



The Attitudes of Managers Towards the Concept of Sustainable Development in Polish Food Industry Enterprises

Tomasz Trojanowski

Jan Kochanowski University in Kielce, Poland

corresponding author's e-mail: tomektrojanowski@poczta.fm

1. Introduction

Progressive degradation of the natural environment and the growing social problems created by the economic activity of modern enterprises require a change in the concept of management to a more responsible and adapted to existing threats. Food businesses also have a negative share in this proceeding (Martinez 2013). The food industry belongs to the branch of the national economy that deals with the acquisition and processing of natural resources. It is one of the links in the food economy, which consists of many components closely related to each other. It distinguishes basic, auxiliary and service modules. The basic elements include food production, dominated by agriculture; food processing, in which the food industry plays a major role; food trade and food consumption (Obiedzińska 2013). The food industry is one of the most important economic sectors in our country due to the fact that it determines the Polish nourishment and is a major exporter of beverages and food on international markets (Firlej & Szymański 2012).

An important factor influencing the sustainable economic activity of food industry enterprises in Poland is the attitude of managers responsible for the functioning of the organisation. Medium and high-level employee staff creates organisational behaviours of a food company focused on environmental protection, and therefore the implementation of economic activities based on the principles of sustainable development depends on their attitude. The production of safe, healthy and ecological food products in the processes of clean production is the basic idea on which the group of highly qualified employees is based, who understand and apply the principles of sustainable development. However, taking into account the scale of enterprises, it should be noted that activities focused on

sustainable management are characteristic for large enterprises than those from the SME group (Trojanowski 2020).

The implementation of sustainable business is not only about seeking to maximize the profits of a food company, but also depends on environmental and social aspects (Kasperska 2015). Production companies, including those from the food sector, need legitimacy and acceptance of their business on the part of clients, employees, contractors, suppliers as well as social and governmental organisations. The perceived pressure from market participants significantly affects the change of attitudes among managers, which translates into more sustainable activities in the sphere of management, production, work organisation and marketing.

The purpose of the article is to define the attitudes of management staff towards the concept of sustainable development, while striving to achieve financial results in the business operations of food industry enterprises.

2. Theoretical background

Excessive exploitation of natural resources, consumption of fuels, energy and water, generation of more waste and harmful substances along with the progressive increase in the number of the world's population – contribute to irreversible degradation of the natural environment and deterioration of the quality of life of societies (Govindan 2018). Degradation of the natural environment negatively affects the health condition of modern societies, and also reduces the chances of future generations development.

To meet the emerging problems, more attention should be paid to the attitudes and behaviour of managers responsible for the business operations of food companies. High-level employee staff making strategic decisions in an enterprise should be aware of the importance of matching management functions to the requirements of sustainable development ideas. The way and degree of implementation of sustainable production management will have a significant impact on the functioning and success of the company on the market in the changing economic environment of the organisation (Fjeldstad, Snow, 2018). Creating high-level pro-environmental behaviours and practices in the company, based on the concept of sustainable development, will certainly positively influence the behaviour of other employees at lower positions (Ottman 2013, Pape et al. 2011).

Managers responsible for activities leading to the achievement of the company's financial goals are facing a difficult task. This difficulty lies in balancing between the economic goals of the company and social and environmental goals. The triad of goals presented in literature as a triple bottom line (Emery 2012, Glavas & Mish 2015, Muñoz-Pascual, Curado, Jesús & Galende 2019) is not a universally dominant business model in manufacturing enterprises due to the need to maintain a balance between the three indicated areas (Hall & Wagner

2012, Schaltegger, Hansen & Lüdeke-Freund 2016). Striving to maximize profits from the sale of food products, increasing market share by food enterprises and acquiring an ever larger group of customers allow us to guess that financial goals become superior to social and environmental goals. That is why it is so important to balance production, organisational, marketing and sales activities. The economic development of food enterprises should also guarantee the improvement of other elements of social well-being, including the necessary structural changes in the economy and society (Klonowska-Matynia & Radlińska 2018).

