

Using Standards in The Sustainability Pursuit of the Companies: A Case Study in The Romanian Food Industry

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ABSTRACT : Innovation and sustainability are key elements gaining important positions in public and private organizations' agenda in recent years. Whilst innovation drives more productivity, efficiency and competitiveness, the incorporation of sustainability into the development of organizations acts as a counterbalance. It helps in directing the development of organizations towards more responsible activities in terms of environmental, economic and social impacts. Standardization offers valuable tools to orient organizational development efforts towards sustainability. Standards have recently become recognized for their potential to support sustainable development, yet there is a gap of demonstrated evidence in this regard. The purpose of this research is to explore the relationship between the use or implementation of standards in organizations and the pursuit of sustainability in an important industrial sector in Romania – food industry. Based on the results obtained from surveying companies in this sector, through exploratory research, and using the quantitative re-search methods, the authors intend to find out whether organizations using standards in their activity are indeed more sustainability-oriented than the others. In doing so, this paper aims to determine which of two identified hypotheses can be scientifically supported. It also focuses on raising awareness of the fact that implementation of standards could be a proven prerequisite in pursuing sustainability.

Keywords - Food sector, innovation, standards, strategy, sustainability

1. INTRODUCTION

More and more organizations worldwide incorporate sustainability into their businesses considering the pressure of the market context. Some of the driving factors are external, for example, mandatory legislation or market expectations. Usually, market context has significant influences on corporate strategy. Other factors are internal, represented by certain market opportunities identified by the management or awareness of and commitment to the long-term advantages of the company operating in a sustainable community (Schrettle et al., 2014).

The sustainability challenge is a recent development that carries substantial implications for strategic decision-making within a company, as in most cases it necessitates a reassessment of existing management approaches. Being a rather broad notion, sustainability entails three pillars - environmental, social, and economic. This research highlights how numerous companies of different sizes, particularly in key industry sectors, have begun integrating sustainability into their strategies. However, it is not necessarily done in a uniform standardized way.

The authors Dyllick and Hockerts (2002) state that “an obsession with short-term profits is contrary to the spirit of sustainability”. For sustainability initiatives to be effective, organizations must adopt a forward-looking approach.

Current legal requirements on sustainability reporting systems encourage organizations to look for tools facilitating integration of sustainability into their organizational processes. One way of doing that is by thorough implementation of recognized applicable standards. Being the result of a collective work, standards provide guidelines for efficient use of resources while maximizing the reliability of materials, products and services. They support the integration of socially and environmentally responsible behavior in the management of plants and workplaces (UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE [UNECE], 2024).

The UNECE recognizes the value and impact of standards in supporting sustainability and achievement of the UN Agenda development goals. Their influence is acknowledged to have different shapes. Some standards are cross-cutting and envisage interdisciplinary aspects applicable to all types of organizations. Others provide practical specifications on measurement, testing and manufacture or specify requirements relating to safety and performance. Standards support all three dimensions of sustainability and therefore the need to be better understood and implemented is key for a sustainable-oriented organization.

The authors (León-Bravo & Caniato, 2023) confirm that when two products possess comparable quality, the supplier with the superior sustainability performance is chosen.

“Among all sectors, agri-food is the largest contributor to environmental damage because of its excessive demand for energy, materials and water” (Notarnicola et al., 2017). In this context, standardization offers commonly agreed tools for monitoring and reducing emissions, waste management or energy use. They also, for this particular sector, provide quality specifications, testing methods, practices and management systems for food safety. All these help to create the necessary premises to adequately address customers’ interests and expectations within the whole value chain thus supporting the organization in pursuing sustainability related not only to its impact on the environment but also on economic and social frames.

The research focuses on the Romanian food sector as one with an important weight in the national economy. It has an important national dimension related to production and food processing and also an external one related to imports of raw material and export of processed products. A considerable portion of the industry's market share is held by a few major corporations, while the remainder consists of small and micro enterprises. Due to the intricate nature and particular demands of the food sector, along with its challenges in terms of pursuing sustainability, this research investigates whether organizations operating in this sector are preoccupied with sustainability issues.

Can there be established a connection between implementation of standards in an organization and that organization’s pursuit for sustainability? Can we say, after having performed this exploratory research, that organizations using standards in their activity tend to have a more sustainability-oriented behavior?

It may seem obvious that entities seeking to be compliant with the whole legal framework or to benchmark their activity to certain standards usually pursue sustainability. But it needs to be evidenced through research results.

