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Barriers and benefits to the adoption of a third party certified food safety management system in the food processing sector in Shanghai, China

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ABSTRACT

Despite the recent passing of legislation by the National People's Congress of China in 2009, many food businesses in China have yet to implement a third party certified food safety management system (FSMS). While the extent literature identifies a number of internal and external barriers and benefits, the extent to which these impact on the business is thought to be dependent upon how much progress the firm has made on its journey towards quality assurance and the environment within which the firm operates. To test this proposition, the barriers and the benefits accrued from the implementation of a third party certified FSMS were explored by segregating the participating firms into three distinct groups; (i) those that have yet to implement a third party certified FSMS; (ii) those that were in the process of adopting a third party certified FSMS; and (iii) those that were already operating under a third party certified FSMS. Contrary to expectations, in what is a highly competitive market, those firms which were operating under a third party certified FSMS were more likely to question the benefits they had derived than those firms that were either in the process of adoption or had chosen not to adopt a third party certified FSMS. Irrespective of the stage of adoption, the major constraint to the implementation of a third party certified FSMS was the need for the organisation to focus on more immediate issues and the lack of any strategic long-term planning.

1. Introduction

Food manufacturing in China continues to grow from strength to strength. In 2011, the food manufacturing industry employed more than 6.7 million people to generate sales in excess of RMB 6.9 trillion (GAIN, 2013). Expansion has been driven by the increasing growth in personal disposable income, the demand for more convenient food and greater urbanisation.

The food processing industry in China covers a multitude of sectors including meat, poultry and dairy products, fruit and vegetables, confectionary and snack products, cereals, oils and fats, beverages and seafood. While most food processors acknowledge that some basic food safety and hygiene system is necessary to protect consumers and their reputation, frequent reports of food adulteration continue to erode consumer confidence in both domestic and international markets (Jia & Jukes, 2013; Lam, Remais, Fung, Xu, & Sun, 2013; Ortega, Wang, Wu, & Olynk, 2011; Tang & Babich, 2014; Yan, 2012). Although numerous internationally recognised third party certified food safety management systems (FSMS) including BRC, HACCP, IFS, ISO 22000 and QS are available to minimise the risk, there is some evidence to suggest that the uptake of these systems is well below expectations. Chu, Feng, and Chen (2014) report that in 2013, only 12,520 food companies were third party certified in China. However, as GAIN (2013) reveal, 92% of the 400,000 plus food manufacturers are small to medium-sized enterprises, most of whom lack any formal training in food safety management.

Within the literature, there is widespread recognition that the barriers and constraints to the implementation of third party certified FSMS differ by the size of the firm (Fotopoulos, Kafetzopoulos, & Gotzamani, 2011; Karipidis, Athanassiadis, Aggelopoulos, & Giompliakis, 2009; Massoud, Fayad, El-Fadel, & Kamleh, 2010; Taylor, 2001; Trienekens & Zuurbier, 2008), by

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industry (Herath & Henson, 2010; Kuepper & Batt, 2011) and across countries (Bas, Yuksel, & Cavusoglu, 2007; Dora, Kumar, van Goubergen, Molnar, & Gellynck, 2013; Maldonado-Siman, Bai, Ramírez-Valverde, Gong, & Rodríguez-de Lara, 2014; Massoud et al., 2010). While the literature acknowledges differences in a firm's motives for adopting a third party certified FSMS (Fotopoulos et al., 2011; Khatri & Collins, 2007; Massoud et al., 2010) and differences between those firms which choose to implement a third party certified FSMS and those which do not (Ahire, Waller, & Golhar, 1996; Jin, Zhou, & Ye, 2008; Salegna & Fazel, 2000), there is very little evidence in the literature of any study that explores differences in the perceived barriers and benefits by the stage of adoption.

Using Rogers (1995) diffusion of innovation theory, Fernando, Ng, and Yusoff (2014) endeavoured to distinguish between innovators, early adopters, the early majority, late majority and laggards. Jin et al. (2008) took a more simplistic approach by seeking to compare firms that had a fully operational HACCP system and those that did not. While Herath and Henson (2010) noted that 38% of their sample had a fully operational HACCP plan, 19% were in the process of implementation and 37% had no intentions of implementing a HACCP based FSMS, they elected not to explore the different perceptions and experiences by the stage of adoption. As reported by Karipidis et al. (2009) and Kuepper and Batt (2011), the perceived benefits and barriers associated with the implementation of a third party certified FSMS are observed to be different before and after implementation.

To overcome these gaps in the literature, this study seeks to explore the perceived barriers and benefits derived from the implementation of a third party certified FSMS in the food processing sector in Shanghai, China, by grouping the firms into one of three mutually exclusive groups: (i) those firms which have chosen not to adopt a third party certified FSMS; (ii) those firms which are in the process of adopting a third party certified FSMS; and (iii) those firms that are already operating under a third party certified FSMS.

