ENHANCING THE INTERNATIONAL COMPETITIVENESS OF THE WESTERN AUSTRALIAN (WA) FOOD AND BEVERAGE INDUSTRY THROUGH FACILITATING THE ADOPTION OF QUALITY ASSURANCE (QA) PROGRAMS

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Abstract

A survey of 218 small to medium sized food processors and manufacturers in Perth, Western Australia, reveals that the main reasons for implementing one or more quality assurance (QA) programs in the business were to satisfy/meet customers requirements, to seek the highest standard of quality and food safety, provide continuous quality control and maintenance, reduce legal liability, improve the business structure, facilitate new market entry and/or to expand market size and sales. Conversely, the main reasons for not implementing one or more QA programs were: the costs of QA implementation and maintenance of QA programs were too high, there was no need or no legal requirement to implement QA, the business was too small, there was insufficient time, a lack of information or a lack of resources. The failure to implement QA systems has the potential to exclude small and medium sized food processors and manufacturers from many domestic and international markets.

Introduction

The Australian food and beverage industry is recognised worldwide for its variety, high quality and healthy image, innovative manufacturing and packaging technologies. The diversity of foodstuffs available from Australia is huge and comprises grains, meats, dairy products, seafood, fruit and vegetables, bakery goods, olive oil, wine and other beverages, confectionery and a host of individual gourmet treats and specialty lines (DAFF 2008).

Ethnic and cultural diversity in Australia is reflected in the wide range of food available with many European, Asian and Middle Eastern influenced specialty products. Australian food producers can also cater to specific consumer needs in terms of certified organic, Kosher or Halal foods (Austrade 2008).

The food industry is a large and vital part of the Australian economy. In 2006-2007, total consumer expenditure on food and liquor was nearly AUD 106.6 billion, around 46% of total Australian retail turnover (Department of Foreign Affairs and Trade 2008). However, the value of Australian food exports declined by around 3% in 2006-07 to AUD 23.3 billion. Food exports reached a peak of AUD 30.8 billion in 2001-02 and have been declining ever since. Reasons are the drought and changes in import demand from overseas customers (ABARE 2007).

Food processing is Australia's largest manufacturing industry generating total sales of around AUD 71.4 billion in 2005-06. Growth in the value of output has averaged around 2% a year over the past ten years. The industry makes a significant contribution to rural and regional Australia, with over 40% of the employment in food processing industries occurring in non-metropolitan areas. More than 80% of food and beverage production is located in the three eastern states of Victoria, New South Wales and Queensland (Department of Foreign Affairs and Trade 2008).

Although Western Australia has a population of less than two million people, the state is a major food producer (Department of Foreign Affairs and Trade 2008). In 2006-07, the Western Australian food and beverage industry, including value-added processed foods, generated sales worth AUD 5.5 billion. The food industry accounted for 14% of WA manufacturing industry and 7.5% of the Australian food processing industry (WAAFFI 2007).

In Australia, small to medium sized enterprises (SMEs) represent 96% of all business enterprises and are responsible for over 40% of the GDP. SMEs are comprised of micro-businesses (82%), small businesses (15%) and medium-sized businesses (3%). A significant number of medium and small-scale food processing operations are regionally based (ABS 2005).

In order to differentiate their product in a congested market, numerous players have introduced a variety of quality assurance systems. In November 2003, Woolworths announced that it would require all indirect suppliers of product to have a certified food safety and quality assurance program by the end of 2004. Woolworths has moved beyond indicative market access scenarios to implement barriers to supply, based on a certified quality assurance process. In April 2006, Coles Meyer announced that they would require all suppliers of food for their private brands to be certified. A staged process was outlined in which suppliers of high risk products would need to be certified by November 2007 and low risk food suppliers by July 2008. However, in WA, less than 10% of the 2,000 plus registered food companies currently have an accredited food safety program (Batt, Noonan and Kenyon 2006).

While most Australian food businesses recognise and acknowledge the importance of operating under an approved HACCP-based quality assurance program to deliver safe food, over time, there has been a steady decline in the relative importance Australian food producers give to HACCP-based QA programs. As a result, the Australian food industry is beginning to loose its competitive advantage (Baines, Davies and Batt 2006).

This study sought to identify the food safety and quality assurance programs that are currently being used by small and medium sized food processors and manufacturers in WA and to identify the benefits, barriers and costs associated with the decision to adopt and to maintain one or more quality assurance program(s).

Methodology

The study was conducted in two phases. The first phase (July 2006 to September 2007) involved an exploratory investigation of the WA food processing and manufacturing sector with a view to identifying the characteristics of the industry and their influence on the likelihood of adopting QA systems. A comprehensive questionnaire was developed and pre-tested among a sample of QA managers, business owners and QA experts in personal interviews across all industry sectors.

In the second phase, from March 2008 to September 2008, a postal survey to 798 food and beverage businesses including face-to-face interviews with respondents was undertaken. For this research study, participants are selected from the following food and beverage sectors: (1) bakery products; (2) beverages; (3) fat and oil; (4) dairy; (5) meat; (6) seafood; (7) fruit and vegetables; and (8) other foods

Interviews were mainly undertaken at the food processing level with a range of micro, small and medium sized enterprises (SMEs). SMEs are defined as non-subsidiary, independent firms, which employ less than a given number of employees (OECD 2000). This number varies across national statistical systems, but the most frequent upper limit is 250 employees. For the purpose of this study, SMEs are defined as those businesses employing less than 200 employees (ABS 2004). In the European Union, SMEs must have an annual turnover of less than EUR 40 million and/or a value not exceeding EUR 27 million (OECD 2000). For most SMEs, management and ownership of the firm are similar. In addition, the owner/manager has a huge influence on the performance of the business (Storer 2005).

