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Conference Paper

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Provided in Cooperation with:

The Research Institute for Agriculture Economy and Rural Development (ICEADR), Bucharest

Suggested Citation: Gaina, Boris; Fedorchukova, Svetlana; Kobirman, Galina (2023) : Certification of enterprises from the Republic of Moldova in the ISO 22000 and ISO 22005 system: Benefits and barriers, In: Rodino, Steliana Dragomir, Vili (Ed.): Agrarian Economy and Rural Development - Trends and Challenges. International Symposium. 14th Edition, The Research Institute for Agricultural Economy and Rural Development (ICEADR), Bucharest, pp. 16-23

This Version is available at:

<https://hdl.handle.net/10419/301757>

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CERTIFICATION OF ENTERPRISES FROM THE REPUBLIC OF MOLDOVA IN THE ISO 22000 AND ISO 22005 SYSTEM: BENEFITS AND BARRIERS

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Abstract: *In order to aspire to join the EU that the Republic of Moldova (currently a candidate country) has, the main economic conditions it must satisfy are the existence of a functional market economy, as well as the ability to face competitive pressure and market forces in within the European Union. Another condition is the existence of the capacity to assume the obligations of a member state of the European Union, including adherence to the objectives of the political, economic and monetary union. One of the objectives of EU food safety policy is to protect consumers while ensuring the smooth functioning of the single market. EU legislation covers the entire food chain - "from farm to consumer" - in an integrated way and applying a "one health" approach. This desired, at the first stage, can be ensured by implementing the food safety management system - ISO 22000 and ISO 22005 which specify the basic requirements for the design and implementation of a traceability system for food and agro-food products. The given study was focused on the knowledge of the food and agro-food enterprises from the Republic of Moldova certified in this system, as well as what are the benefits but also the impediments encountered by them both during the certification period and during the activity.*

Keywords: *certification in the system, food safety, benefits of certification*

JEL Classification: A10, C83

INTRODUCTION

For the purpose of accession to the EU that the Republic of Moldova has, the main economic conditions it must satisfy are the existence of a functional market economy, as well as the ability to face competitive pressure and market forces within the European Union. Another condition is the existence of the capacity to assume the obligations of a member state of the European Union, including adherence to the objectives of the political, economic and monetary union.

It is also necessary for the candidate country to adopt the Community acquis and ensure its effective implementation through appropriate administrative and judicial structures.

Wider use of standards is reorienting agricultural and food supply chains from centers of competition based on price to those based on quality. The most generic of the systems and most commonly adopted by manufacturers in the food industry are ISO 22000 and ISO 22005. (1,2)

The implementation of these international standards allows food and agri-food enterprises to:

- regulate and analyze the degree of nutritional coverage of different segments of the population; reducing the risks of nutritional diseases (diabetes, celiac disease (gluten intolerance), overweight and obesity, micronutrient deficiencies);
- analyze the specific risks associated with non-compliant food products: microbiological; pesticide residues; abuse of food additives; technogenic contaminants; allergens etc.;
- apply biotechnology and food engineering to ensure the nutritional value and amplify the biological effects of food, develop food products with bioactive components and functional ingredients; to ensure the quality and harmlessness during the period of validity of the products;

- ensure consumer protection against food fraud, ensuring the authenticity of food products. (3)

MATERIALS AND METHODS

The main objective of the survey is the evaluation of the food product quality certification process according to international standards ISO 22000 and ISO 22005 in the Republic of Moldova.

The survey was conducted using the Computer Assisted Web Interviewing (CAWI) methodology, based on filling in an online questionnaire created using Google Drive.

A list of 75 enterprises was drawn up, according to which the questionnaires were sent. 57 (76%) companies were available to participate in the survey.

The questionnaire was administered via personal e-mail to the respective e-mails of food and agri-food enterprises, specifying the objectives pursued by the survey and including the direct access link to the survey.

The survey period was from February 13 to February 28, 2023.

The responses were continuously monitored through the personal Google Drive platform, and the results were processed and interpreted.

