SDGs*Source*: own elaboration

SDG	Proportion of managers that are aware of the connection between ABMS and SDG			
	All organizations in sample file	Organizations with Bribery risk analysis	Organizations with ABMS - less than 1 year	Organizations with ABMS - more than 1 year
1.	1.68%	0.00%	0.00%	7.14%
2.	2.52%	0.00%	1.59%	7.14%
3.	4.20%	0.00%	1.59%	14.29%
4.	3.36%	0.00%	0.00%	14.29%
5.	4.20%	0.00%	1.59%	14.29%
6.	1.68%	0.00%	1.59%	3.57%
7.	52.94%	32.14%	44.44%	92.86%
8.	21.01%	3.57%	4.76%	75.00%
9.	70.59%	21.43%	80.95%	96.43%
10.	78.15%	17.86%	95.24%	100.00%
11.	77.31%	28.57%	92.06%	92.86%
12.	11.76%	3.57%	4.76%	35.71%
13.	13.45%	10.71%	3.17%	39.29%
14.	3.36%	3.57%	0.00%	10.71%
15.	13.45%	3.57%	3.17%	46.43%
16.	66.39%	10.71%	77.78%	96.43%
17.	8.40%	3.57%	4.76%	21.43%

The data in Table 1 is also further structured by the level of maturity of ABMS in organization. It is obvious that managers of organizations that had not yet fully implemented all ABMS requirements have less experience with sustainable development goals and ABMS connection. The proportion of managers that are aware of the connection between ABMS and SDG are higher for organizations with ABMS that had been implemented for longer than one year. This disproportion is especially notable for SDGS, where managers are more aware of their connection with ABMS, such as goals No. 16 and No. 10. Verification of hypothesis H2 proved that there is dependence between level of ABMS maturity and SDGs awareness. To verify this hypothesis non-parametric, Pearson chi-square test was used. It helped to determine whether there´s a significant association between categorical variables. Conditions of Pearson chi-square test were met. As a part of the analysis, two variables were tested, ordinal, independent variable (level of developed ABMS) and nominal, dependent variable (achieved sustainable development goal). The correlation between the variables was detected (p-value < 0.05). It means that the achievement of SDG is affected by the level of developed ABMS. Next part of the testing consisted of correlation analysis. In use of Cramer´s V (0.742), the strong correlation was identified. In use of Cramer´s V, statistical measure used to assess the strength of association between two categorical variables, the strong correlation was identified (0.742). Cramer´s V reaches values in the interval (0.1) where 0 means no association and 1 means perfect association (completely dependent). These findings therefore confirm the hypothesis H2.

Hypothesis H3 assumed that at least 10 perceived ABMS implementation benefits can directly contribute to sustainable development. According to the literature review, the adoption of ABMS offers various advantages for a business. During the interviews, managers were provided with 15 potential benefits to consider. Initially, they were asked to assess if each benefit was relevant to their organization. Next, they were encouraged to discuss whether they believed there were any additional benefits beyond those listed. Finally, they were requested to determine if they observed any connection between the mentioned benefits and sustainable development in their organization. Figure 3 shows not only the awareness of managers of ABMS benefits, but also the extent of their contribution to sustainable development.