This paper aims to present empirical evidence, derived from the findings of exploratory research, that organizations pursuing sustainability in their businesses use standards. Even though academic research on the role of standards and standardization in achieving sustainability is currently limited and it may be too early to provide concrete impact data, our focus is to highlight the correlation between sustainability efforts and the

adoption / use of standards. Likewise, entities implementing standards pursue sustainability or adopt a more sustainability-focused approach.

The remainder of this paper is structured as follows. Section 2 focuses on a literature re-view, offering insights from published works on the connection between sustainability practices in the food industry and the use of standards. Following the review, Section 3 outlines the research methodology. Section 4 presents the research findings and their interpretations. Finally, the paper offers conclusions and suggestions for potential future research, followed by a list of references.

2. LITERATURE REVIEW

“Sustainability is about building a society in which a proper balance is created” (Székely & Knirsch, 2005). For businesses, this entails maintaining and enhancing economic growth, shareholder value, reputation, customer relations, ethical conduct, and the quality of products and services.

However, sustainability involves going beyond legal compliance. Companies often find success by adopting proactive approaches to sustainability, implementing innovative practices aimed at improving sustainability, such as enhancing manufacturing processes (Schrettle et al., 2014).

“Sustainable development remains only a good intention, unless organizations make serious efforts to enforce it” (Lueg & Radlach, 2016). Decisions to integrate sustainability into company operations are rarely ad-hoc; they typically involve transformative changes and are strategically driven. “There are at least three critical success factors that a company needs to fulfill to achieve sustainable performance: leadership and vision, flexibility to change, and openness for engagement” (Székely & Knirsch, 2005).

In the food industry, sustainability has emerged as a critical supply chain priority. Consumers now prioritize food safety and are increasingly seeking sustainably produced food products. Companies that meet these expectations address a customer base that is highly conscious of all aspects of sustainability, including economic, environmental, and social considerations throughout the food production and supply process (Beske et al., 2014).

“The way food is produced, processed, transported and consumed has a great impact on whether sustainability is achieved throughout the whole food supply chain” consider Govindan (2018).



Responsible consumption and production represent a key objective among the 17 sustainable development goals. It involves enhancing production efficiency and profitability while minimizing raw material usage, concurrently adding value to products while reducing pollution and waste. Every participant in the supply chain must play a role otherwise, sustainable consumption cannot exist without sustainable production, and vice versa.

Figure 1. Icon of the SDG 12

“When companies begin structuring their efforts towards sustainability, tools are required to support their decision-making process from the strategic to the operational levels” underlines (Ivo de Carvalho et al., 2022). An important type of such tool is represented by recognized standards. Implementing an external standard is a means to guarantee that a company operates at a specific level of performance.

Some authors (D'Amato et al., 2019) reveal that numerous companies shape their sustainability initiatives based on national or international voluntary standards to support and validate their sustainability endeavors.

The authors (Kaplinsky and Morris, 2018) confirm that “compliance with international standards can enhance producers' capability in meeting several SDGs”. This is also echoed by other authors (Blind & Heß, 2023), who describe standards as “instruments to contribute to the SDGs.” The findings of these researchers suggest that development of standards addressing sustainable development goals would increase industry knowledge and set specific technical guidelines that extend beyond the conceptual frameworks of the SDGs.

Ironically, standards “are so pervasive that they have become taken for granted in our everyday environment, they may become completely embedded in everyday tools of use” (Lampland & Star, 2009).

In the food industry, alongside traditional governance, alternative methods of regulation are emerging, including self-regulation, co-regulation, management-driven regulation, and various private governance systems facilitated by private standards, public-private partnerships, and similar mechanisms.

“Pro-proactivity for sustainability deals with the engagement of various stakeholders” (Beske et al., 2014). Collaboration between stakeholders from both public and private sectors is essential to collectively pursue common sustainability objectives.

To establish sustainable practices, coordination among stakeholders in the food industry is essential, ensuring that their interests are effectively represented and optimized. One way of doing that is through standardization. Some authors describe standards-setting bodies as intermediaries that drive transition towards sustainability. Private regulations or governance through standards have a broad-reaching influence, impacting a diverse range of stakeholders worldwide, including producers, retailers, consumers, and suppliers.

In the present-day food sector, private companies have assumed the role of setting rules. For instance, large supermarket chains have established programs to guarantee a particular quality of food products by requiring suppliers to comply with specific standards (Fuchs et al., 2011). These practices suggest that private standards, although officially voluntary, tend to take on an obligatory role according to the authors.

Numerous studies highlighted the importance of standards and standardization in attaining the UN Sustainable Development Goals. Yet, development of recognized standards necessitates balanced involvement from governmental entities, businesses, and civil society organizations (Fuchs et al., 2011).

