

**THE INFLUENCE OF INFORMATION ABOUT FOOD
SAFETY MANAGEMENT SYSTEM ON PURCHASE
DECISIONS OF INDIVIDUAL CONSUMERS***

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Abstract. The article presents the result of research on the influence of information about food safety management system on purchase decisions of consumers.

Key words: information, food safety management system, HACCP, ISO 9001, ISO 14001, ISO 22000

INTRODUCTION

Food safety is a concept which has two main aspects [Górna 2007]:

- 1) it is a feature of food itself – it means that food is free from biological, chemical or physical hazards,
- 2) it is linked to the process of food production/flow of food – particular phases of the process and actions the producer has to take in order to ensure food production/food flow safety with an intent to ensure consumer health and safety.

Food safety should be the concern of all parties involved in its production, in its flow as well as of legislative authorities. On account of this, the Act of 25th August 2006 on Safety of Food and Nutrition was enacted [Ustawa... 2006] which replaced the

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Act on Food Health Conditions and Nutrition of 11th May 2001 on 28th October 2006 when it came in to force [Ustawa... 2001]. The new Act does not regulate the issues of HACCP system and hygiene of foodstuffs regulated under the Directive 852/2004 of 29th April 2004 on the Hygiene of Foodstuffs [Rozporządzenie... 2004].

Table 1. New obligations of food producers
Tabela 1. Nowe obowiązki producentów żywności

Obligations Obowiązki	Sanctions Sankcje
Implementing HACCP system for all entrepreneurs in the food industry Wdrażanie systemu HACCP dla wszystkich przedsiębiorców z branży spożywczej	Fine penalty Kara grzywny
All food producers are obliged to monitor their suppliers and end users Producenci muszą monitorować, od kogo kupują składniki i komu sprzedają towar	Financial penalties up to thirty fold of average monthly pay i.e. PLN 80 000 in a month Kary pieniężne w wysokości do trzydziestokrotnego przeciętnego miesięcznego wynagrodzenia, tj. 80 tys. zł miesięcznie
Mail order food sellers will have to be certified by the sanitary inspectorate Sprzedawcy żywności drogą wysyłkową będą musieli być zatwierdzeni przez inspekcję sanitarną	
Stricter requirements put on food labelling, for example food producers cannot suggest that their products prevent illnesses or cure illnesses Surowsze wymagania dotyczące znakowania żywności, np. na etykiecie, producent nie będzie mógł sugerować, że dany artykuł zapobiega chorobom lub leczy	Fine penalty Kara grzywny
New restrictions on child commercials and advertisements, especially for infants Nowe rygory dotyczące reklamy produktów dla dzieci, w szczególności dla niemowląt	Fine penalty Kara grzywny
Better Consumer Rights Protection Większa ochrona praw konsumenta	
In case of harm done by foodstuffs, food producers will be liable for the damage: W przypadku szkody wyrządzonej przez środki spożywcze producent będzie ponosił odpowiedzialność karną:	
Producing and marketing food detrimental to health Za produkcję lub wprowadzenie do obrotu żywności szkodliwej dla zdrowia	2 year imprisonment (or high fine penalty) 2 lata więzienia (lub wysoka grzywna)
Selling falsified and spoiled products Za sprzedaż produktów sfałszowanych lub zepsutych	1 year imprisonment 1 rok więzienia
Selling food products by the Internet without prior approval of the Sanitary Inspectorate Za sprzedaż żywności przez Internet bez wcześniejszego zatwierdzenia przez inspekcję sanitarną	1 year imprisonment 1 rok więzienia

Source: own elaboration based on: Pietryga and Dyrdowska [2006].
Źródło: opracowanie własne na podstawie: Pietryga and Dyrdowska [2006].