The food industry companies must constantly provide customers with consistent values and benefits. This is connected with continuous improvement of the product offer, so that it is attractive and strengthens customers in the belief that the products they purchase are manufactured in a sense of responsibility for the natural environment and are not the cause of social problems (Reisch, Eberle & Lorek 2013, Lang & Heasman 2016, Becot, Conner, Nelson, Buckwalter, & Erickson 2014). In addition, food product manufacturers are subject to constant pressure from consumers. The prevailing consumerism mainly in the rich countries of Western Europe, North America and some Asian countries, as well as in Poland, forces food producers to increase the supply of food products to these markets, which contributes to an even greater exploitation of the Earth's natural resources and degradation of the natural environment (Pereira & Chatzidakis 2012).

3. Research methods

The research conducted among staff employed in food industry enterprises concerned the attitudes of managers and non-managerial staff in relation to sustainable development. The research used the CATI (Computer Assisted Telephone Interview) interview method. This type of method allows conducting large-scale tests in a short time and relatively low costs. In addition to the CATI method, the study also used the CAWI (Computer Assisted Web Interview) method, in which the respondent was asked to complete the research questionnaire in an electronic form in the web application. The CAWI method, as in the case of the previous method, also allows tests to be carried out on very large samples, in a short time and with low testing costs.

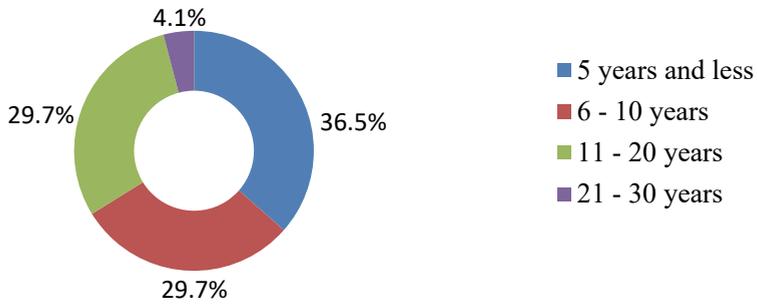
In order to increase the credibility of the obtained research results, the author of this study also decided to use an additional, third research method, which was a direct interview. The advantage of the interview method is its high reliability, guaranteed by the ability to ask questions directly related to the phenomena studied. The research carried out by means of the interview method consisted of asking unified and the same worded questions and circling the answers in the same order in which the questions were asked. The advantage of this

research method was the direct contact with the respondents, which enabled them to deepen specific thematic issues, and also gave the respondent the opportunity to develop and justify statements. The interview was conducted in places where the surveyed food industry enterprises have their headquarters in the Silesian, Masovian and Lesser Poland voivodeships. The respondents were employed in the surveyed enterprises in managerial and non-managerial positions. The general purpose of the methods used was to learn the facts and capture as much detail as possible in relation to the questions raised.

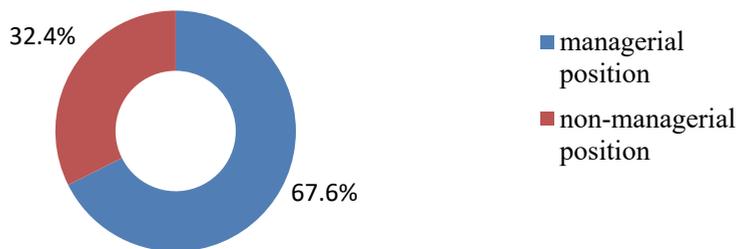
In the case of a large population, it is often necessary to conduct representative research that focuses on some part of the population. Conducting representative research requires specifying the method of selecting the research sample. One way is to define the sample according to *any rules, adopted according to the beliefs of the researcher*, the other way is to select the sample based on *the probability theory*. The first approach distinguishes a deliberate sample selection and a quantitative selection, while in the case of sample selection based on the probability calculus, random, stratified, proportional and multi-layered sample selection is distinguished (Sztumski 2005).