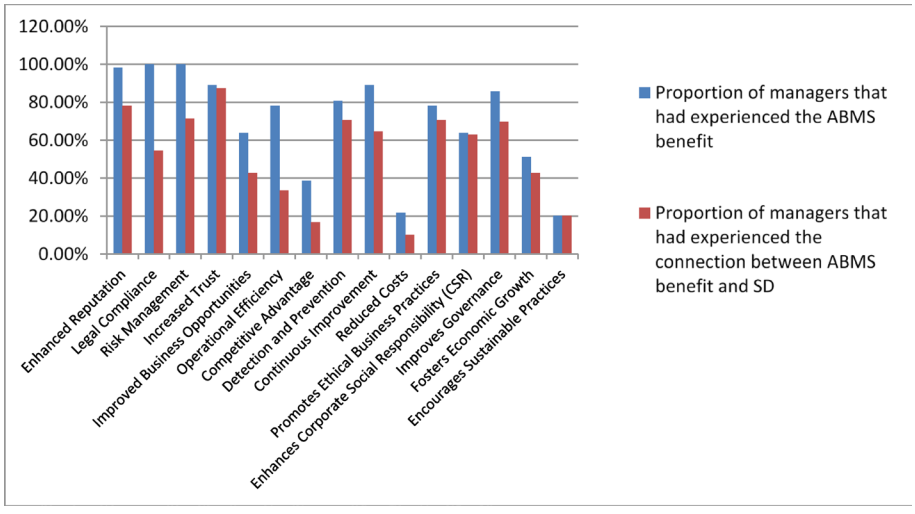


Fig. 3 ABMS benefits*Source*: own elaboration

The benefit of enhanced reputation provides a foundation for healthy stakeholder development. 98.32% of managers believe that implementation of ABMS builds a positive reputation for ethical behavior, attracting like-minded partners and customers and 78.15% managers also linked this benefit to its contribution to sustainable development. All interviewed mangers have experienced the ABMS's contribution to legal compliance enhancement. They all believed that ABMS helps to ensure compliance with anti-bribery laws and regulations, reducing the risk of legal penalties. However, only half of managers (54.62%) credit this benefit to sustainable development. All managers are also aware of the contribution of ABMS to broad-spectrum risk management that provides a framework for identifying, assessing, and managing bribery risks. Up to 71.43% of them were also conscious of its contribution to sustainable development. Since stakeholder relationship development is an integral part of nay management system an increased trust is one of the expected benefits. Building trust with stakeholders, including customers, employees, and investors, is crucial for long-term sustainability which nearly all of the managers that experienced this ABMS benefit were aware of. Nearly two thirds of interviewed managers credited ABMS to improved business opportunities (68.87%). The reasoning behind this finding was that organization with ABMS attracts business from organizations that prefer to work with ethically compliant partners. However, the majority of managers did not link this benefit to its potential contribution to sustainable development. Significant differences were identified in managers' perceptions of the operational efficiency as ABMS implementation benefit. While 78.15% of managers have experience with the contribution of ABMS to the promotion of a culture of transparency and accountability, leading to more efficient operations, only 33.61% of managers have experience with linking this benefit to sustainable development. A very low level of contribution to sustainable development was also recorded in the development of competitive advantage, as only 16.81% of managers mentioned this option, despite the fact that up to 38.66% of managers perceive this benefit of differentiation of the organization from competitors who may not have such a management system in place. Detection and prevention represent the contribution of ABMS to detecting and preventing bribery-related issues early, minimizing potential damage as viewed by 80.67% of managers. Up to 70.59% of managers also understood its link to sustainable development. Such a relatively high share can be explained by the fact that ABMS is based on the principle of preventing problems, including threats from the external environment that would negatively affect the principles on which sustainable development is based and managers are well-aware of that connection. Every management system built on ISO standard requirements is also based on the principle of continuous improvement. Therefore, ABMS encourages continuous improvement in anti-bribery practices and controls that nearly 90% of managers viewed positively. However, only less than two thirds of them had also experienced the contribution of organizations' continuous improvement to sustainable development. One of the benefits that were evaluated as the least significant was the reduction of costs. Only 21.85% of interviewed managers experienced ABMS's contribution to the minimization of the financial impact of bribery, including fines, legal fees, and reputational damage and only 10.08% experienced its link with sustainable development. The general belief among managers was that sustainable measures increase not reduce costs and even prevention of bribery is a costly affair. However, all managers expressed their opinion on these costs being worth the ABMS affecting operations since