The repealed Act on Food Health Conditions and Nutrition in Article 5 (2) [Ustawa... 2001] provided for that liability for any harm caused by food or substances used in food processing which do not have proper health quality, and in particular are harmful to health, spoiled or falsified is regulated by the Civil Code [Bobel and Leśkiewicz 2007]. Article 95 of the Act on Food and Nutrition Safety in force [Ustawa... 2006] provides for liability for any harm caused by food products by the party operating in the food industry according to the rules set down in the Civil Code, as for liability for harm caused by dangerous products. A dangerous food product is a product which can by any means be harmful to consumer's health when it is consumed. Pursuant to The Act on Safety of Food and Nutrition [Ustawa... 2006] organizations can be subject to fines as a consequence of lack of progress in HACCP implementation (Table 1).

Written information or information in form of graphic symbols on food containers, labels or wrapping not only contribute to shaping food safety in a significant way, but also shape consumer preferences which make it possible to choose products matching customer expectations [Staniewska et al. 2006].

A lot of economical, demographic, social and psychological factors influence purchase decisions of individual consumers. Decisions connected with the choice of foodstuffs become more and more significant. Consumers can buy the same products because of different reasons. The decision to buy a particular product may also be affected by information not linked with the product itself but connected to a system ensuring health safety (called colloquially in Polish HACCP system). Many companies when marketing their consumption products put information on product labels or packaging that confirms that the above system has been implemented.

HACCP system is one of the systems which are considered to be an effective tool to produce healthy and safe food around the world. The idea underlying the use of this system is that any potential hazards and inconsistencies will be identified prior to or during processing but always in time to minimize the risk of hazard occurrence. HACCP has thus a preventive character. In order to prevent hazards, the weight of control on the end product is redistributed on particular phases of the production and distribution process [Błaszczewicz 2005]. Organizations dealing with production and trade of foodstuffs and its components have to manifest the ability to monitor food safety hazards. That is why the information confirming implementing Food Safety Management System (ISO 22000) or Hazard Analysis and Critical Control Point system (HACCP) is an important factor as far as consumer purchase decisions are concerned.

THE AIM AND METHODOLOGY OF RESEARCH

In order to determine the level of consumer awareness, but also the role and importance of information confirming the function of food safety management system in purchase decisions of individual consumers, market research verifying the knowledge of consumers on HACCP system and food safety management system (ISO 22000) functioning in an organization was carried out. The knowledge of concepts and definitions connected to food safety management systems as well as the perception of information on unit packages of foodstuffs concerning the abovementioned systems was tested in particular.

Additionally, an attempt was made to determine the influence of information concerning the systems for ensuring or managing food safety on purchase decisions of individual consumers on the market of consumer goods.

Research was carried out in form of a direct interview categorized by means of a research tool which was an interview questionnaire. Survey was carried out on a sample of 400 respondents in the city of Poznań and its surroundings. The survey sample was selected non-randomly. Because of the type of sampling, the survey is not representative. However, the sample size is sufficient enough to draw conclusions and consider them as an illustration of the problem in question. 234 women and 166 men took part in the survey. The respondents were people with secondary and higher education. All of them belonged to the category of working people making purchasing decisions.

The analysis of survey results indicated that no significant differences between men and women existed as far as the subject matter was concerned. Thus, no profile analysis is included in the presentation of research results and conclusions.

Specific survey goals were as follows:

1. Assessing the knowledge of definitions and concepts connected with systems for ensuring and managing food safety (such as ISO 22000, HACCP) among individual consumers.
2. Hierarchizing factors affecting the purchase of consumer goods (including the placement of information on product packaging about food safety management systems implemented in an organization).
3. Indicating in case of which groups of consumer goods consumers attach both biggest and smallest significance to the fact that the producer has implemented systems for ensuring or managing product safety.
4. Assessing the influence of the information on product packages about holding product safety management system by an organization on the purchase decision.

THE KNOWLEDGE OF DEFINITIONS AND CONCEPTS CONNECTED WITH MANAGEMENT SYSTEMS IN AN ORGANIZATION

In order to determine the knowledge of respondents on management systems they were asked about the following concepts: “management system”, definitions of ISO 9001, ISO 14001, and ISO 22000. The respondents were also asked to indicate management systems known to them. Survey results are presented in Figure 1.