RESULTS AND DISCUSSION

An important factor in the capacity of the Republic of Moldova as a candidate for EU accession is obtaining certificates in various ISO systems. The companies that have participated in the survey mentioned that in addition to the ISO 22000 and ISO 22005 certificates, they also hold other certificates such as: ISO 45001 Occupational health and safety management systems; SA 8000 Certification of the social responsibility management system; ISO 14001 Environmental Management Systems Certification; EMAS III Community environmental management and audit system and others. Ensuring the safety and quality of food products is the mandatory condition for increasing consumer confidence. This objective can be ensured by implementing the Food Safety Management System - ISO 22000, which provides a framework of harmonized requirements worldwide.

Adopting a Food Safety Management System (FSMS) is a strategic decision for an organization that can help improve its overall food safety performance. The potential benefits for an organization of implementing an FSMS based on this document are:

a) the ability to consistently provide safe food, products and services that satisfy customers and applicable legal and regulatory requirements;

b) approaching the risks associated with its objectives;

c) ability to demonstrate compliance with specified FSMS requirements. (1)

As a result, we have obtained: 53 (93.0%) enterprises are active and 4 (7.0%) are not active.

Next, we will analyze the results of the survey operating only with 53 enterprises that are certified with ISO 22000.

The ISO 22000 certification is not limited to food manufacturers, the standard being also applicable to packaging manufacturers, which come into direct contact with the food product. Other potential users of ISO 22000 certification are additive manufacturers, manufacturers of machines and equipment used in the food industry, service providers along the food chain (logistics and transport companies, cleaning, disinfection, disinsection and deratization services for food manufacturers) and public food service providers (canteens, restaurants, catering, etc.).

Carrying out a direct analysis for each benefit, we determined which of them played an important role in the activity of companies after obtaining the ISO 22000 international certificate. The results of the analysis are presented in figure 1.