In the conducted research, stratified sampling was used assuming the error level $d = 0.05$ for the sample size of $n = 74$ enterprises. The stratified selection consists in the division of the studied population into subsets that can be distinguished within it, while ensuring that no element of the population is included in more than one subset at the same time. The distinguished subsets are treated as layers, each of which is separately selected from a random sample. The sample size that is selected from each layer may be equal to or proportional to its size (Sztumski 2005, Frankfort-Nachmias, & Nachmias 2001, Stachak 2006). 74 employees employed in managerial and non-managerial positions in food enterprises in Poland took part in the study. The characteristics of the group of respondents is presented in Figure 1.

a)



b)



c)

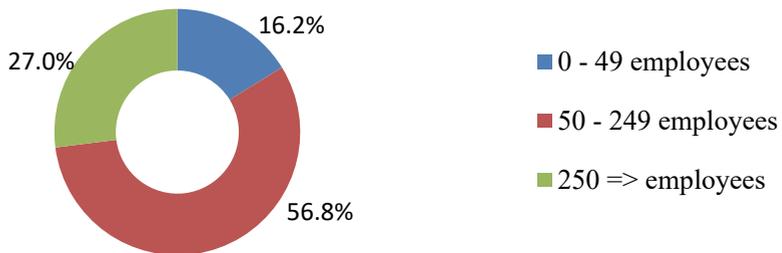


Fig. 1. Characteristic of the group of respondents; a) job seniority, b) position, c) number of employees

4. Results and discussion

The aim of the research is to analyse the attitudes of management staff employed in Polish food industry enterprises towards the concept of sustainable development. The introduction and management of production activities that respect the principles of sustainable development depends to a large extent on the attitude and behaviour of management staff and lower-level employees. The results of statistical tests regarding the examined staff are presented in Tables 1-3.

Table 1. Results of Kruskal-Wallis test (grouping variable: seniority)

	Statistic Chi-square	Number of freedom degrees df	<i>p</i> – Asymptotic significance
Employee sensitivity to natural environment and social problems	1.571	2	0.456
Employees professional experience in the environmental and pro-social areas	2.109	2	0.348
Knowledge of the concept of sustainable development	1.121	2	0.571
The need to acquire more information about the sustainable development	2.075	2	0.354

Table2. Results of Mann-Whitney U test (grouping variable: position taken)

	Mann-Whitney U	Z	Asymptotic significance (two sided)
Employee sensitivity to natural environment and social problems	337.000	-3.191	0.001
Employees professional experience in the environmental and pro-social areas	418.500	-2.163	0.031
Knowledge of the concept of sustainable development	489.500	-1.319	0.187
The need to acquire more information about the sustainable development	305.500	-3.615	0.000

Table 3. Results of the Kruskal-Wallis test for the assessment of the socio-ecological sensitivity of employees (grouping variable: size of the enterprise measured by the number of employees)

	Statistics Chi-square	Number of freedom degrees df	Asymptotic significance
Employee sensitivity to natural environment and social problems	11.842	2	0.003
Employees professional experience in the environmental and pro-social areas	17.065	2	0.000
Knowledge of the concept of sustainable development	12.397	2	0.002
The need to acquire more information about the sustainable development	8.898	2	0.012

The determination of the measurement scale was of significant importance in the research process. The research used a seven-point version of the Likert scale to increase the accuracy of the measurement. Referring to the obtained research results, it can be pointed out that the staff employed in food industry enterprises are sensitive to environmental and social problems and know the concept of sustainable development. In addition, it has been shown that the knowledge, experience and socio-ecological sensitivity of employees do not depend on seniority (Table 1), but depend on the position held (Table 2, 3). As a result of the analysis it can be concluded that:

- a) higher level employees are more sensitive to environmental and social problems than employees in lower positions,
- b) management staff have professional experience in the environmental and pro-social area,
- c) employees in managerial positions show willingness and need to obtain information on sustainable development than lower-level employees.

In addition, it has been shown that the socio-ecological sensitivity of employees, professional experience, staff knowledge of sustainable development and the willingness to obtain more information about the nature and importance of sustainable development depend on the size of the enterprise (Tables 4, 5).