As survey results indicate, a big share of respondents (92%) declares that they know the concept of a “management system”. This is only their declarative knowledge and their subjective feeling. Thus, their actual knowledge on management systems in an organization was verified in the next questions of the questionnaire. With respect to the question about particular management systems, majority of respondents declared they knew the Quality Management System compliant with ISO 9001 (92% of positive answers). The second best known management system was the Environmental Management System conforming to ISO 14001 (60% of positive answers). Next, HACCP food safety system was indicated by the respondent (57% of positive answers). To a far smaller degree did the respondents declare the knowledge of Food Safety Management System according to ISO 22000 – 27% positive answers. It may be a consequence of the



Fig. 1. Knowledge of the concept of “management system”
 Source: own survey.
 Rys. 1. Znajomość pojęcia „system zarządzania”
 Źródło: badania własne.

fact that ISO 2200 norm was introduced in 2005 and that considerably few organizations have implemented product safety management systems compliant with the requirements of this norm so far. At the same time the obligation to implement HACCP in organizations has existed for several years now. And because of that the knowledge of HACCP system is more common. The knowledge of the respondents on specific management systems is presented Figure 2.

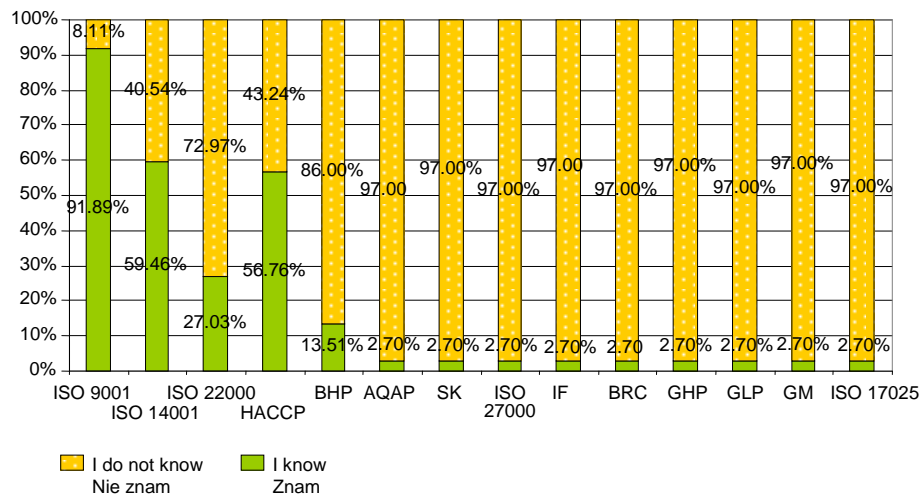


Fig. 1. Which of the following systems are known to you?
 Source: own research.
 Rys. 2. Które z wymienionych systemów zna Pani/Pan?
 Źródło: badania własne.

To verify the actual knowledge of the concept of Food Safety Management System compliant with ISO 22000 questions were asked in which the respondents chose the appropriate definition of the terms above. When we analyze the results it can be stated that despite the need to implement product safety management system in an organization, there is unfortunately no proper social communication on this issue as well as no raising the pro-quality awareness of consumers. In other words a share of the respondents does not identify the said terms correctly. Figure 3 presents the above results.