“The role of self-regulatory activities involving different stakeholders becomes further relevant in business cases for sustainability” (Blind & Heß, 2023).

As per the Standards Map provided by the International Trade Centre, there are currently more than 300 voluntary sustainability standards in operation across 600 product categories, spanning 15 industry sectors and present in 180 countries.

Former UN Secretary-General Ban Ki-moon stated that “partnerships with the private sector are crucial to achieving sustainable development” (United Nations, 2013). Achieving synergy between public and private sectors in sustainable development can be realized through policy coordination or aligning private governance priorities with public policy goals. (Schleifer et al., 2022).

Most private retail food standards offer beneficial outcomes for food safety, traceability, and, to some extent, product quality. While they can help certain environmental targets, the degree of systematic and comprehensive impact falls short of ideal expectations. More concrete benefits should be gained by the sustainability-oriented organizations implementing recognized standards.

Numerous private food standards utilize third-party certification to oversee and ensure compliance with the standards. In recent times, particularly in the food market, customers have heightened their expectations, demanding certification as evidence of compliance with quality assurance standards (Fuchs et al., 2011).

As per the British Food Journal, notable certification schemes in the food industry include the British Retail Consortium (BRC), International Featured Standards Food (IFS Food), and Fair Trade International (FTI). Some views expressed in this journal show that certifications serve to demonstrate the safety of products offered in the market, thereby legitimizing their activity. Others say that certifications are important to communicate internally but also externally about the company's commitment to sustainability.

The authors' (León-Bravo & Caniato, 2023) analysis on companies adopting a sustainability approach identify several stages in their path – conformance, initial, enthusiast, committed, advanced. According to the authors, firms that have integrated sustainability assessment into their corporate strategy consistently evaluate and enhance sustainability practices in a systematic manner. Whenever feasible, they also seek certification looking to enhance efficiency, foster environmental stewardship, and improve social standing, primarily in response to community expectations.

Indisputably, firms adopting sustainability dimensions have some implementation costs and are compelled to face different trade-offs. “Nevertheless, adoption of internal sustainable management practices seems to have a significant potential to transform companies into sustainable institutions” (Székely & Knirsch, 2005).

Although an important, even strategic, role is given to standardization in companies’ activities, evidence-based contribution of standardization to achieve sustainable development is scarce in the current literature. Hence this paper addresses this gap by presenting the results of the exploratory research on the correlation between the sustainability direction of organizations in the Romanian food sector, innovation endeavors and implementation of standards.

3. Research methodology

In order to find out whether there is a connection between the implementation of standards, strategic approach to innovation and pursuing sustainability, the authors conducted exploratory research to test which of the two elements: use of standards or applying in-novation is directly linked to the organization’s pursuit towards sustainability. To base our research, we surveyed companies in the food industry in Romania. Given the significant role of the food industry in both national economies and the broader European Union economy, the authors of this paper acknowledge that the findings are pertinent on a larger scale.

The exploratory research was based on a questionnaire launched at the beginning of 2023 targeting 320 enterprises from the food industry in Romania.

To establish the sample of the targeting organizations, two main considerations were envisaged. First, it was necessary to identify an industrial sector with a high impact in terms of sustainability across the whole value chain. Given its high exposure to numerous environmental challenges as well as major social expectations, the food industry was identified by the authors to be a relevant industrial sector for this research. Each participant in the supply chain has to comply with requirements for sustainability. Second, the research was intended to have feedback from organizations of different sizes, which is a particular feature of the food industry. Within the same industry, small and medium-sized enterprises share specific challenges and difficulties.

The survey comprised 26 questions focusing mainly on how innovation is tackled in the food sector. Several questions (6) envisaged whether standards are implemented and how sustainability is addressed by different types of companies in the Romanian food market.

Out of these questions, three research topics were followed during this analysis:

1. Are companies operating in the Romanian food sector aware about sustainability issues?
2. Is sustainability part of companies’ development strategies?
3. Could there be a relationship between implementation of standards and sustainability pursuit?

Responses were gathered over a three-month period until March 2023 from 54 companies though out the entire sector, and statistical methods were employed to analyze the data as further explained.