Table 4. Results of Games-Howell comparing of means (post hoc analysis) (grouping variable: size of enterprise)

Dependent variable	(I) employ- ment size	(J) employ- ment size	Means dif- ference (I-J)	Signifi- cance
Employee sensitivity to natural environment and social problems	1	2	-0.976	0.064
		3	-1.567*	0.003
	2	1	0.976	0.064
		3	-0.590	0.077
	3	1	1.567*	0.003
		2	0.590	0.077
Employees professional experience in the environmental and pro-social areas	1	2	-0.917*	0.004
		3	-2.217*	0.000
	2	1	0.917*	0.004
		3	-1.300*	0.011
	3	1	2.217*	0.000
		2	1.300*	0.011
Knowledge of the concept of sustainable development	1	2	-1.631*	0.006
		3	-2.183*	0.001
	2	1	1.631*	0.006
		3	-0.552	0.298
	3	1	2.183*	0.001
		2	0.552	0.298
The need to acquire more information about the sustainable development	1	2	-0.286	0.683
		3	-0.917*	0.030
	2	1	0.286	0.683
		3	-0.631*	0.034
	3	1	0.917*	0.030
		2	0.631*	0.034

Table 5. Results of Games-Howell test – size of enterprise

Dependent variable	(I) size of enterprise	(J) size of enterprise	Means difference (I-J)	Standard error	Significance
The company's staff show indifference to social and environmental problems	1	2	1.131*	0.312	0.006
		3	1.450*	0.302	0.001
	2	1	-1.131*	0.312	0.006
		3	0.319	0.183	0.200
	3	1	-1.450*	0.302	0.001
		2	-0.319	0.183	0.200
Y – cumulative average enterprise rating in applying the concept of sustainable development	1	2	-0.1153075*	0.0298370	0.002
		3	-0.2006693*	0.0308478	0.000
	2	1	0.1153075*	0.0298370	0.002
		3	-0.0853618*	0.0243282	0.003
	3	1	0.2006693*	0.0308478	0.000
		2	0.0853618*	0.0243282	0.003

*The difference of means is significant at the level of 0.05

Considering the results of statistical tests included in Tables 4 and 5, the following conclusions can be made:

- a) employees of small enterprises (less than 50 employees) are less sensitive to environmental and social problems compared to employees employed in large enterprises (more than 249 employees),
- b) the larger the company, the greater professional experience of employees in the environmental and pro-social area,
- c) employees employed in small enterprises are less familiar with the concept of sustainable development than employees of medium and large enterprises,
- d) employees of small and medium-sized enterprises show a lower need to obtain information on sustainable development than employees of large organizations.

Additionally, it has been shown (Table 5) that the larger the enterprise, the higher is the rate of application of the concept of sustainable development in economic activity. This is probably due to the fact that larger food companies with significant financial resources can be more involved in sustainable business activities. Therefore, it can be concluded that employees of small enterprises (less than 50 employees) exhibit lower socio-ecological sensitivity, small professional

experience in the social and pro-ecological area, and less knowledge about this concept than employees of medium and large enterprises.

5. Summary

The article attempts to determine the attitudes of personnel employed in Polish food enterprises towards the concept of sustainable development. To this end, issues related to employee sensitivity to environmental and social problems, professional experience of staff acquired at work in the environmental and social area, level of knowledge of the concept of sustainable development among employees and expression of the will to obtain more information on sustainable development were considered.

Results of the conducted research indicate that the surveyed personnel employed in food industry enterprises is sensitive to environmental and social problems. An affirmative answer was indicated by as many as 85.1% of the surveyed employees of the organization. 12.2% of the respondents were insensitive to social and environmental issues. In turn, 2.7% did not take a clear position on this issue.

The research questionnaire also included a question about professional experience in the pro-environmental and pro-social area of the surveyed personnel. The obtained responses prove that the employees participating in the survey do not have any professional experience in this area. A total of 70.2% of employees do not have experience. On the other hand, 25.7% indicated professional experience gained in the previous years in the pro-social and pro-environmental area. The remaining respondents, i.e. 4.1%, showed an ambiguous attitude to these issues.

In implementing the concept of sustainable development, the knowledge of the management and non-management staff of sustainable development is essential. The obtained research results prove that a total of 63.5% of respondents declare knowledge of the concept of sustainable development, while 33.8% of respondents do not know this idea. The remaining respondents, constituting 2.7%, were not able to give a clear answer.