2. Benefits and barriers to the adoption of food safety management systems

Firms implement third party certified FSMS because they are forced to, either by their customers or public authorities, or voluntarily because they recognise that the benefits outweigh the costs (Karipidis et al., 2009; Taylor, 2001). Within the quality literature, the benefits most often associated with the implementation of a third party certified FSMS include improved product quality and safety (Bai, Ma, Yang, Zhao, & Gong, 2007; Jin et al., 2008; Macheka, Manditsera, Ngadze, Mubaiwa, & Nyanga, 2013); reduced costs (Dora et al., 2013: Fotopoulos et al., 2011; Jin et al., 2008; Khatri & Collins, 2007; Massoud et al., 2010; Taylor, 2001); less waste (Fotopoulos et al., 2011; Jin et al., 2008); access to new markets (Bai et al., 2007; Fotopoulos et al., 2011; Jin et al., 2008; Macheka et al., 2013; Taylor, 2001); increased market share (Bai et al., 2007; Macheka et al., 2013); fewer customer complaints (Bas et al., 2007; Dora et al., 2013; Fotopoulos et al., 2011); improved productivity (Dora et al., 2013; Jin et al., 2008); improved profitability (Dora et al., 2013; Fotopoulos et al., 2011); an improved company image or reputation (Fotopoulos et al., 2011; Jin et al., 2008; Khatri & Collins, 2007; Macheka et al., 2013; Massoud et al., 2010); greater consumer confidence (Bas et al., 2007; Trienekens & Zuurbier, 2008); and not unsurprisingly, the need to comply with legislation (Bas et al., 2007; Taylor, 2001; Yapp & Fairman, 2006).

Taylor (2001) discussed the slow uptake of HACCP based FSMS systems by small and medium-sized enterprises under seven key headings: resistance to change; lack of expertise; time and money; documentation; validation and verification; and supplier selection. From multiple case studies in the UK, Yapp and Fairman (2006) identified eight factors that impacted upon the adoption of FSMS: the lack of knowledge; the lack of trust; the lack of time and money; a lack of awareness; a lack of formal management systems; motivation; and external factors. Dora et al. (2013) concluded that small to medium sized food manufacturers struggled to establish FSMS primarily because of the lack of resources, expertise and inadequate training.

From an initial list of 18 constraints, through the use of pareto analysis, Fotopoulos et al. (2011) concluded that 11 key constraints (limited knowledge and skills; a lack of commitment to food safety by employees; resistance to change and a negative attitude; a shortage of capital; lack of employee training; the amount of time required; a lack of technical expertise and support; non availability of human resources; the excessive amount of paperwork and documentation; inappropriate organisational structure and the lack of pre-requisite programs) were the most influential in facilitating the implementation of a HACCP based FSMS.

Karipidis et al. (2009) grouped the barriers to the adoption of third party certified quality assurance systems under two broad headings: external and internal, noting that both company and product characteristics, and market conditions could also influence adoption. With the use of principal component analysis, Fotopoulos, Kafetzopoulos, and Psomas (2009) found four latent constructs that influenced the adoption of HACCP based FSMS: (i) human resource attributes; (ii) system attributes; (iii) external factors; and (iv) company attributes. In Canada, Herath and Henson (2010) were able to extract four factors which they labelled as: (i) the questionable appropriateness; (ii) the scale of change required to achieve implementation; (iii) the low priority given to enhance food safety controls; and (iv) financial constraints. In Spain, Escanciano and Santos-Vijande (2014) identified three principal components: (i) the lack of knowledge; (ii) no perceived need; and (iii) economic reasons as the major factors influencing the adoption of FSMS.

In facilitating the adoption of third party certified FSMS, much of the literature has focused on minimising the perceived barriers to adoption. Firms that have yet to embark upon their journey cite enumerable internal and external barriers, including financial constraints, the appropriateness of quality assurance systems to meet the needs of downstream customers (Herath & Henson, 2010), the lack of knowledge (Escanciano & Santos-Vijande, 2014) and the lack of any external support (Fotopoulos et al., 2009). As the firm progresses on its journey towards quality assurance, many of the perceived barriers and constraints diminish in importance while others such as employee and cultural resistance, management and organisational issues increase in importance. As Fotopoulos et al. (2011) conclude, problems associated with employees (limited knowledge and skills; a lack of commitment to food safety; resistance to change; and a lack of training) may be responsible for almost one half of the difficulties associated with the implementation of a HACCP based FSMS.

As the firm progresses in its journey towards quality assurance, the many benefits derived from operating under a third party certified FSMS become more apparent. External motives for implementing quality assurance, such as the need to comply with legislation or customer demands, are progressively replaced by internal motives such as improving quality and efficiency, company image and due diligence (Escanciano & Santos-Vijande, 2014). Thiagaragan, Zairi, and Dale (2001) noted how the success associated with the implementation of a quality assurance program was ultimately dependent upon a clear belief of the benefits derived from operating under a quality assurance system and the