Table 1. Variables included in the analysis: coding, meaning, type

Variables		Type	Coding and meaning of answers	
In2	Company category (according to annual turnover)	Ordinal	1	Below 100.000 eur
			2	100.000 – 500.000 eur
			3	500.000 – 2 mil. eur
			4	2 mil. - 10 mil. eur
			5	10 mil. - 50 mil. eur
			6	Over 50 mil. eur
In4	Implementing a quality management system		0	No
			1	Yes
In6	Changes in strategy related to innovation or sustainability recently	Ordinal	1	No
			2	Yes, in the past year
			3	Yes, in the past 3 years
			4	Yes, in the past 5 years
			5	Yes, in the past 10 years
In12	Does the quality management system influence the organization's vision related to innovation and sustainability	Nominal	0	No
			1	Yes
In22	The existence of concerns for the pursuit of sustainability within the organization	Nominal	0	No
			1	Yes
In23	Integrating sustainability into business strategy	Nominal	0	No
			1	Yes
In24	The use of standards in the company's activity	Ordinal	1	Never/Rarely
			2	Yes, very often
In26	The company's concern for the orientation towards innovation and sustainability in the next 5 years	Nominal	0	No/Don't know
			1	Yes

first picture of the manner in which the 54 companies from the food industry included in the study relate to the implementation of standards, the application of innovation, respectively the integration of sustainability in the development strategy, is provided by the descriptive statistics, completed by the analysis of the interdependencies between the variables with the help of non-parametric techniques. The association analysis between the variables, carried out by means of the Goodman and Kruskal's Gamma tests, as well as the Chi-Square tests, allowed the identification of the intensity of the links between the variables, as well as the level of its statistical significance. The statistical methods used are specific to nominal and ordinal variables and aim to avoid the distorted estimation of the effect size, the increased error rates that can distort the research results (Liddell & Kruschke, 2018) and aspects observed in the case of statistical methods that, falsely, assume them to be metric.

4. RESULTS AND DISCUSSION

Out of the 54 respondent companies, 31,5% are medium-sized (50 – 249 employees), 27,8% are large enterprises (over 250 employees), 22,2 are small enterprises (10 – 49 employees) and 18,5% are micro-enterprises with less than 10 employees. In terms of the annual turnover, 48% out of the respondent companies register more than 2 mil. Euro per year and the rest of 52% have less than 2 mil. Euro annually.

As a result of the feedback received the answers to the following questions in the questionnaire were further subject to statistical analysis.

Sustainability awareness

From all the respondents, 94% precisely 50 enterprises confirmed that sustainability is one of their company's concerns which validates the thesis that after a decade since this concept entered the market an important part of the enterprises is aware of the concept and even pursuit it their activity.

Is there any preoccupation to pursuit sustainability by / within the company?

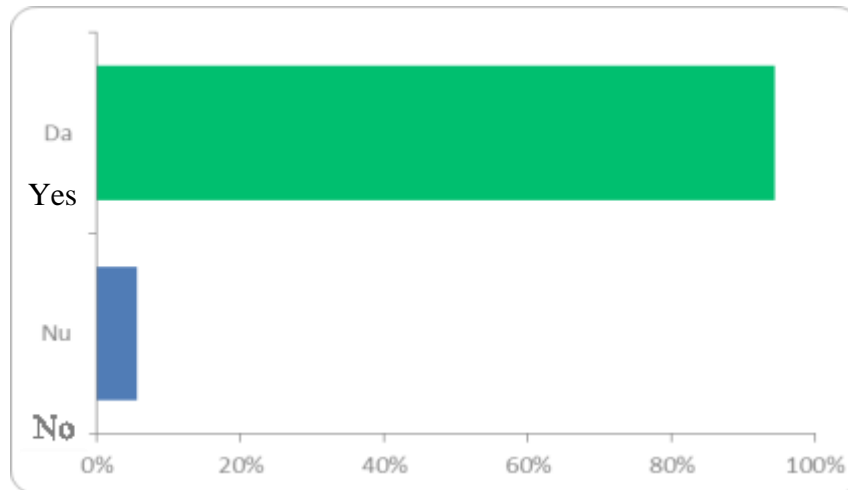


Figure 2. Sustainability pursuit
Source: authors' data processing study

Strategic approach of sustainability

More than being aware of sustainability 91% of the respondents, precisely 48 companies in the Romanian food sector do have sustainability integrated in their company's strategic development.

Is sustainability part of the business strategy or other strategic documents of your company?

