Food Control 40 (2014) 50–57

Contents lists available at ScienceDirect

Food Control

journal homepage: www.elsevier.com/locate/foodcont

Review

Reasons and constraints to implementing an ISO 22000 food safety management system: Evidence from Spain

Carmen Escanciano*, María Leticia Santos-Vijande

Faculty of Economy and Business, Business Administration Department, University of Oviedo, Avenida del Cristo, s/n, 33071 Oviedo, Spain

ARTICLE INFO

Article history:
Received 12 February 2013
Received in revised form
13 November 2013
Accepted 19 November 2013

Keywords:
Food safety
ISO 22000
Spain
HACCP
Reasons
Constraints

ABSTRACT

This study attempts to fill a gap in the literature on food safety management systems (FSMS) by providing quantitative empirical evidence about the reasons for implementing a FSMS based on ISO 22000, as well as by analyzing the main constraints that may prevent the adoption of the standard in the food industry. The survey is based on a sample of 189 Spanish firms with ISO 22000 certification distributed at all levels of the food chain. The future of this standard is then discussed in the light of the views expressed by its users. The results constitute information of interest for consultants and for the ISO itself now that the time to review this family of standards is approaching.

The profile of the ISO 22000 certified company in Spain is an SME food producer with a presence in foreign markets, and with two or more management systems implemented. While there exist external pressures that lead companies to adopt a FSMS based on ISO 22000, the reasons that are most determinant in this decision are internal in nature, specifically the desire to improve efficiency, productivity and quality. Results also identify three major constraints limiting the dissemination and use of ISO 22000: it is not a well-known standard, many food companies are unaware of its potential and they also perceive high costs associated to the adoption.

Contents

1. Introduction

Severe food crises of the past such as mad cow disease or the contamination of baby milk powder with melamine in China, together with the frequent news reports that warn consumers of the presence on the market of products whose ingestion may cause harm, have raised a growing interest in todays' well-informed society in everything that has to do with food safety (FS). FS refers to any problem related to hygiene and harmlessness of the food that reaches consumers; foodstuff is expected to be "safe" and therefore free of contaminants that might pose a health threat. In this sense, FS is an aspect of food quality (Luning et al., 2009; Prieto, Mouwen, Lopez, & Cerdeño, 2008) whose attainment and preservation has become a critical issue of concern for politicians, consumers and all firms in the food industry (Alsaleh, 2007; Leat, Marr, & Ritchie, 1998).

* Corresponding author. Tel.: +34 985102814.
E-mail addresses: cescan@uniovi.es (C. Escanciano), lsantos@uniovi.es (M.L. Santos-Vijande).

0956-7135/$ – see front matter © 2013 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.foodcont.2013.11.032

During the last decades the food industry in developed countries has experienced an increasing concentration of retailers whose private labels have also gradually gained market share (Fabián, 2009). Retailers, as the rest of the members of the food chain, have the obligation to act with the "due diligence" imposed by the Governmental legislation to guarantee FS; moreover, these firms have paid a growing attention to corporate social responsibility as a means of differentiation and obtaining an improved market reputation, which has also reinforced their commitment to FS (Verano & Ponce, 2008). In this context, retailers have faced an imperious need to avoid any risk of faulty products that may damage their private labels or their corporative image. To achieve this objective, they have imposed their own quality standards on suppliers requiring third-party certification of compliance with those standards (Fulponi, 2006; Lopez, Montes, & Vázquez, 2008). In this way, private standards in global agri-food value chains, such as for example the BRC (British Retail Consortium Global Food Standard) and IFS (International Food Standard), have steadily increased in importance (Henson & Humphrey, 2009) becoming often more complex and stringent than government standards (Fulponi, 2006; Hamoudi, Hoffmann, & Surry, 2009).

The confusion resulting from the proliferation of standards led the ISO to design a food safety management system (FSMS) standard aimed at harmonizing those already existing (Seagrave, 2007) designing the "*ISO 22000:2005 Food Safety Management Systems-Requirements for any Organization in the Food Chain*". ISO 22000 specifies the requirements for a FSMS when an organization in the food channel needs to demonstrate its ability to control hazards related to food safety, in order to ensure that the food is safe at the time of human consumption. Since these dangers may be found at any point of the entire food chain, from farm to table, safety control is a joint responsibility involving all of the participants. This is why the scope of this standard encompasses all the operators involved in the production, processing, marketing, and sale of food products (whether for human consumption or for animal feed), together with their related subcontractors. The external recognition represented by ISO 22000 certification increases the appeal of this standard by providing its holders with a means to demonstrate their commitment to FS at an international level, helping in this way to strengthen FS worldwide.