their other benefits highly overshadow these costs. On the other hand, not all managers expressed a similar view on contributing to sustainable development. Nearly an identical portion of managers were aware of the fact that ABMS promotes ethical business practices which encourage transparency and integrity that are essential for sustainable development. Only less than 15% of all European managers interviewed did not believe that ABMS improves governance. Furthermore, 69.75% of managers had experience with how ABMS strengthens governance structures, ensuring accountability and ethical decision-making and thus contributes to sustainable development. Approximately half of the managers were aware of the fact that the implementation of ABMS also fosters economic growth since it creates a fair business environment and attracts investments. Only less than 8% of these managers did not experience the connection between this ABMS benefit and its contribution to sustainable development. Only 20.17% of managers believed that the ABMS promotes a culture of integrity that supports sustainable business practices and long-term planning. Figure 3 shows all the findings. As a result of these findings, organizations should open a discussion about the costs and better communicate the long-term economic benefits of ABMS, such as minimizing reputational damage, legal expenses or increased investor confidence and also present the ABMS as a competitive advantage in the international environment. They also should strengthen a culture of integrity through training, internal campaigns or incorporating ethical principles into decision-making processes.

The analysis revealed that all managers included in the sample understand that implementing ISO 37,001 can be a pivotal move toward fostering more ethical and resilient societies. Approximately 53.11% of European managers recognize that adopting the ABMS can play a significant role in promoting sustainable development. While every interviewed manager acknowledges that introducing ABMS measures can enhance legal compliance, only half of them believe that adhering to laws also contributes to sustainable development. Moreover, not all managers who recognize the role of ABMS in establishing a positive enterprise reputation believe it has an impact on sustainable development (78.15%). The most minimal discrepancies in how managers perceive ABMS benefits and their influence on sustainable development were seen in the areas of trust-building and the improvement of corporate social responsibility. Based on the findings in Fig. 3, it can be inferred that all managers from organizations that have implemented at least some ABMS measures have a certain level of awareness regarding its effect on sustainable development. Thus, hypothesis H3 can be confirmed. This hypothesis was verified using several nonparametric binominal tests. Each of the benefits was tested separately. Hypothesis was confirmed for 11 perceived benefits where the p-value was lower than the established level of significance (0.05). Organizations should emphasize ethical values as the core of their anti-corruption strategies, thereby contributing to stable and socially responsible communities. They should emphasize how anti-bribery measures support environmental, economic and social balance, for example through internal communications and training.

The main assumption that served as the foundation of this research was the contribution of ABMS to sustainable development (hypothesis H0). This hypothesis was verified using nonparametric binominal tests. The minimum frequency and binominal distribution conditions were met. Answers were divided into two groups. One group consisted of managers who were aware of the contribution of ABMS to sustainable development