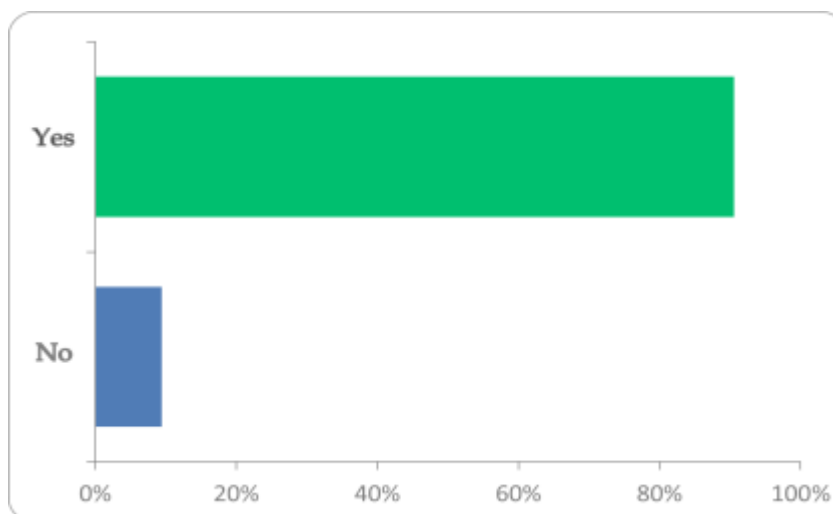


Figure 3. Strategic approach of Sustainability
Source: authors' data processing study

In addition to that, 74% (namely 40) of the companies have modified their strategies in the last 10 years considering embedding either innovation or sustainability. 28 respondents, i.e 52% out of all the answering companies implemented such changes in the last 3 years.

Have you implemented any modification of your company’s strategy related to innovation or sustainability in the recent period?

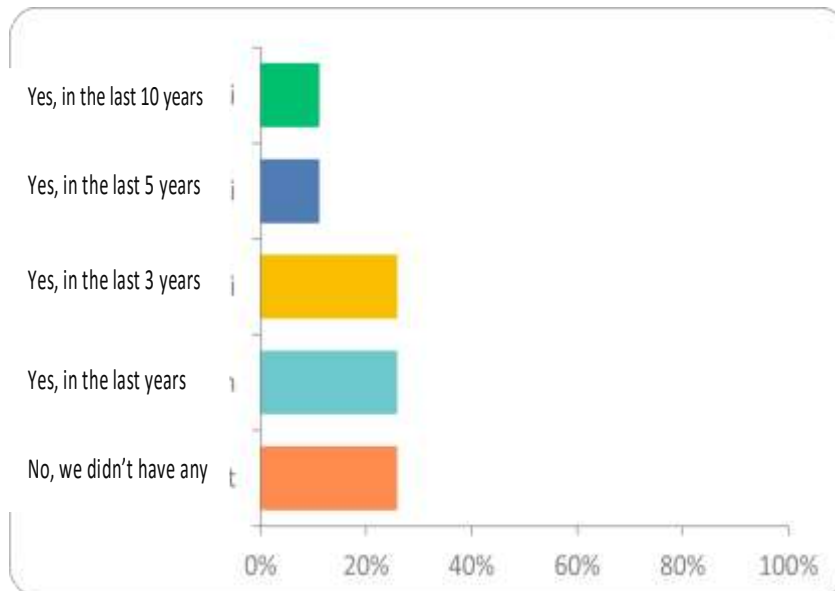


Figure 4. Strategic approach of Sustainability
 Source: authors’ data processing study

Even more important than that is the vision towards the future sustainable development of the companies in food sector. Considering that, 72% of the respondent companies have in mind planning developments or innovations oriented towards sustainability and nearly 28% do not know or don’t envisage any change related to sustainability issues.

Does your company plan any change or innovation towards sustainability in the next 5 years?

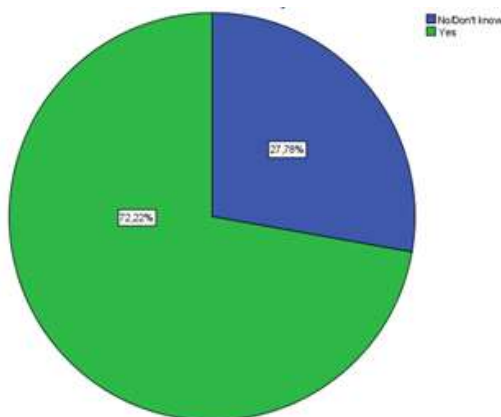


Figure 5. Strategic approach of Sustainability
 Source: authors’ data processing study

Standards implementation

As to the use of standards in the company, the majority of 51%, i.e. 27 respondents answered that they use standards seldom, whilst 6% of the respondents confirm that they never use standards. Together, the organizations not implementing standards and those using them seldom represent mainly micro and small enterprises. Companies answering that they often use standards in their activity – 43,4% are mainly medium and large enterprises.

Examples of the implemented system standards given by the respondents are: ISO 9001, ISO 22000, HACCP, ISO 140001, IFS and FSSC.

