

Positions of Food Business Operators in Bosnia and Herzegovina toward HACCP System

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ABSTRACT

New approach in food safety and hygiene legislation gives the central role to HACCP for all food business operators, with an exception of primary production. Slowly ongoing transposition of the EU food safety legislation into regulatory framework of Bosnia and Herzegovina (B&H) also puts HACCP as an obligatory system for food operators. However, the implementation of HACCP is still on relatively low level, with some misunderstandings. The reasons are commonly found in lack of quality plans for implementation and control of implementation of the adopted regulation. As far there was not any systematic research of food operators' approaches and positions toward HACCP as obligatory and, according to some researches, costly system. The aim of the study was to find familiarity of B&H food business operators with impact of new regulatory framework on their business. The research was done by survey method in 18 companies. the surveyed operators, depending on their profile, had highly different opinions regarding costs pertaining to HACCP, administrative burden of HACCP implementation, and overall aims and benefits of its implementation. The results of the study pointed out necessity of further training and education of food business operators in B&H regarding food hygiene legislation and its purposes.

Key Words: Food Hygiene Legislation, HACCP, food operators, Bosnia and Herzegovina

ÖZET

BOSNA HERSEK'TE HACCP SİSTEMİNE YÖNELİK GIDA İŞLETME OPERATÖRLERİNİN POZİSYONLARI

Gıda güvenliği ve hijyen mevzuatında yeni yaklaşım, birincil üretim istisna olmak üzere tüm gıda işletme operatörleri için HACCP'e merkezi bir rol vermektedir. AB gıda güvenliği mevzuatının, yavaş yavaş devam eden Bosna Hersek (B ve H)'in yasal çerçevesine aktarımı, HACCP'i gıda operatörleri için zorunlu bir sistem olarak getirmektedir. Bununla birlikte, HACCP uygulamasında hala göreceli olarak düşük düzeyde bazı yanlış anlamalar mevcuttur. Nedenleri arasında genellikle, kalite planlarının uygulamasındaki ve adapte edilen mevzuatın yerine getirilmesinin kontrolündeki eksikler bulunmaktadır. Bilindiği kadarıyla, bunlar gıda operatörlerinin, HACCP'in zorunluluğu ve pahalı system olmasına yönelik (bazı araştırmacılara göre) sistemik araştırmalarının yaklaşımları ve

pozisyonları değildi. Bu çalışmanın amacı, Bosna Hersek gıda işletmesi operatörlerinin yatkınlığı ile kendi işletmelerinde yeni düzenlenen sistemin önemini ortaya koymaktır. Araştırma, anket yöntemi ile 18 şirkette gerçekleştirildi. Kendi profiline bağlı olarak ankete katılan operatörlerin, HACCP'e ilişkin maliyetler ve HACCP uygulamasının idari yükü ve genel amaçları ile uygulanmasının faydaları konusunda son derece farklı görüşleri vardı. Çalışmanın sonuçları, Bosna Hersek'teki gıda işletme operatörlerinin, gıda hijyeni mevzuat ve amaçları ile ilgili daha fazla eğitim ve öğretim alması gerektiğine dikkat çekmektedir.

Anahtar Kelimeler: Gıda Hijyeni Mevzuatı, HACCP, gıda operatörü, Bosna ve Hersek

Introduction

Hygiene package of the EU regulations, as a foundation of new regulatory system, establishes the obligation for ensuring hygiene status and food safety for all the participants in food production and marketing, the unified approach to food chain in accordance with so called "from farm to fork" principle, the risk analysis as regards hygiene and food safety issues and the introduction and implementation of HACCP system as a basis for insuring food safety. Such an approach was at the same time a message to those countries having their trade and economic or wider reasons (e.g., accession to the EU) to transpose substantially the stipulations of the new legislation on food hygiene into their legislation. Although it is undoubtedly among the countries which are expected to transpose the new EU regulatory provisions concerning food hygiene into their national legal framework, Bosnia and Herzegovina has made no special progress in that respect. The harmonisation of B&H regulations concerning food safety and hygiene with those of the EU being certain, the impact of the new regulatory environment on company businesses in poorly developed B&H food industry remains unknown.