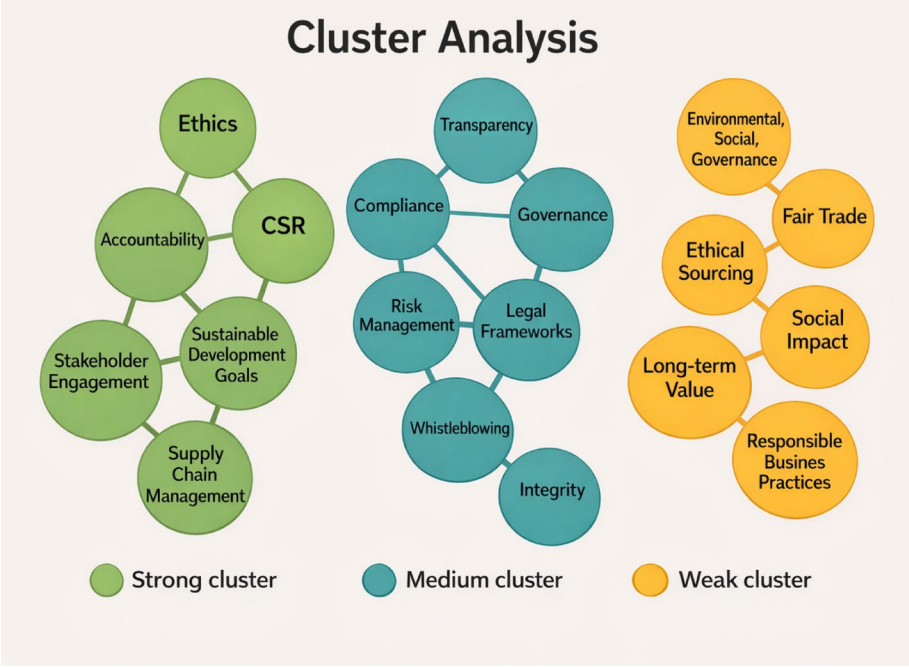


Fig. 4 Cluster analysis results*Source*: own elaboration

and the other one consisted of managers who did not. It was discovered that majority of managers consider implementation of ABMS to be beneficial to sustainable development (p-value < 0.05) that means that the H0 can be considered confirmed.

Cluster analysis was performed to further analyze the understanding of managers of the connection between ABMS and sustainable development. Up to 19 keywords were identified during the interviews that represent the essence of the connection. A clustering algorithm grouped data obtained from the interviews into three clusters that reflect the underlying patterns in the data. Both the intra-cluster similarities and dis-similarities were identified and Fowlkes–Mallows index was calculated to assess how well the clustering matches actual categories. The score was 0.87 which indicates a very good agreement between predicted clusters and true labels; therefore, even though it is not a complete match, there is little room for improvement. Figure 4 shows the results of the cluster analysis. It was discovered that managers believe that while ABMS forces them to constantly improve their processes, it does not directly contribute to creating conditions for long-term engagement in socially responsible practices. Since majority of the keywords were in the strong or medium connection categories, it is possible to confirm that majority of managers of small and medium sized enterprises located in Europe understand the contribution of ABMS to sustainable development. However, since the results were not entirely optimal, there still exists the potential for further improvement.

Furthermore, it was discovered that depending on the business orientation of small and medium enterprises managers had different experiences with the contribution of ABMS to sustainable development. The managers of construction companies, car production companies and consulting organizations were especially aware of how their ABMS contributes to various aspects of sustainable development. On the other hand, managers of technical and emission control stations were among the least aware of the topic of sustainable development and do not believe that their ABMS can actively

contribute to the achievement of its goals. Recommendations in this area may be more challenging to implement and depend on the willingness of individual organizations to address them. One option is to introduce sector-specific training and awareness-raising that explains how ABMS impacts long-term social, environmental and economic stability, even in technical industries. This could be possible for example through the cross-sector exchanges of experience, benchmarking and case studies that show how ABMS can support transparency, ethics and long-term growth in different contexts. As the same time, it is important to adapt sustainability communication to reflect the specific values, goals and challenges of the given industry. In overall, the implementation of ABMS contributes to sustainable development. Therefore, the main hypothesis can be confirmed, but with reservations. This research clearly showed the huge untapped potential that ABMS represents in achieving sustainable development.

Several guidelines can be formulated based on the findings of the research. Small and medium sized enterprises are the driving force of innovation and progress in modern economies. Therefore, their contribution to sustainable development needs to be emphasized on national and international levels. On the other hand, larger companies are usually the force behind innovation in management systems, which was also proven by this current research. Managers of small and medium enterprises tend to focus mainly on the essential requirements of ABMS and thus omitting its potential for sustainable development contribution. The easiest way to achieve this could be in the risk analysis that should include more sustainability attributes of the enterprise. The benefits of such in-depth risk identification lie not only in contribution to making organizations' activities more sustainable, but also in achieving better understanding of potential development of enterprise in its fight against bribery.

5 Conclusions and discussion

Small and medium enterprises are the backbone of economies worldwide, accounting for significant contributions to employment, innovation, and GDP. Despite their smaller scale, small and medium enterprises collectively wield substantial influence on sustainable development outcomes. Their agility, community engagement, and localized impact position them as critical players in achieving the SDGs. However, their limited scale often translates into reduced capacity to implement systems like ABMS, which require strategic planning, financial investment, and operational adjustments. As [6] observe, SMEs face disproportionate challenges when navigating the intricacies of the SDGs. This study also proved it true, particularly in the context of anti-bribery compliance.