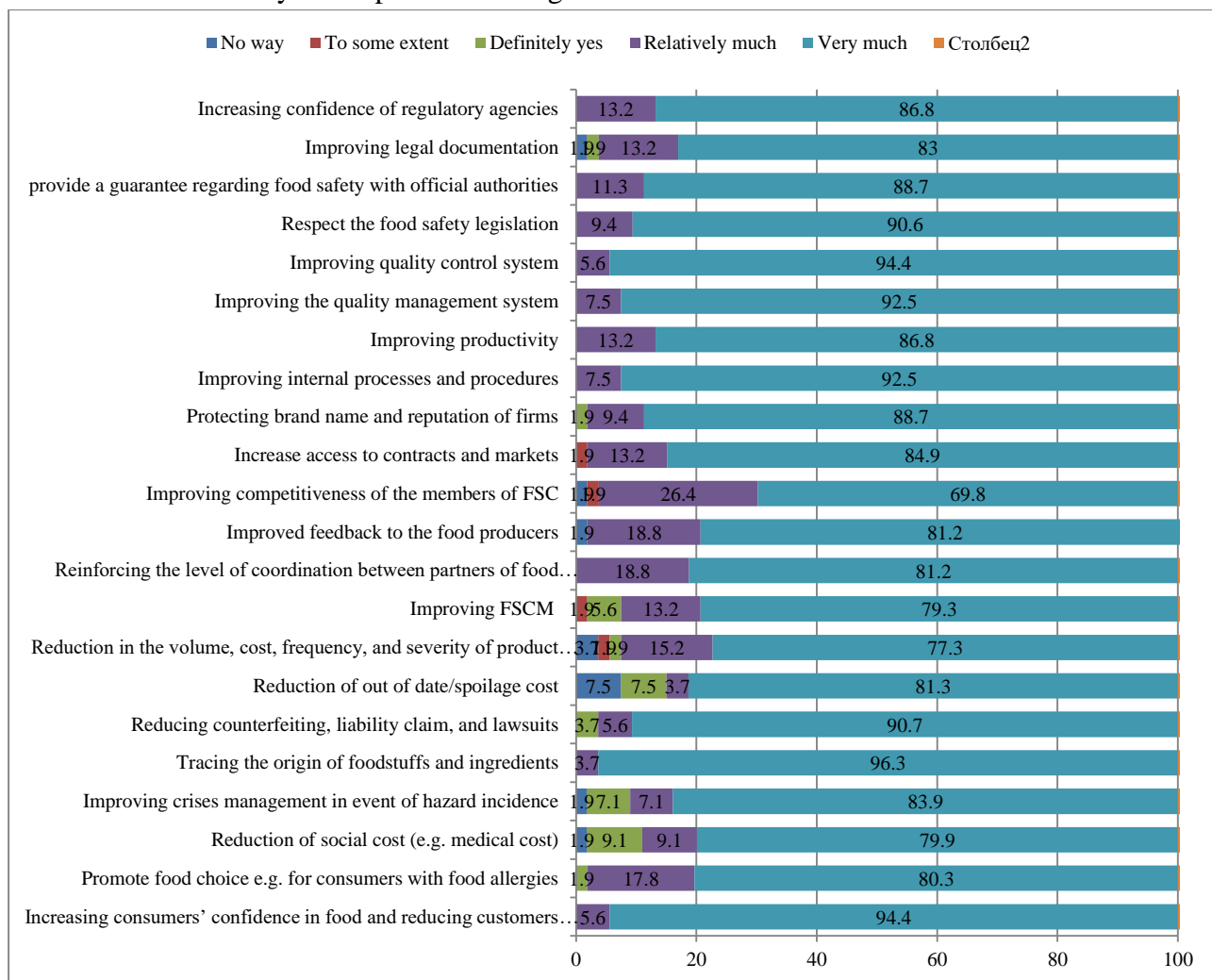


Figure 1. The opinions of companies regarding the benefits of certification according to the international standard ISO 22000, %

Source: prepared by the authors

Analyzing the questionnaires on the categories of the criteria for the perception of the benefits of certification in the ISO 22000 system, high values were obtained. Thus, the companies that mentioned the benefits of certification in accordance with ISO 22000 with the qualification "Very much" mentioned:

- tracing the origin of food products and ingredients - 51 (96.2%) enterprises;
- increasing consumer confidence in food products and reducing customer complaints (increasing food quality and safety) as well as improving the quality control system - 50 (94.4%) enterprises;
- improvement of processes, internal procedures and the quality management system - 49 (92.5%) enterprises;
- reduction of counterfeiting, liability, claims and legal processes – 48 (90.7%) enterprises;
- compliance with food safety legislation – 48 (90.6%) enterprises;
- protecting the brand name and reputation of companies, as well as guaranteeing food safety in close collaboration with official authorities - 47 (88.7%) companies;

- improving productivity and increasing the confidence of regulatory agencies – 46 (86.8%) enterprises;
- increasing access to contracts and markets – 48 (84.9%) enterprises;
- improvement of crisis management in case of occurrence of dangers - 45 (83.9%) enterprises.

As can be seen, out of 53 enterprises, the majority mentioned that following the certification, these economic entities obtained significant advantages and benefits in their activity.

With the liberalization of trade between the Republic of Moldova and the European Union, in the context of the approval of the candidate status for EU accession, the Moldovan authorities undertook a series of reforms related to this process, including in the field of implementation of international standards. The latest developments reveal that, in addition to the technical barriers, there are numerous and important institutional and local obstacles in the way of collaboration with partners from abroad and even with those from the Republic of Moldova, as a result of the poor training of specialists or their absence. Of the 53 companies participating in the survey, less than half encountered impediments in the certification process with the international standard ISO 22000. The most frequent barriers were nominated: Figure 2.