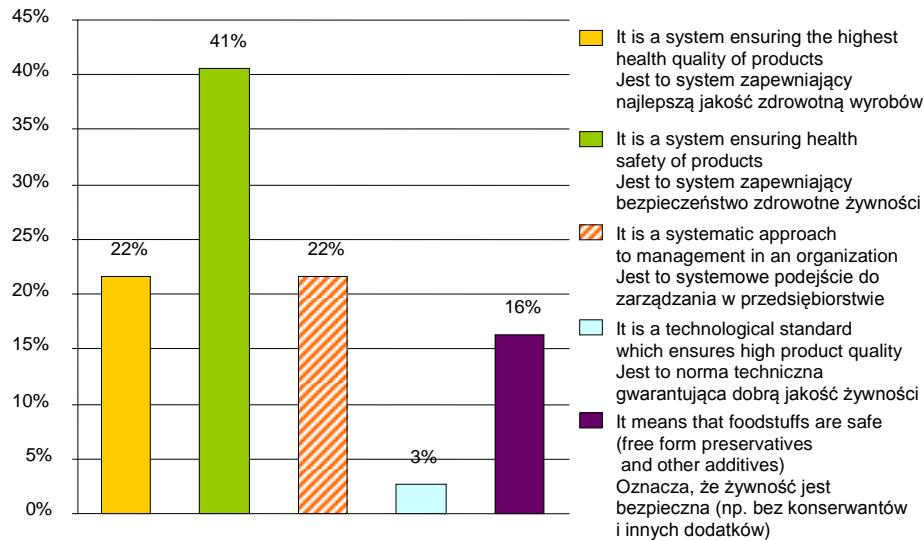


Fig. 3. Understanding the concept of ISO 22000

Source: own research.

Rys. 3. Rozumienie pojęcia ISO 22000

Źródło: badania własne.

Based on the research the concept of “ISO 22000” is properly understood by 41% of respondents. Respondents declared also that the system ensures highest health quality of the products and that it is a systematic approach to management in an organization. In both cases it was 22% of respondents. Of course you can agree with such statements too. Unfortunately, 16% of respondents associate the concept with the assurance that ‘safe food does not include preservatives and other additives’ which is a wrong conception. A totally wrong understanding of the ISO 22000 concept stating that it is a technological norm was indicated by a minimal number of surveyed people – 12 (which constitutes 3% of positive answers).

Associations which the respondent referred to prove proper understanding of terms related to a systematic approach to product safety management in an organization. During the survey, respondents were asked to point out statements which come to their minds when the packaging of a purchased product has the following information: “ISO 22000” or “HACCP”. It has to be stated here that the respondents could choose several possible associations which significantly affected the analysis of the interpretation of terms related to a systematic approach to product safety management in an organization.

One of the research goals was to determine which associations were triggered in respondents when they saw the information which writes HACCP on the packaging and determining whether consumers considered that meeting the standard on ensuring food safety was a guarantee that the food products were safe. The results of the survey in this respect are presented in Figures 4 and 5.

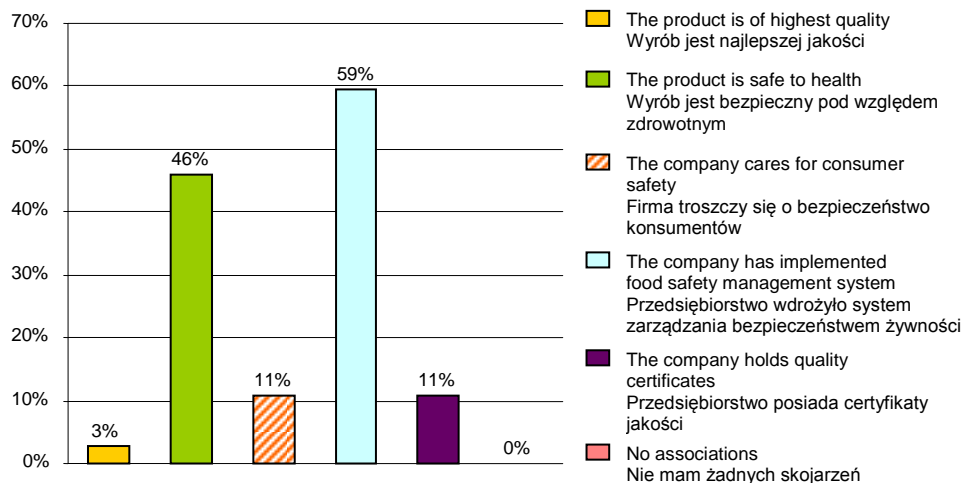


Fig. 4. Associations with the information on HACCP on the product/packaging

Source: own research.