This research focused on exploring the connection between ABMS and sustainable development in post-pandemic societies. European managers of small and medium enterprises were selected as the source of information thus creating a unique and relatively homogenous sample file. Even though each European country is different in its legislative and business framework, there are some similarities that link the EU member states. These similarities become even more pronounced when considering only small and medium sized enterprises operating in private sector as can also be evidenced by other authors [12, 31].

The ISO standards that are vastly implemented in Europe were selected as the point of reference in this research. The founding principle is the contribution of standardized management system requirements to vast aspects of organizations' development.

ABMS was explored from the managerial point of view on bribery prevention measures. The connection between ABMS and sustainable development had previously not been explored from this perspective, since the majority of research focused on legislation development and adherence [3, 15].The results of this research clearly show that the implementation of the requirements of any ISO standard has a positive impact on the organization's contribution to achieving sustainable development.

The most significant benefit that is visible is the involvement of stakeholders. Research has also vastly covered this topic [7, 17, 26, 40], however the ABMS has not yet been fully used as the source of the contributions. Together, these elements form a cohesive framework where sustainable development goals are pursued through transparent and ethical practices, supported by active stakeholder engagement and rigorous anti-bribery measures. This approach not only mitigates risks but also contributes positively to society and the environment, aligning business objectives with broader societal goals.

Although it is obvious that the most important and largest contribution to sustainable development is the implementation of the requirements of the ISO 26 000 standard, the results of this research point to the finding that managers of small and medium enterprises are also aware of the active contribution of the implementation of the requirements of the ISO 37 001 standard to achieving sustainable development. However, the negative finding is that a significant share of such managers is not sufficiently aware of this connection and an even smaller share of these managers actively develops this connection. This is a completely new finding that has not yet been scientifically proved by other researchers. However, some indications had existed before through studies with similar focus like [4, 12, 24, 33].

The limitation of this research study lies mainly in the scale of the data collection. Conduction of interviews is a time-consuming effort that results in heterogeneous sample file of not a large scale. Therefore, there are limitations on what statistical methods can be used to analyze that data and draw conclusions. However, the benefit of applying qualitative research is in the details that can be discovered through the use of these methods. This research proved the values of diverse sample file collected by interviews by providing a novel approach to understanding the ABMS and its contribution to making societies more sustainable.

Findings of this research contribute to understanding of the topic of real implications of standardized management systems. Prevention of bribery has huge potential to contribute to addressing social challenges. However, it is clear that this potential is not fully understood by managers of small and medium enterprises and by managers of specific business orientation (technical and emission control stations). As [9, 35] proved larger companies are usually leaders in the implementation of the standardized management systems and their integration. However, their contributions to the external environment outside of the boundaries of their companies are not yet fully explored. Therefore, further research into this topic in context of sustainable development and corporate social responsibility is required, since part of this is ethical behavior, which also includes anti-corruption behavior and which can help not only set up processes in the company but also bring additional benefits to the company in the form of a good reputation among its stakeholders. Long-term implications of this research lie in proving a foundation for understanding the possibilities of making organizations more sustainable by creating

an effective management system designed to serve multiple purposes, such as bribery prevention.

Author contributions
L.V. and L.H. wrote the main manuscript text. L.V. secured the funding. All authors reviewed the manuscript.

Funding
This research was funded by VEGA, grant number 1/0023/25 "Possibilities and barriers of the implementation of anti-bribery management systems in the practice of Slovak enterprises".

Data availability
The datasets generated during and/or analysed during the current study are not publicly available due to participant privacy protection but are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
Not applicable.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

Received: 14 July 2025 / Accepted: 6 May 2026
Published online: 18 May 2026

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