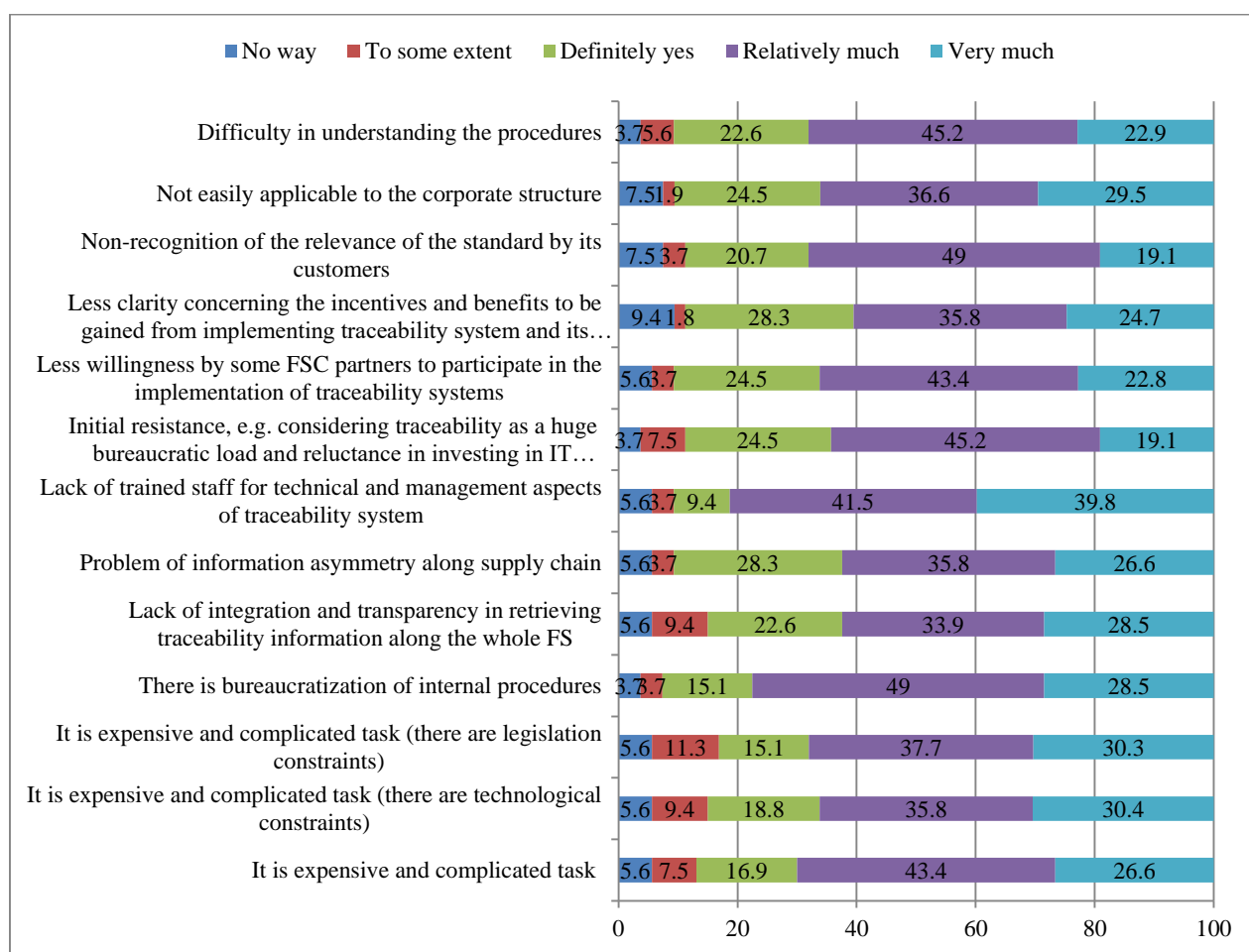


Figure 2. The opinions of enterprises regarding the barriers encountered following certification according to the international standard ISO 22000, %

Source: prepared by the authors

- there is a bureaucratization of internal procedures -26 (49.0%) enterprises;
- non-recognition of the importance of the standard by its customers – 26 (49.0%) enterprises;

- initial resistance, for example: considering traceability as a huge bureaucratic burden and reluctance to invest in funds supported by traceability IT systems and less attention to the connection between the quality of information on quality and safety with the flow of products, difficulties are attested in understanding the procedures - 24 (45.2%) enterprises;

- it is an expensive and complicated task (there are economic constraints, the cost of certification) as well as less willingness of some FSC partners to participate in the implementation of traceability systems – 23 (43.4%) companies:

- lack of qualified personnel for the technical and management aspects of the traceability system – 22 (41.5%) enterprises;

- it is an expensive and complicated task (there are legislative constraints) -20 (37.7%) enterprises.