The analysis of the attitudes of the staff employed in the confectionery industry enterprises was complemented by the question of employees' efforts to obtain more information on sustainable development. The results of the research in this area may be optimistic, as many as 91.9% of respondents declare their will to obtain information on sustainable development. 5.4% of respondents do not demonstrate such a will, while 2.7% have no opinion.

The reason for the subject of the study is the rapid degradation of the natural environment caused by the economic activity of industrial enterprises, including from the food sector. Negative effects of business operations of

enterprises contribute not only to the degradation of the ecological environment, but also to the emergence of social problems (Zaremba-Warnke 2013). Interference with the planet's ecosystem through uncontrolled and excessive sourcing of raw materials and ingredients for the production of foodstuffs, emission of harmful gases and dusts, exploitation of goods in the form of fuels, gases, energy and water needed to ensure production processes, and excessive consumption of food products accompanied by food waste, contribute to irreversible changes in the natural environment. A chance to stop negative trends is the change of consciousness (Adamek & Ziernicka-Wojtaszek 2018) among those responsible for production, organisational and sales processes in manufacturing enterprises, including food industry. The introduction of positive changes in the area of business activity depends mainly on high-level managers who set the course and development of the enterprises in which they are employed.

Theoretical considerations, conclusions and analysis of research results included in the study do not fully solve the subject matter. Therefore, an open issue remains the search for new and creative solutions aimed at reconciling the economic development of food industry enterprises as well as other economic entities with ecological and social values.

References

- Adamek, A., & Ziernicka-Wojtaszek, A. (2018). Environmental awareness of the inhabitants of the Silesian agglomeration, *Yearbook of Environmental Protection*, 20, 1640-1655.
- Becot, F., Conner, D., Nelson, A., Buckwalter, E. & Erickson, D. (2014). Institutional Demand for Locally-Grown Food in Vermont: Marketing Implications for Producers and Distributors. *Journal Food Distribution Research*, 45, 1-19, DOI: 10.22004/ag.econ.186927.
- Emery, B. (2012). *Sustainable Marketing*. Edinburgh: Pearson Education Limited.
- Firlej, K., & Szymański, M. (2012). *Przemysł spożywczy na tle wybranych sektorów gospodarki narodowej w dobie ogólnoswiatowego kryzysu gospodarczego*. (in.) Procesy dostosowawcze polskiego przemysłu spożywczego do zmieniającego się otoczenia rynkowego, Mroczek R., (ed.), Instytut Ekonomiki Rolnictwa i Gospodarki Żywnościowej, Państwowy Instytut Badawczy, Warszawa, 9-23.
- Fjeldstad, Ø.D., & Snow, C.C. (2018). Business models and organization design. *Long Range Planning*, 51, 32-39. DOI: org/10.1016/j.lrp.2017.07.008.
- Glavas, A., & Mish, J. (2015). Resources and Capabilities of Triple Bottom Line Firms: Going over Old or Breaking New Ground? *Journal of Business Ethics*, 127, 623-642.
- Frankfort-Nachmias, Ch., & Nachmias, D. (2001). *Metody badawcze w naukach społecznych*. Warszawa: Zysk i S-ka.
- Govindan, K. (2018). Sustainable consumption and production in the food supply chain: A conceptual framework. *International Journal of Production Economics*, 195, 419-431. DOI: org/10.1016/j.ijpe.2017.03.003.

