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Barriers, benefits and motivation factors for the implementation of food safety management system in the food sector in Harare Province, Zimbabwe

Lesley Macheka [a,*], Faith Angeline Manditsera [a], Ruth Tambudzai Ngadze [a], Juliet Mubaiwa [a], Loveness Kuziwa Nyanga [b]

[a] Department of Food Science and Post-Harvest Technology, Chinhoyi University of Technology, Private Bag 7724, Chinhoyi, Zimbabwe
[b] Institute of Food, Nutrition & Family Sciences, University of Zimbabwe, P.O Box MP167, Mount Pleasant, Harare, Zimbabwe

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ABSTRACT

The food manufacturing sector in Zimbabwe is dominated by small scale companies and most of these companies do not have food safety management systems. The barriers and motivation factors towards the implementation of Food Safety Management Systems (FSMS) such as Hazards Analysis and Critical Control Points (HACCP) and ISO 22000 in the food manufacturing sector in Zimbabwe have not yet been explored. The aim of this survey was to determine factors that influence the implementation of FSMS by food manufacturing companies in Zimbabwe. Fifty five questionnaires were distributed to different food companies in Harare Province in Zimbabwe and thirty were fully completed and returned. The questionnaires elicited information on the barriers hindering implementation of FSMS and factors that motivate food manufacturing companies to implement an FSMS. The survey revealed that the main barriers for the implementation of an FSMS in Harare Province and Zimbabwe at large, include lack of financial resources, size of organisation, inadequate infrastructure and facilities, and lack of top management commitment. Results of the survey also showed that the main motivation factor for the implementation of an FSMS is to improve product quality and safety. Improved product quality and safety was identified as the major benefit of implementing an FSMS. Other benefits highlighted include increased employee skills, improved company image, increased product sales, increased market share, and access to new markets.

1. Introduction

Food safety is of vital importance in the global food supply chain (Wilcock, Ball, & Fajumo, 2010). In the present global economy, one weak link in the food chain can result in potential dangers to the consumers' health (Fielding, Ellis, Beveridge, & Peters, 2005). Stakeholders such as consumers, inspectors and regulators have increasingly demanded that food-manufacturing firms minimize the risk of food safety hazards (Arpanutud, Keeratipibul, Charoensupaya, & Taylor, 2009). Nowadays, various internationally acknowledged national systems are available for guaranteeing food safety. These include Hygiene Codes, Hazard Analysis Critical Control Point (HACCP), British Retail Consortium (BRC), Safe Quality Food (SQF), and more recently ISO 22000 (Luning, Bango, Kussaga, Rovira, & Marcelis, 2008). HACCP is an internationally recognised tool, which enables a food business to identify what can go wrong with regard to producing safe food and then to decide how it can be prevented (Food Safety Authority of Ireland, 2001).

The recent and growing concern about food safety from public health authorities, food industry and consumers worldwide has been substantiated by a significant increase in the incidence of reported food-borne diseases in many countries (Wilcock et al., 2010). Food companies in Zimbabwe have been slow to adopt FSMS such as HACCP and ISO 22000. Records from the FSMS certifying organisation in Zimbabwe, the Standard Association of Zimbabwe (SAZ) show that as of September 2012, only one food company had HACCP certification from SAZ and also, only one company had ISO 22000:2005 certification (www.saz.org.zw). In contrast, fifteen food companies had ISO 9001:2008 certification as at the same date showing that more food companies had a Quality Management System (QMS) in place as compared to a food safety management system. These figures show that food companies in Zimbabwe are prioritising quality management systems as compared to food safety management systems. Hence, the need to get insight in the reasons

* Corresponding author.
E-mail address: lesleymacheka@gmail.com (L. Macheka).

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behind the low uptake of food safety management systems by food manufacturing companies in Zimbabwe.

Reports compiled by the Ministry of Health in Zimbabwe through Coalition against Typhoid indicated 1865 cases of Typhoid fever in 2011 alone, averaging between 30 and 50 new cases per day in (Harvey, 2012). Reports of Cholera, an infectious disease caused by *Vibrio Cholerae* in 2008 were 92,000 cases and 4000 fatalities (Mason, 2009). Given the consequences of foodborne illnesses and their fatalities to the world population, there is need to assess and evaluate the current strategies put in place to ensure food safety. These reported outbreaks have increased concerns of low FSMS implementation and certification in Zimbabwe. The survey therefore provides information on why implementation of FSMS is so low yet there are many outbreaks of foodborne diseases every year.

Zimbabwe like many developing countries has seen the sprouting of many Small and Medium Enterprises (SMEs). The SMEs tend to have a poor understanding of FSMS and resulting in limited adoption of HACCP (Fielding et al., 2005). Most developing countries are reported to have weak food safety legislation and control (Kiilholma, 2008; Nguzi, 2007) and also implementation of an FSMS is not compulsory. In most developed world countries implementation of HACCP in food industries is compulsory (Fielding et al., 2005). Given the globalisation of food trade and increase of international food trade, it is important for Zimbabwean food companies to also adopt the FSMS so that it will be easier for them to penetrate the lucrative foreign markets.