If we analyze which of the barriers obtained the qualification "Very much", 21 (39.8%) enterprises mentioned the lack of qualified personnel for the technical and management aspects of the traceability system.

Of particular interest was the information on the certification of companies in the ISO 22005 system Traceability in the food and agri-food production chain. (2). Regrettably, only 16 companies answered affirmatively, which is 28.1%. Figure 3.

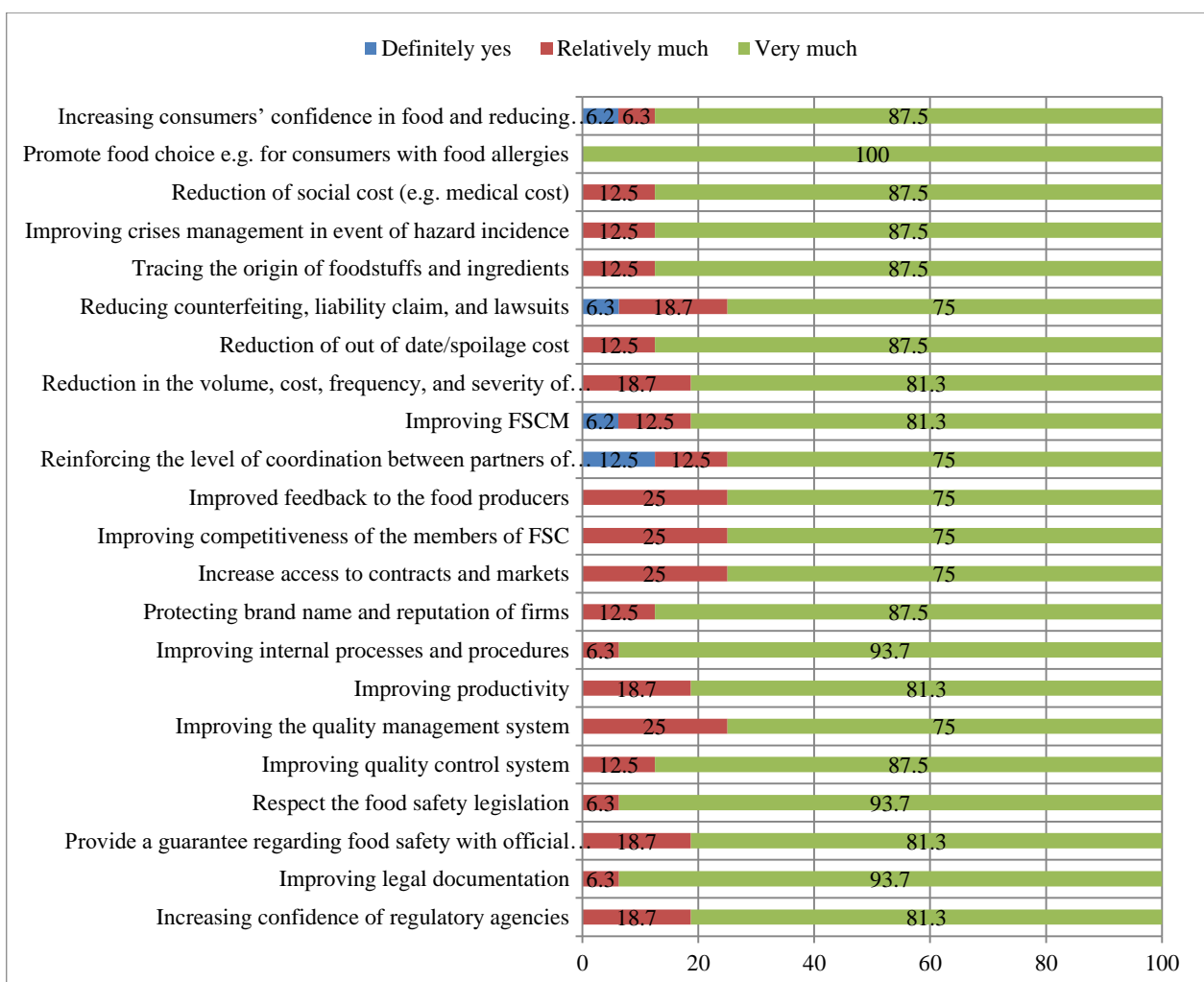


Figure 3. The opinions of companies regarding the benefits of certification according to the international standard ISO 22005, %

Source: prepared by the authors

A traceability system is a useful tool to help an organization operating within a food and agri-food chain to achieve the objectives defined in a management system. The complexity of the traceability system may vary depending on the characteristics of the product and the objectives achieved.