- Hall, J., & Wagner, M. (2012). Integrating Sustainability into Firms Processes: Performance Effects and the Moderating, Role of Business Models and Innovation. *Business Strategy and the Environment*, 21, 183-196. DOI: org/10.1002/bse.728.
- Kasperska, E. (2015). Civitas Renaissance project in Szczecinek in the context of sustainable development assumptions, *Yearbook of Environmental Protection*, 17, 747-759.
- Klonowska-Matynia, M., & Radlińska, K. (2018). Spatial diversity of sustainable development of selected European countries. Hierarchies and classification of countries, *Yearbook of Environmental Protection*, 20, 1372-1385.
- Kotler, P., Kartajaya, H., & Setiawan, I. (2010). *Marketing 3.0*. Warszawa: M.T. Business.
- Lang, T., & Heasman, M. (2016). *Food Wars: The Global Battle for Mouths, Minds and Markets*. London: Routledge.
- Martinez, M., G. (2013). *Open Innovation in the Food and Beverage Industry*. Elsevier.
- Muñoz-Pascual, L., Curado, C., Jesús I., & Galende, J. (2019). The Triple Bottom Line on Sustainable Product Innovation Performance in SMEs: A Mixed Methods Approach, *Sustainability*, 11, 1689 DOI: 10.3390/su11061689
- Obiedzińska, A. (2013). Ekspertyza: *Przemysł spożywczy pod kątem wpływu wprowadzenia w Polsce nowych regulacji dotyczących dostępu do zasobów genetycznych i podziału korzyści wynikających z użytkowania tych zasobów*, 6-9.
- Ottman, J.M. (2013). *The New Rules of Green Marketing*. London: Greenleaf Publishing.
- Pape, J., Rau, H., Fahy, F., & Davies, A. (2011). Developing policies and instruments for sustainable household consumption: Irish experiences and futures. *Journal of Consumer Policy*, 34, 25-42. DOI: 10.1007/s10603-010- 9151-4.
- Pereira, M.T., & Chatzidakis, A. (2012). Blame it on marketing: Consumers' views on unsustainable consumption. *International Journal of Consumer Studies*, 36, 656-667. DOI: org/10.1111/j.1470-6431.2011.01043.x.
- Reisch, L., Eberle, U., & Lorek, S. (2013). Sustainable Food Consumption: An Overview of Contemporary Issues and Policies. *Sustainability: Science, Practice, and Policy*, 9, 7-25. DOI: org/10.3390/su11113052.
- Schaltegger, S., Hansen, E.G., & Lüdeke-Freund, F. (2016). Business Models for Sustainability: Origins, Present Research, and Future Avenues. *Organization & Environment*, 29, 3-10. DOI: org/10.1177/1086026615599806
- Stachak, S. (2006). *Podstawy metodologii nauk ekonomicznych*. Warszawa: Wydawnictwo „Książka i Wiedza”.
- Sztumski, J. (2005). *Wstęp do metod i technik badań społecznych*. Katowice: Wydawnictwo „Śląsk”.
- Trojanowski, T. (2020). Sustainable management of production activities in polish enterprises of the food industry. *Management Theory and Studies for Rural Business and Infrastructure Development*, 42, 80-88. DOI: org/10.15544/mts.2020.08
- Zaremba-Warnke, S. (2013). Marketing as a tool for implementing strategic paths in economics of sustainable development, *Yearbook of Environmental Protection*, 15, 2850-2862.

Abstract

The essence of the study is the analysis of managers' attitudes towards the concept of sustainable development carried out on the example of food industry enterprises. The first part of the article contains the purpose of the study and draws attention to the progressive degradation of the natural environment, in which the food industry enterprises also participate. The rest of the article presents the state of the literature on sustainable development issues. The empirical part of the study presents the research methods that have been used in the research, the characteristics of the research sample and the results of own research. Based on the results obtained, conclusions were formulated that were presented in the final part of the study. The article ends with a summary.

Keywords:

manager, sustainable development, environmental degradation, food enterprises

Postawy menedżerów wobec koncepcji zrównoważonego rozwoju w polskich przedsiębiorstwach przemysłu spożywczego**Streszczenie**

Istotą opracowania jest analiza postaw menedżerów wobec koncepcji zrównoważonego rozwoju przeprowadzona na przykładzie przedsiębiorstwach przemysłu spożywczego. We wstępie artykułu zawarto cel opracowania oraz zwrócono uwagę na postępującą degradację środowiska naturalnego, w której udział mają także przedsiębiorstwa przemysłu spożywczego. W dalszej części artykułu zaprezentowano stan literatury dotyczącej zagadnień zrównoważonego rozwoju. Empiryczna części opracowania przedstawia metody badawcze, jakie zostały wykorzystane w przeprowadzonych badaniach, charakterystykę próby badawczej oraz wyniki badań własnych. Na podstawie osiągniętych wyników sformułowano wnioski, które zostały zaprezentowane w końcowej części opracowania. Artykuł kończy podsumowanie.

Słowa kluczowe:

menadżer, zrównoważony rozwój, degradacja środowiska, przedsiębiorstwa spożywcze