Rys. 4. Skojarzenia związane z informacją na produkcie/opakowaniu o treści „HACCP”

Źródło: badania własne.

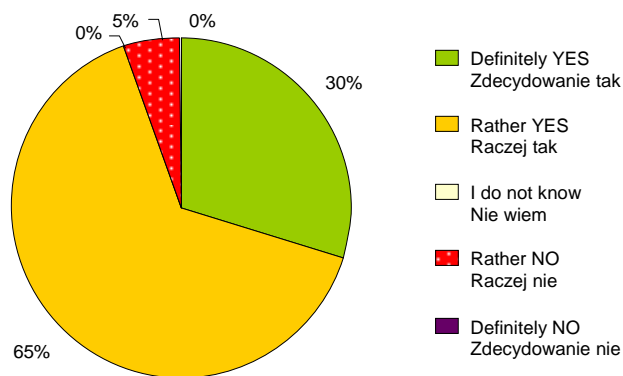


Fig. 5. Does meeting standards on ensuring food health safety guarantee that the food is safe?

Source: own research.

Rys. 5. Czy przestrzeganie standardów w zakresie zapewnienia bezpieczeństwa zdrowotnego żywności jest gwarancją, że żywność jest bezpieczna?

Źródło: badania własne.

Most respondents properly associate the note which says “HACCP” on the product/packaging with the fact that the company implemented a food safety management system. A slightly smaller share of respondents (45%) associates the concept with health safety of the product. This can also partially be considered proper understanding of this information on the product/packaging. The above results reflect the knowledge of respondents of issues related to ensuring food safety. Only a small share of respondents (3%) associate the note which says HACCP with the declaration that the product is of highest quality or that the company has quality certificates (11% of answers). In general, consumers can properly choose the field of associations connected to this concept. Maybe it stems from information campaigns on the market which set out to make the topic of food health safety more popular.

Respondents were also asked whether maintaining standards as far as ensuring food health safety is a guarantee that the food is safe. The results are presented in Figure 5.

When we analyze the degree of respondent certainty that maintaining standards ensuring food health safety is a guarantee that the food is safe, 30% of respondents were absolutely sure about the fact. Moreover, it has to be stated that 65% of respondents were choosing the correct answer with little less certainty choosing the statement “rather yes”.

THE INFORMATION ABOUT FOOD SAFETY MANAGEMENT SYSTEM AS A FACTOR AFFECTING PURCHASE DECISIONS OF INDIVIDUAL CONSUMERS

A crucial goal of the survey conducted was to determine how big the influence of information about the company having implemented food health safety management system was on the purchase decisions of individual consumers (the above relates to information put on unit packages of consumer goods). In addition, as a consequence of conducted research, product groups have been hierarchized according to how big the influence of above information is on the purchase decision.

Respondents were also asked a question about the influence of the information on the product or packaging about the implementation of HACCP by the company as a factor influencing the purchase taking into consideration specific product groups. The results are presented in Figure 6.

When we analyse Figure 6 we can reach the conclusion that a note of information on the product/packaging about HACCP system implementation by the organization has huge influence on the purchase decision of consumers. This applies in particular to dairy and meat products together with fruit and vegetable preserves (49-41% of answers). Such information has less significant influence on purchase decisions in case of products such as sweets, beverages and bread. A small share of respondents declares that such information is no determinant factor affecting the purchase, particularly in case of meat (5% of answers) or dairy products (8% of answers).