An organization's implementation of a traceability system depends on:

- the technical limits inherent to the organization and the products (i.e. the nature of the raw materials, the size of the lots, collection and transport procedures, processing and packaging methods);
- cost-benefits of applying such a system.

A traceability system alone is insufficient to achieve food safety. As with the ISO 22000 standard, the implementation of the ISO 22005 standard has brought benefits to food businesses. Among the respondents' opinions regarding the benefits of certification according to the ISO 22005 international standard that have accumulated high values, we can mention the following:

- promotion of food choice 16 (100%) enterprises;
- improvement of legal documentation and compliance with food safety legislation was mentioned by 15 (93.7%) companies;
 - improving crisis management, tracing the origin of food products and ingredients, as well as improving the quality control system of 14 (87.5%) enterprises;
 - improving FSCM (Financial Supply Chain Management), productivity, reducing the volume, cost, frequency and severity of product recalls, providing guarantees from official authorities in terms of food safety as well as increasing the confidence of regulatory agencies 13 (81.3%) of enterprises.

As we mentioned above, as in the case of the implementation of the international standard ISO 22000, companies face the same impediments in the implementation of certification according to the ISO 22005 standard - technical, institutional, local, insufficient training of specialists or even their absence.

Analyzing in detail the opinions of the respondents regarding the main barriers that appear in the way of a company certified according to the ISO 22005 standard, we mentioned that in the case of barriers, most companies had different opinions on the qualifications (1= in no case; 5 = a lot), but it stands out the qualification "Very much" with 35.10% and "Relatively much" with 33.17%, which in total constitute almost 70% of the enterprises. The results of the analysis are presented in figure 4.

Among the most important barriers, companies mentioned the following impediments with the qualification "Relatively much":

- there is the problem of information asymmetry along the supply chain 9 (56.3%);
- non-recognition of the importance of the standard by its customers 7 (43.7%);
- lack of integration and transparency in the retrieval of traceability information throughout the entire FSC (FOREST STEWARDSHIP COUNCIL) 7 (42.0%);
- difficulties in understanding procedures;
- less availability of some FSC partners to participate in the implementation of traceability systems 6 (37.5%) enterprises;
- initial resistance, referring to traceability as a huge bureaucratic burden and reluctance to invest in investments supported by IT traceability systems and less attention paid to the link between information quality 6 (37.5%) of businesses.

For the qualifier "Very much" they mentioned the following barriers:

- lack of qualified personnel for the technical and management aspects of the traceability system – 9 (56.3%) enterprises;

- little clarity regarding the incentives and benefits that can be obtained from the implementation of the traceability system and its investment cost 8 (50.5%);
- does not apply easily to the structure of the enterprise – 6 (37.7%);
- it is an expensive and complicated task (there are economic and legislative constraints, the cost of certification)- 6 (37.5%).