The research was done by survey method in certain number of food producing and food trading companies. The impact assessment of new food legislation on their businesses was done through analysis of the answers given to the survey questions and by comparing the presented and prevailingly presented views with the results obtained by other authors, especially in regard to introduction and implementation of HACCP, and certain conclusions have been made.

Materials and Methods

Besides the general information about companies surveyed, the survey questionnaire contained views concerning the impact of HACCP on company business (16 questions).

From the total number of 18 surveyed companies, 10 were food producers and eight food traders. Four out of 10 food producing companies and one out of eight food trading companies export their products. The number of permanently employed staff in surveyed companies was from at least five employees (in two trading companies) to at the most 600 (one food producing company). Seven out of 18 surveyed companies implement HACCP (six food producers and only one food trader) whilst according to the statements of their management five companies (three food producers and two food trading companies) were in preparatory stage for the introduction of the system. All exporting companies have implemented HACCP.

The representatives of the companies surveyed were given the opportunity to express their views by answering the questions which were given the numeric value from 1 to 5 (1- totally disagree to 5 - totally agree).

Beside every assertion in the survey questionnaire there was an option to reply: "I cannot assess". These views of the survey respondents were not taken into account when calculating the average value of the degree of agreement with the survey assertions. Therefore, the presentation of the research results will show a varying number of the respondent companies (n), depending on the given answers to particular assertion in the survey questionnaire.

The grouping was done to the following criteria: exporter – non-exporter; food producer – food trader, aiming to determine eventual differences in the value assessment, among formed groups, of the survey questionnaire assertions. The testing of significance of differences between mean values of the assertion assessments was done by the t-test.

Results and Discussion

The results are presented in such a way that the Table 1 represents the views of export and non-export companies and the views of food producers and food traders about their agreement with the survey questionnaire assertions, in regard to the impact of the HACCP on their business.

Data presented in Table 1 show that the views of export and non-export companies about HACCP and its impact on their business were fairly uniform for the majority of the survey questionnaire assertions. Statistically significant differences were found at the assertion D2 "The most important aim of the HACCP implementation is to ensure food safety" (the judgement of exporters: 5.00; the judgement of non-exporters: 4.50) and D7 "The implementation of HACCP decreases total costs of the production and operating of the company" (the judgement of exporters: 2.33; the judgement of non-export companies: 2.33). The determined differences show from the one side the better understanding of basic aims of the HACCP among the exporters, but from the other side, their opinion that the introduction and implementation of the system do not reduce the production costs and operating costs of the company. Besides, a noticeable (but not statistically significant) difference regarding the views of the exporters and non-exporters occurred at the assertion D9: "The implementation of HACCP is burdened with unnecessary and non-productive administration and documentation within the company" (the judgement of the exporters: 2.25; the judgement of the non exporting companies: 3.00). Taking into account the fact that all the export companies which had been surveyed had implemented the HACCP, it could be said that

they have more experience and knowledge about the system itself and thus their judgements can be considered as grounded. It should be pointed out that the HACCP cannot resolve all the problems regarding food safety. It is a useful means to identify the important risks and take the control measures while ensuring the correct implementation of processing steps, during which food safety could be jeopardized (Ponte et al., 2005). Thus, the HACCP undoubtedly contributes to the food safety. However, this aim could only be achieved if fully implemented and in if combined with other systems for food safety management, including ensuring the sanitary infrastructure and the implementation of the principle of good hygiene practice (Motarjemi and Käferstein, 1999).

The acceptance and the implementation of the HACCP in the food production and food trade, demand the actions of the government, of the industry and of the consumers. The responsibility to establish such an environment which would promote the importance of food safety by adopting appropriate legislative norms rests with the government. The consumers are expected to articulate via their associations and to come out, towards the government, the food producers and the food traders, with clear requirements concerning hygiene and food safety. The arrearage in the fulfilment of the obligation to implement HACCP in undeveloped countries is frequently the consequence of the lack of consumer's initiative, whilst in the developed countries, with a widespread practice of implementing HACCP, the consumers occasionally demand the introduction of even more rigorous requirements regarding food safety, than those that objectively could be ensured through the implementation of this internationally recognized standard (Cerf and Donnat, 2011; Maldonado et al., 2005).