68,5% out of all the respondents confirmed the implementation of quality management standards in their organization, whilst 31,4% answered they did not implement any management system whatsoever. The latter is represented by micro and small enterprises in the food sector.

Has the organization implemented a quality management system or any other system supporting the management of quality in its processes?

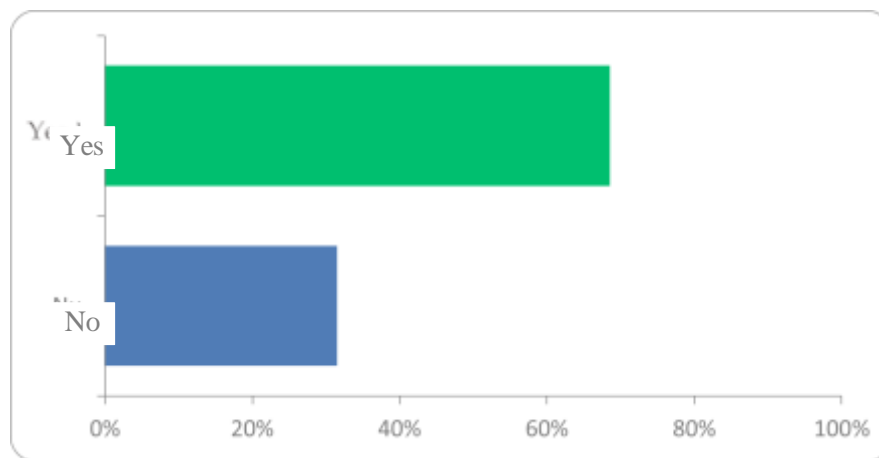


Figure 6. Standards implementation
Source: authors' data processing study

The last question of the questionnaire tackles the possible relation that could be identified between the implementation of standards and the sustainability approach within a company. The majority of the respondents, precisely 74% answered that implementing a standardized system or a system implying standards implementation influences the organization's approach towards sustainability. One possible explanation to this is the pre-liminary condition for every new standardization proposal to identify the extent to which the future standard will contribute to achieving sustainability. Thus, every new standard adopted at international level and implemented in a company helps that company in its pursuit towards sustainability.

Has the quality management system or any other implemented management system influenced the vision of the organization related to innovation or approach towards sustainability?

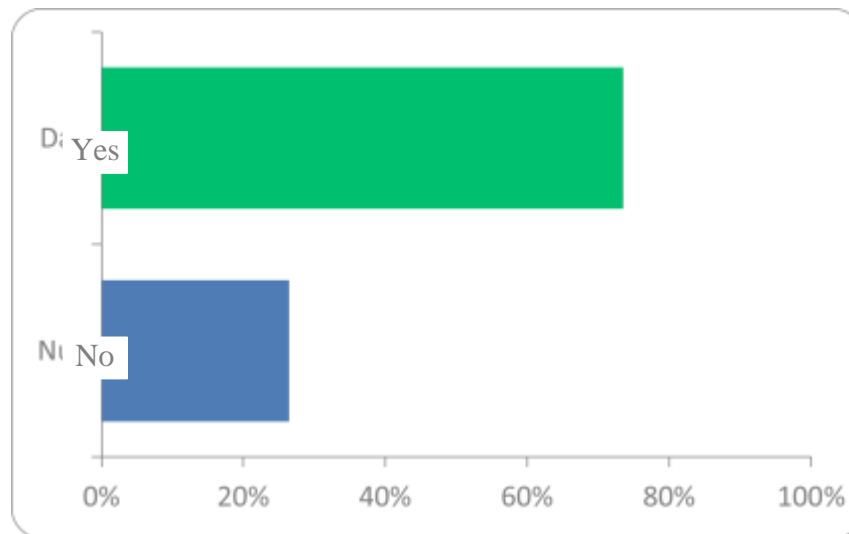


Figure 7. Standards implementation

Source: author's data processing study

Considering the answers collected, two hypotheses guided our exploratory research and oriented our data analysis:

H1 Organizations implementing standards are more sustainability-oriented than those not using standards in their activity.

H2 Organizations having embedded innovation in their strategy are more sustainability-oriented than those not having concerns for innovation.

Having processed the collected data with SPSS tool, here are the results obtained:

a) First, hypothesis H1 was tested, according to which organizations implementing standards are more sustainability-oriented than those not using standards in their activity.

In order to verify this first hypothesis out of 54 companies / organizations included in this study, the analysis started identifying the interdependencies between companies' categories, in terms of their size, and their orientation to implementation of standards. Examining the link between the two categorial variables that reflect standards implementation and companies' category, considering their size, based on the contingency table (Crosstab) and the association coefficients (Table 2) there is an association of medium intensity (value of Gamma Coefficient is 0,513), statistically significant for a level of 5% significance (Approximate Significance = 0,001 < 0.05).