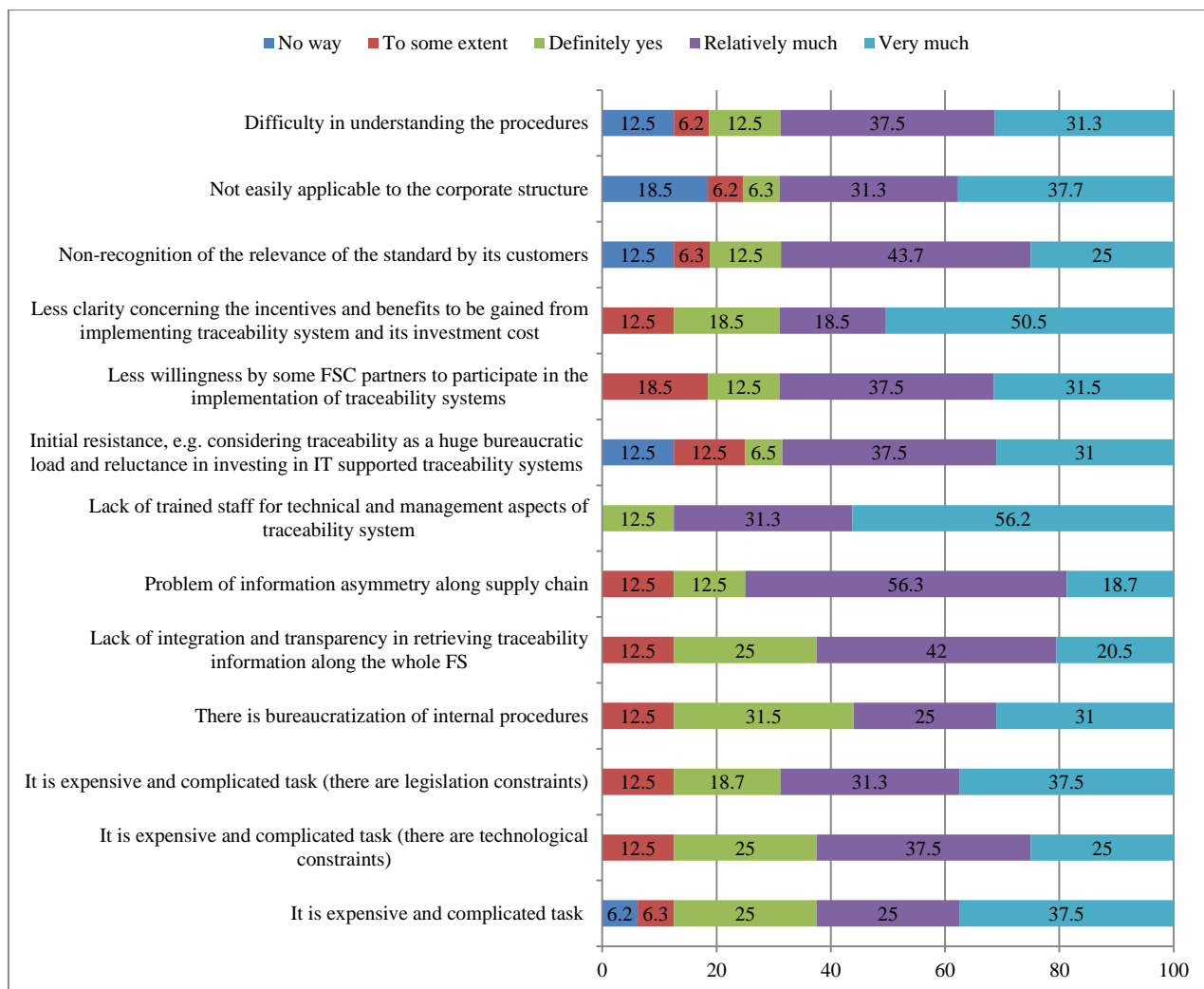


Figure 4. The opinions of enterprises regarding the barriers encountered following certification according to the international standard ISO 22005, %

Source: prepared by the authors

CONCLUSIONS

Following the analysis of the results of the survey undertaken among food and agri-food enterprises, we can mention that the accession to the European community for these enterprises from the Republic of Moldova is a terrain with many technical, institutional and local obstacles. A factor not to be neglected is the insufficient training of specialists or even their absence. On the part of the companies, on the one hand, there is a lack of information regarding the certification system, a lack of confidence in their own capabilities to comply with international standards, and on the other hand, there is an insufficiency of non-governmental bodies, which would contribute to information and practical training of entrepreneurs in this field. Since the accession to the European Union area clearly requires the presentation of an annual report on the fulfillment of the conditions set out in the

Commission's opinion, the implementation of international standards in the field of food quality and their certification will be inevitable.

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