As it is apparent from the Table 1, the views of the surveyed food producers and food traders significantly differed at only three assertions in the survey questionnaire (D6, D7 and D9). The only statistically relevant difference regarding the consent with the assertions in the questionnaire concerned the assertion D6 "The implementation of the HACCP has to be

obligatory in the primary production" (the producers' judgement: 3.10; the traders' judgement: 4.17). Both, the food producers and the food traders were of the opinion that HACCP should be obligatory even in the primary agricultural production, but traders were more resolute in their views. Such views show the surveyed respondents' ignorance of actual discussions regarding the need and the abilities for the effective implementation of the HACCP in the primary agricultural production and about widely accepted attitudes according to which the obligatory implementation of the HACCP or similar system in the primary production is not possible in the near future. Although statistically irrelevant, the views of food traders and food producers considerably differed in regard to the assertion D7 of the survey questionnaire: "The implementation of the HACCP decreases total production and operational costs of the company" (the judgement of the producers: 2.75; the judgement of the traders: 3.57) and in regard to the assertion D9 of the survey questionnaire "The implementation of HACCP is burdened with unnecessary and non-productive administration and documentation in the company" (producers: 2.29; traders: 3.29). Noting that 6 out of 10 surveyed food producers 6 were those who implemented HACCP and among 8 surveyed trade companies only one had introduced it, it can be noticed that the producers are of the opinion that the HACCP implementation is a sort of burden for business, but that the related documentation and the administration is necessary and useful. On the other hand, the traders are of the prevailing opinion that the implementation of HACCP decreases total business costs and that the implementation of the system is followed by unnecessary and non-productive administration in the company.

The producers, as well as the other food business operators, as a leading reason for introducing HACCP, mention the requirement for the implementation of the system for reaching international market, but many of them also claim that the implementation of HACCP improves the production processes or marketing of the product and increases the competitiveness. However, a considerable number of producers,

especially the small ones, consider that the implementation of HACCP has neither led to improvement of the quality of their products or their business, nor it led to the increase of their competitiveness (Maldonado et al., 2005). It is frequently stated that food producers are motivated to introduce HACCP because of the ascertainment that it increases the quality of the product and the system itself is more rapidly accepted and more consistently implemented by bigger companies (Deodhar, 2003). The preparatory costs for the introduction of HACCP can appear as a problem hard to resolve for the small food producers, especially those in undeveloped and developing countries (Deodhar, 2003). Researching the implementation of HACCP in British milk and milk products industry mentioned that the producers, as a primary motive for the introduction of HACCP, declared the regulatory requirements followed by their desire to maintain the loyalty of the consumers. At that time the industry was of the opinion that the highest cost of HACCP introduction and implementation was the increased number of staff and their education, while the consumers' loyalty to the products produced in accordance with HACCP principles, was considered as the biggest benefit of the system.

The costs of HACCP introduction and its implementation directly depend on number of the determined critical control points of the process. It was found that the complete fulfilment of the requirements of the pre-requisite programmes reduced to the minimum of required number of critical control points thus reducing the costs of the HACCP implementation (Roberto et al., 2006).

Through the research it was found that the significant number of small slaughter houses in the USA, as one of the reason for closing down their business (the cease of business) mentioned the obligatory implementation of the HACCP and the related costs (Muth et al., 2002). It is interesting that business closure of slaughter houses, as well as of the small meat processing companies, occurred more frequently during the implementation than during the introduction of the HACCP (Muth et al., 2002; Muth et al., 2007).

Table 1. Views of the representatives of export and non-export and producing and trading companies towards HACCP impact on company business.**Tablo 1.** İhracat yapan ve ihracat yapmayan ile üretici ve ticari şirketlerin temsilcilerinin işletmelerde HACCP'e doğru öneme dair izlenimleri.