Table 2. Relation between company's category and implementation of standards

Crosstabulation - Symmetric Measures					
In2 – Company category (according to annual turnover) *					
In24 - The use of standards in the company's activity					
		Value	Asymp. Std. Error	Approx. T	Approx. Sig.
Ordinal by Ordinal	Gamma	0,513	0,151	3,228	0,001
N of Valid Cases		54			

Source: Author's data processing using SPSS

Based on the results of the association analysis, implementation of standards in the companies' activity represents a predictor of the companies' orientation towards innovation and sustainability. The value of Gamma Coefficient is 0,590 (Table 3) is statistically significant (Approximate Significance = 0,000) showing that between these two variables is a medium intensity relation.

Table 3. Relation between standards implementation and orientation towards in-novation and sustainability

Crosstabulation - Symmetric Measures					
In6 – Changes in strategy related to innovation or sustainability recently *					
In24 - The use of standards in the company's activity					
		Value	Asymp. Std. Error	Approx. T	Approx. Sig.
Ordinal by Ordinal	Gamma	0,590	0,150	3,525	0,000
N of Valid Cases		54			

Source: Authors' data processing using SPSS

Analysing the association between implementation of standards in the company's activity and integration of sustainability in the business strategy (Table 4) shows that the two variables are not independent, their relation being of reduced intensity (values of the coefficients of approx. 0,3), yet statistically significant (Approximate Significance = 0,036 < 0.05).

Table 4. Relation between implementation of standards and integration of sustainability in the business strategy

Crosstabulation - Symmetric Measures				
In24 - The use of standards in the company's activity * In23 – Integrating sustainability into business strategy				
		Value	Approximate Significance	
Nominal by Nominal	Phi	0,286	0,036	
	Cramer's V	0,286	0,036	
	Contingency Coefficient	0,275	0,036	
N of Valid Cases		54		

Source: Authors' data processing using SPSS

A similar result was obtained while investigating the association (Table 5) of the variables relating to the implementation of a standardized management system and the vision of the organization towards innovative, sustainable approaches.

Table 5. Relation between the implementation of a standardized management system and the vision of the organization towards innovative, sustainable approaches.

Crosstabulation - Symmetric Measures			
In4 - Implementing a quality management system * In26 - The company's concern for the orientation towards innovation and sustainability in the next 5 years			
		Value	Approximate Significance
Nominal by Nominal	Phi	0,292	0,032
	Cramer's V	0,292	0,032
	Contingency Coefficient	0,280	0,032
N of Valid Cases		54	

Source: Authors' data processing using SPSS

These above-detailed results confirm hypothesis H1, namely that organizations implementing standards are more sustainability-oriented than those not using standards in their activity.

b) Further on, hypothesis H2 was analyzed. According to H2 organizations having embedded innovation in their strategy are more sustainability-oriented than those not having concerns for innovation.

Organization's category, determined by the annual turnover, influences significantly the degree of embedding innovation into the business strategy and, respectively, pursuit of sustainability (Table 6).

Table 6. Relation between company's category based on annual turnover and innovation integration into the business strategy

Crosstabulation - Symmetric Measures					
In2 - Your company's category depending on the annual turnover *					
In6 - Changes in strategy related to innovation or sustainability recently					
		Value	Asymp. Std. Error	Approx. T	Approx. Sig.
Ordinal by Ordinal	Gamma	0,521	0,117	4,230	0,000
N of Valid Cases		54			

Source: Authors' data processing using SPSS

Analyzing the association between variables reflecting recent updates of the companies' strategies relating to innovation and, respectively, pursuit of sustainability shows results that are not statistically significant (Approximate Significance > 0.23).

Based on these results hypothesis H2 according to which organizations having embedded innovation in their strategy are more sustainability-oriented than those not having concerns for innovation cannot be confirmed.

4.1 Discussion

The results of the research, based on the answers received during the exploratory research in the Romanian food sector and on the statistical analysis of the feedback received to six particular questions in the survey related to sustainability, leads to the conclusion that organizations implementing standards have a more sustainability-oriented approach. This confirms one of the research hypotheses and provides evidence-based perspective to the standards' potential to support organizations' pursuit towards sustainability. More than simply following short-term objectives, companies that consciously use recognized standards in their activity pursue long-term sustainability (Sutter & Hooton, 2023).