The present study seeks to obtain, in the first place, an in-depth understanding of the reasons why firms may opt for ISO 22000 when implementing and obtaining certification of an FSMS. The contribution of the research in this respect is twofold. First, the literature provides a wide list of potential reasons to adopt a FSMS, this study undertakes a thorough analysis of the extant research to develop a comprehensive list of key reasons in order to investigate their relevance referred to ISO 22000. Second, this is the first study that focuses on ISO 22000 FSMS in Spain, and one of the few multisectoral FSMS studies that, as Bilalis, Stathis, Konstantas, and Patsiali (2009) and Fotopoulos, Kafetzopoulos, and Psomas (2009), analyzes a sample which includes organizations corresponding to every link of the food chain. The empirical evidence referred to Spain contributes to a better understanding of the process of ISO 22000 implementation worldwide since Spain has being one of the top ten countries in number of ISO 22000 certificates according to the 2011 ISO Survey of Certifications report (ISO, 2011).

A second objective of this research is to analyze the factors that prevent the adoption of ISO 22000 by food industry firms. To determine why the ISO 22000 is not a referent for more organizations is useful to establish the constraints that may limit its future as an internationally recognized standard. In this respect, there are some articles that, focussing specifically on ISO 22000, determine the obstacles for its implementation from the adopter's viewpoint (Bilalis et al., 2009; Mensah & Julien, 2011; Teixeira & Sampaio, 2011); however, our understanding of the reasons why firms may avoid the implementation of this standard is scarcer. Identifying these constraints is relevant to help ISO, food sector business associations and even the certification bodies to facilitate the spread of ISO 22000 in the food industry; the adopters' viewpoint is deemed to provide valuable information since these firms have faced the implementation decision considering the pros and cons of ISO 22000 (Bilalis et al., 2009).

In Section 2, we review the literature on the reasons why firms implement an FSMS as well as the potential constraints that may prevent this process. Section 3 describes the research methods and the main characteristics of the sample, and Section 4 the analysis of the data and the main results. Section 5 provides a discussion of the results, and the conclusions are presented in Section 6.

2. Literature review

The implementation of international standards in the market represents a necessary element in the process of improving a company's competitiveness. Customer care, healthy and safe food, and environmental standards represent only some of the conditions that modern business requires from producers of food products (Djordjevic, Cockalo, & Bogetic, 2011). It has therefore become imperative for foodstuff firms to implement and certify management systems focused on the safety, legality, and quality of their products (Verano & Ponce, 2008) as a mechanism to ensure the protection of the consumer and to strengthen confidence.

Firms implement an FSMS for quite different reasons (Herath & Henson, 2010), as reflected in the numerous studies analyzing the experience of firms in different sectors of activity. The vast majority of these studies have focused on Hazard Analysis and Critical Control Points (HACCP), with only a few referring wholly or partially to ISO 22000 (Bilalis et al., 2009; Fotopoulos et al., 2009; Kök, 2009; Vladimirov, 2011). Since HACCP is an essential part of an FSMS, and is one of the key elements of the standard, we considered that many of the motives that lead to the application of HACCP would also be attributable to the implementation of ISO 22000. The reasons that to a greater or lesser extent explain a firm's decision to establish an HACCP system are, among others, the desire to improve the quality and safety of its products, external pressures, improved image, and access to new markets. Indeed, some of these reasons are also present when the system chosen is ISO 22000.

In their work on HACCP in the UK dairy sector, Henson and Holt (2000) find that the two most important reasons to implement this system are compliance with legislation and to respond to the demands of major customers. Numerous studies have found compliance with legislation to be a decisive reason for having an FSMS, whether HACCP (Khatri & Collins, 2007; Wilcock, Ball, & Fajumo, 2011), ISO 22000, or some other (Mensah & Julien, 2011). Jin, Zhou, and Ye (2008), in this case in China, find the most compelling reason to be to reduce the risk of compromising food safety. Similarly, in their work on ISO 22000 in the catering industry in Greece, Mamalis, Kafetzopoulos, and Aggelopoulos (2009) find that the system's main attraction lies in its capacity to improve the hygiene and safety of the products. This is confirmed in the analysis Mensah and Julien (2011) made of the experience of 120 British food firms, most of which had an FSMS certificate (BRC, IFS, or ISO 22000). In Greece, Fotopoulos et al. (2009) refer to ensuring food safety and protecting consumers, and in Turkey, Bas, Yuksel, and Cavosuglou (2007) refer to gaining and maintaining customers' trust in their study of the challenges and constraints to the implementation of HACCP. In the same vein, Herath and Henson (2010) and Maldonado-Simán, Martinez-Hernandez, Garcia-Muñiz, and Cadena-Meneses (2009) for Canadian and Mexican