Statement	Average estimation with significance of differences (t-test)					
	Exporters (Ex.) vs. non-exporters (n-Ex.)		Sig.	Producers (Prod.) vs. traders (Trad.)		Sig.
D1 The implementation of HACCP enables the increase of food products' quality	Ex. (5)	4.40	ns	Prod. (9)	4.56	ns
	n-Ex. (11)	4.45		Trad. (7)	4.29	
D2 The most important goal of HACCP implementation is to ensure food safety	Ex. (5)	5.00	*	Prod. (10)	4.90	ns
	n-Ex. (11)	4.50		Trad. (7)	4.28	
D3 The implementation of HACCP entirely prevents the occurrence of unsafe products on the market	Ex. (5)	3.80	ns	Prod. (9)	4.22	ns
	n-Ex. (11)	4.09		Trad. (7)	3.71	
D4 The implementation of HACCP should be obligatory in the production and processing of products of animal origin	Ex. (5)	4.00	ns	Prod. (10)	4.10	ns
	n-Ex. (12)	4.25		Trad. (7)	4.29	
D5 The implementation of HACCP should be obligatory in the production and processing of products of plant origin	Ex. (5)	3.60	ns	Prod. (10)	3.80	ns
	n-Ex. (12)	4.08		Trad. (7)	4.14	
D6 The implementation of HACCP should be obligatory in primary agricultural production	Ex. (5)	2.80	ns	Prod. (10)	3.10	*
	n-Ex. (11)	3.81		Trad. (6)	4.17	
D7 The implementation of HACCP reduces the total production costs and operating costs of the company	Ex. (3)	2.33	*	Prod. (8)	2.75	ns
	n-Ex. (12)	3.33		Trad. (7)	3.57	
D8 The implementation of HACCP requires an increased number of staff	Ex. (4)	3.50	ns	Prod. (7)	3.57	ns
	n-Ex. (10)	3.70		Trad. (7)	3.71	
D9 The implementation of HACCP is burdened with unnecessary, non-productive administration and documentation	Ex. (4)	2.25	ns	Prod. (7)	2.29	ns
	n-Ex. (10)	3.00		Trad. (7)	3.29	
D10 The implementation of HACCP facilitates the fulfilment of the requirements of food legislation	Ex. (5)	4.40	ns	Prod. (10)	4.50	ns
	n-Ex. (11)	4.27		Trad. (6)	4.00	
D11 The implementation of HACCP enables a more efficient inspection surveillance	Ex. (5)	3.80	ns	Prod. (10)	4.20	ns
	n-Ex. (12)	4.25		Trad. (7)	4.00	
D12 The implementation of HACCP increases the competitiveness of the company at local market	Ex. (4)	3.75	ns	Prod. (9)	3.89	ns
	n-Ex. (12)	4.17		Trad. (7)	4.29	
D13 The implementation of HACCP increases the competitiveness of the company at the international market	Ex. (4)	4.50	ns	Prod. (9)	4.44	ns
	n-Ex. (12)	4.42		Trad. (7)	4.43	
D14 Making a decision to introduce HACCP is a good marketing move	Ex. (5)	4.20	ns	Prod. (10)	4.20	ns
	n-Ex. (12)	4.25		Trad. (7)	4.29	
D15 Small and medium enterprises can introduce and implement HACCP without consequences for their businesses	Ex. (5)	3.60	ns	Prod. (9)	3.89	ns
	n-Ex. (11)	4.27		Trad. (7)	4.29	
D16 The implementation of HACCP is complementary to the use of other quality management systems (ISO standards etc.)	Ex. (5)	3.60	ns	Prod. (10)	4.20	ns
	n-Ex. (12)	4.17		Trad. (7)	3.71	

Conclusion

The analysis of the results of the survey done within the research has given few interesting conclusions the most important of which are as follows:

- The prevailing opinion of the surveyed companies was that the implementation of

HACCP demands the increase in staff number, but that the system itself is not overburdened with documentation and administration;

- According to the highly prevailing views of the surveyed companies, the implementation of HACCP increases the competitiveness on local and international market;

- The food exporters expectedly were more familiar with the B&H and EU food legislation and are completely aware of the purpose and aims of HACCP implementation;
- In regard to the impact of the new food hygiene regulatory framework on food producers business and business of other food operators, the survey has shown that there were indications of underestimation of the costs pertaining to HACCP introduction and implementation and their impact on company business.

Some aspects of HACCP impact on food producers businesses, as well as of the other food business operators, were discussed in this paper and came out with the statement that HACCP introduction and implementation in some cases (especially in cases of small food producers) represent a considerable additional cost for business and that some companies, among other reasons, close their business down due to obligatory implementation of the system. However, in the long term and apart of its primary goal to increase food safety, HACCP contributes to better business of the company and consolidate its position on the market.

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