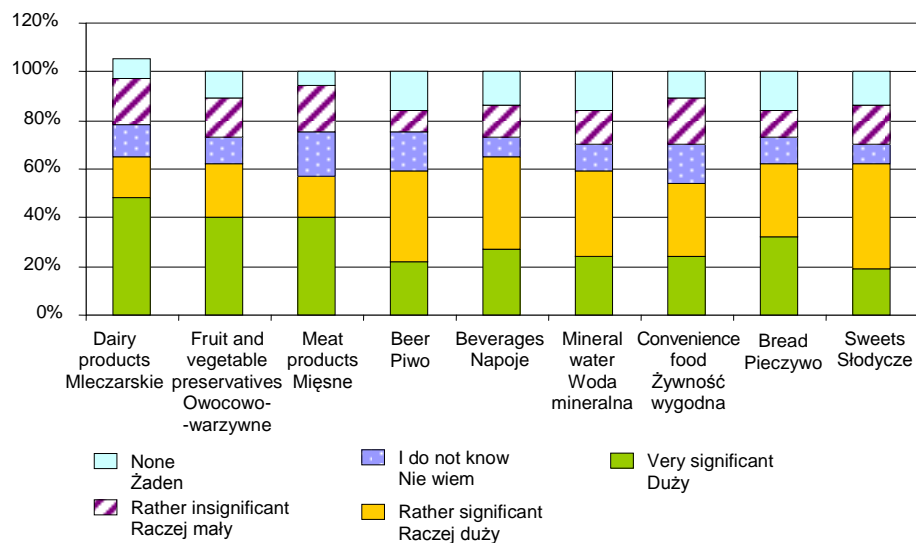


Fig. 6. The influence of the information about HACCP implementation on the product/packaging on the purchase

Source: own research.

Rys. 6. Informacja na produkcie/opakowaniu dotycząca wdrożenia przez przedsiębiorstwo HACCP jako czynnik wpływający na zakup

Źródło: badania własne.

CONCLUSIONS

Based on the survey carried out it can be stated that the information about product health safety management system put on the product or packaging influences purchase decisions of consumers.

The best known management system among the respondent in the Quality Management System conforming to ISO 9001 norm requirement as well as the system for ensuring health safety of products, namely HACCP. It stems from the fact that the first system is the most frequently implemented non-obligatory system (more than 50 000 thousand ISO 9001 certificates have been registered in Poland so far) and from the obligation to implement the second system (HACCP) by all organizations which deal with food processing and/or are directly related to food industry.

Implementing food safety management systems by production companies constitutes a significant factor influencing purchase decisions of individual consumers. Not less than 49% of consumers declare that information about HACCP is a determinant in case of dairy products.

Generally speaking, the system ensuring food health safety is a subject well understood by the respondents and the note of information which writes HACCP on the product is appropriately identified. It probably results from high interest of the consumers in the quality of consumed products as well as from high awareness of consumers on the issues of food health and safety.

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WPLYW INFORMACJI O SYSTEMIE ZAPEWNIENIA BEZPIECZEŃSTWA ŻYWNOCI NA DECYZJE NABYWCZE KONSUMENTÓW INDYWIDUALNYCH

Streszczenie. Bezpieczeństwo żywności powinno być przedmiotem troski wszystkich podmiotów biorących udział w jej produkcji i obrocie oraz organów i instytucji legislacyjnych czy kontrolnych. Informacja wyrażona słownie, bądź za pomocą znaków graficznych, zamieszczona na opakowaniach, etykietach czy obwolutach artykułów spożywczych ma swój znaczny udział nie tylko w kształtowaniu bezpieczeństwa żywności, lecz także w kształtowaniu preferencji konsumenckich, pozwalających na dokonanie wyboru produktu zgodnego z oczekiwaniami. Podjęcie decyzji o zakupie wyrobu może być również powodowane informacją nie związaną z samym wyrobem, a z systemem zapewnienia bezpieczeństwa żywności (potocznie nazywanym systemem HACCP), zapewniającym bezpieczeństwo zdrowotne produkowanych wyrobów. Wdrożenie systemów zarządzania bezpieczeństwem żywności przez przedsiębiorstwa produkcyjne stanowi znaczący czynnik wpływający na decyzje zakupowe konsumentów indywidualnych; aż 49% nabywców deklarowało jako determinantę zakupu informację o systemie HACCP, np. w przypadku grupy produktów mleczarskich.

Słowa kluczowe: informacja, system zapewnienia bezpieczeństwa żywności, HACCP, ISO 9001, ISO 14001, ISO 22000

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