There are different types of standards applicable in the food sector. This paper refers to the recognized standards published by formal international, regional and national standardization organizations. In the recent decade standards have shifted their scope from exclusively technical character to systems, processes and practices driving an organization to enhanced performances in terms of environmental management, health and safety of employees, good governance and customer interface.

Many organizations devote significant efforts to optimize resources and leverage capabilities to ensure compliance with different legal requirements on sustainability. Numerous standards define technical solutions to meet such requirements and to support organizations to demonstrate conformity with the legal requirements. Demonstrating, through academic research, the direct linkage between using standards and sustainability pursuit in one, highly regulated, industrial sector will provide additional conviction to companies that implementing recognized standards represent a reliable way to ensure organization's path to sustainability.

This paper presents the results of an exploratory research about sustainability pursuit in the Romanian food sector. Given the food sector's complexity, the authors find the results of the research to be relevant at a bigger scale. Namely that, entities using and implementing standards in their activity are more likely to pursue sustainability than those not applying standards or any other quality benchmarks. Investing and focusing on innovation is not directly linked to sustainability orientation of an organization yet such endeavors could provide the necessary solutions to obtain significant achievement of sustainability targets. A particular example of that could be the Artificial Intelligence based applications that help an efficient consumption of energy (Kopka & Grashof, 2022).

The results of this paper have theoretical value as well as practical application. From the theoretical perspective, the research provides elements for future deeper investigation on a possible model or guidelines for use of standards to target achievement of particular SDGs or to meet specific requirement of company's sustainability reporting. From the practical perspective, having demonstrated that implementation of standards within organizations contributes to a sustainability-oriented development of that organizations could contribute to an enhanced use of standards in private as well as public areas. A recent example of that is the reference to technical standards approved by CEN, CENELEC, ISO and IEC in corporate sustainability reporting. All the organizations in Europe will need to report in the coming years on environmental, social and governance aspects of their activities according to the European Directive (EU) 2022/2464. Through direct reference to standards, the European regulations in this area set the groundwork for the organizations to rely on technical standards when preparing the sustainability reports.

4.2 Limitations

It is to be acknowledged that the research is limited to the food industry and to a rather limited number of answers received. The research is limited to the respondent's statements regarding awareness and strategic approach of innovation, sustainability and standardization in their organizations. It does not dive into the specificities of implementing standards related to each sustainability objective revealing any particular impact.

However, in Romania, food sector is very relevant in terms of annual turnover and the companies answering the survey are part of the biggest category considering their size. Also, the challenges and requirements for sustainability, especially in the food sector are quite demanding considering the sector's impact to environmental damage and consumer's expectations for safety and quality products.

5. CONCLUSION

In this article authors investigated to what extent innovation, standards and sustainability are incorporated in the business strategies by companies of an important economic sector. Based on this, we further analyzed two hypotheses. The first one relates to whether there is any relationship between implementing standards in

business activity and pursuing sustainability in the development of a company. The second one envisaged any possible link between innovation and sustainability-oriented approach of organizations in the same economic sector.

At this point, academic research on the role of standards and standardization in achieving sustainability is currently limited, therefore our focus is on revealing the fact that those who pursue sustainability use standards. The outcome of the research revealed that organizations implementing standards are more sustainability-oriented than those not using standards in their activity. On the contrary, innovation approach is not directly linked to sustainability of the organizations. The main driver for innovation initiatives is creating new business opportunities and, ultimately, obtaining additional revenue rather than pursuing sustainable development. According to studies, innovation contributes between 6 and 30% of additional revenue, on average close to 20% (Radu et al., 2023).

On the other hand, the level of companies' commitment to sustainability is influenced by the size of the company, in terms of the number of employees and annual turnover, but also by contextual factors such as cultural elements, certification or solidarity schemes, etc. Awareness about standardization and implementing applicable standards is as much linked to the availability of resources, including skillful and competent staff.

"Implementation of the food quality standards is not an easy task for companies, especially if they come under the small business categories" according to Liddell and Kruschke, 2018. However, beyond the demonstrated benefits, the authors agree that compliance with standards in food sector is an important criterion for selecting suppliers in public procurement.

Having evidence-based statement that entities implementing standards have a more sustainability-oriented approach, implementation of standards could be considered a prerequisite in pursuing sustainability. Hence, according to some authors (Castka, 2020) decision-makers might "address standardization from a strategic perspective, tracing its economic and sustainability consequences". Having standardization included in their business strategies will encourage companies, not only in food sector, to foresee the necessary investments in standards developing activities, hence orienting them to achieve sustainability in their activities. In this context, further research could be conducted identifying the concrete benefits gained by the implementation of particular standards in terms of measuring sustainability performance of companies.

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