Barriers to FSMS implementation vary from country to country and from sector to sector. Some may be due to internal factors in individual businesses, such as the level of knowledge or resources available to a business (Karaman, Cobanoglu, Tunalioglu, & Ova, 2012). To our knowledge, no other studies have been published that identifies the barriers, benefits and motivation to implementation of FSMS in Zimbabwe. Hence, this paper seeks to address the gap in the research on factors influencing implementation of FSMS in Zimbabwe and the survey was conducted in Harare Province where incidence of foodborne disease are high as compared to other provinces. Harare Province harbour the capital city of Zimbabwe and has a population of approximately 1.6 million.

The main objective of the survey was to identify barriers and benefits of the implementation of FSMS and also to identify the motivating factors that influence the implementation of FSMS by food manufacturing companies in Harare province and Zimbabwe at large.

2. Methodology

Data was collected through a structured questionnaire that was developed based on information gathered from a comprehensive literature review of similar studies done in other countries (Bai, Ma, Yang, Zhao, & Gong, 2007; Baş, Yüksel, & Çavuşoğlu, 2007; Doménech, Amorós, Pérez-Gonzalvo, & Escriche, 2011; Karaman et al., 2012; Karipidis, Athanassiadis, Aggelopoulos, & Giompliakis, 2009; Mensah & Julien, 2011; Panisello & Quantick, 2001; Panisello, Quantick, & Knowles, 1999; Ramırez & Martın, 2003, and Wu, 2012). The questionnaire was pre-tested by asking two experts from the food industry and another two from the academic sector to complete the questionnaire. This was meant to improve the reliability and validity of the questionnaire.

Registered food manufacturing companies operating in Harare Province were grouped into three clusters according to size of the company; small (less than 20 employees), medium (between 20 and 50 employees), and large scale food companies (more than 50 employees). From the list of 108 registered food companies operating in Harare Province, twenty (20) food companies were then randomly selected from each cluster. However, of the twenty (20) randomly selected companies from the small-scale cluster, five (5) companies did not have updated physical and contact addresses and questionnaires were only sent to 15 companies in this clusters. For the medium scale cluster, one company did not have updated physical and contact address and questionnaires were sent to nineteen (19) companies. All the twenty large-scale companies had updated contacted details. As a result, a total of 55 questionnaires were emailed to food manufacturing companies that operate in Harare Province in Zimbabwe. A total number of 30 questionnaires were returned. The fieldwork was carried out in the period May–August 2012.

2.1. Questionnaire design

The questionnaire was divided into five sections, A to E. Section A asked for general information on the food company such as size and food products produced. Section B was to be completed by food companies that had an FSMS in place and the questions were designed to gather information on motivation factors that made the company implement an FSMS. Challenges faced during implementation and even after implementation of the FSMS were also asked in this section. Questions in section C were to be answered by food companies that did not have an FSMS at the time of the survey. Questions in this section elicited for information on barriers that impede such food companies from implementing an FSMS. Section D had questions designed to gather information related to the effectiveness of the food safety policy in Zimbabwe. The last section, section E was an open section meant to capture any other information that would not have been captured in the other four sections.

3. Results and discussion

3.1. General characterisation of the food companies that participated in the survey

The response rate of returned and fully completed questionnaires was 54.5% (30/55). Food manufacturing companies that participated in the survey can be classified into different food sectors that include; beverage (39%), confectionary (15%), grain (13%), meat (12%), dairy (12%), and fruit and vegetable (9%). Small scale food manufacturing companies had the lowest response rate of 467% (7/15). Response rate for the medium scale companies was 57.9% (11/19) and 60% (12/20) for large scale companies. The reason for such a low response rate might be that the companies suspected that the researchers were from some government monitoring agencies even though they were given assurance that the purpose of the survey was purely academic. Sixty percent (18/30) of the food companies that participated in the survey did not have an FSMS in place. However, respondents from these food manufacturing companies indicated the willingness of their organisations to implement a food safety management system in the near future. The high percentage of food manufacturing companies without an FSMS is an indication that the Zimbabwe food industry is slow in adopting FSMS as a tool to ensure the safety of food products. The percentage is expected to be higher than found considering the fact that there has been mushrooming of backyard food producers. Most of these are not registered and adoption of FSMS is non-existent to them.

Amongst the twelve food companies that had an FSMS in place, (58.3%) 7/12 had an HACCP system and 41.7% (5/12) had ISO 22000 system implemented. Sixty seven percent (8/12) of these companies have an FSMS that is certified by an accredited body, whilst 4/12 (33%) have an uncertified system in place. An interesting point to note is that, though the records from Standards Association of Zimbabwe show that only one company is HACCP certified and one company ISO 22000 certified, the results from the survey showed