Despite the initial size of the survey instrument, respondents only had to answer those questions which reflected the current stage to which quality assurance program(s) had been implemented, maintained or even abandoned within the business. The questionnaire was subdivided in Section 1 and 2 and then: (1) PART A: if the business had no intention of implementing a QA program; (2) PART B: if the business had started to implement a QA program(s); (3) PART C: if the business has successfully implemented a QA program(s); and (4) PART D: if the business no longer had a QA program.

All respondents were asked to describe: (1) the nature of their business (kind of products, number of employees, turnover); (2) the organisational value system; (3) the markets which they currently supply/intend to supply; (3) the QA programs under which they operate or intend to operate; (4) the reasons/motivation for adopting, maintaining or choosing not to adopt QA; (5) the positive and negative attributes of each system; (6) the cost of implementation, monitoring and auditing; (7) the investment/cost of staff training; (8) the financial rewards/benefits/incentives; and (9) the role/influence of government legislation. In addition, a number of demographic (age, gender and occupation) questions were asked of the respondents to enable a comparison to be made with the ABS census.

The completed questionnaires were returned to Curtin University of Technology either electronically, via the fax or via the mail. Responses were encoded and entered into the Statistical Package for Social Sciences (SPSS, version 17).

Empirical results

A total number of 218 questionnaires were completed, which was indicative of a 28% response rate. Most respondents (23%) belonged to the “beverage” manufacturing sector which included wineries, breweries, distilleries and soft drink manufacturers, or to the “other food” manufacturing sector (23%) which included seafood, honey, sugar and confectionary (Table 1).

Most food and beverage businesses (75%) derived all their sales from the WA domestic market. Conversely, a small group of respondents derived more than 46% of their sales from the export market. Most were privately owned (83%).

It was immediately apparent that the financial turnover of the business had a significant impact on the extent to which the business had implemented a quality assurance program. For 52% of those businesses that did not intend to implement QA or were currently in the process of implementing QA, their annual turnover was less than AUD 500,000. Conversely, for those businesses that had an operational QA system, 85% were earning more than AUD 1 million in sales (Table 2).

Table 1: Respondents by ANZSIC Code

ANZSIC Code	Classification	Participants	%
Total population of N = 218			
21 Food Manufacturing Food Industry Sector –ANZSIC CODES (one of eight)	211 Meat and meat products (poultry, bacon, ham, smallgoods)	34	15.6
	212 Dairy manufacturing (ice cream, milk, cheese, milk powder, other dairy)	21	9.6
	213 Fruit and vegetable processing	43	19.7
	214 Oil and fat manufacturing	12	5.5
	215 Flour mill and cereal (snack food)	26	11.9
	216 Bakery manufacturing (cake, confectionery, bread, biscuit, pastry)	35	16.1
	217 Other food manufacturing (seafood, honey, animal, sugar etc.)	50	22.9
	218 Beverage manufacturing (wines, beer, malt, juice, spirit, soft drink, water)	51	23.4
Total		N=218	100%

NOTE: A number of organisations in the table above have product representation across multiple ANZSIC sectors.

Table 2: Sample SMEs by business size (turnover, in AUD)

Survey statements (N = 218)	Part A	Part B	Part C	Part D
Survey participants (number)	51	42	119	6
< $250,001	22	10	5	1
$250,001 to $500,000	12	5	4	2
$500,001 to $1m	9	8	9	
$1m to $2m	5	6	17	
$2m to $5m	2	7	21	1
> $5m	1	6	63	2

Quality assurance programs in Western Australia

Food sold in Western Australia must meet stringent food quality and safety standards. There are various levels of food legislation enforced by national, state and local authorities that provide a framework to protect the safety of the food supply chain and minimize the risk to public health. Within Western Australia, food safety and enforcing food standards is primarily the responsibility of the Department of Health, under the Health Act 1911, in conjunction with local Government jurisdictions.

The two most common QA systems operating in the WA food industry were the SQF 2000 and the Woolworths Management Standard (WQA). Both SQF 2000 and the WQA had their origins in the horticulture sector, with subsequent extensions to other food sectors (Peters 1998 and Peters 1999). Both of these third party certified standards have adopted the HACCP principles to manage both quality and food safety.

For those businesses that were implementing QA (Part B) the most frequently reported systems were HACCP (67%); Hygiene Code (33%), GMP (33%), OHS (33%); Food Safe Plus (17%); AQIS (12%); and WQA (10%).

For those businesses that were already operating under one or more quality assurance programs (Part C), the most frequently reported systems were HACCP (79%); (2) GMP (37%); WQA (35%); SQF (30%); and OHS (28%).

For the small number of respondents who had abandoned their QA program (3%), the main reason for doing so was the lack of any commercial benefit (67%) and no need or legal requirement in WA to operate under a QA system (33%).

The motivation to use a QA program

The companies gave many reasons for their decision to introduce a quality assurance system. In spite of the fact that it is voluntary, it is obvious that if a business does not comply with its customer's requests, it will be difficult to enter some markets, both domestic and international, or to achieve the status of an "approved" supplier (Canavari, Regazzi and Spadoni 1998).

For those businesses who had decided to implement one or more quality assurance programs (Part B), the main reasons for doing so were to: (1) satisfy or to meet customers requirements e.g. required by supermarkets, franchise companies, packers, wholesalers and fast food companies (43%); (2) to seek the highest standard of quality and food safety (41%); (3) to achieve continuous food safety, quality control and maintenance (21%); (4) to reduce legal liability (19%) and improve business structure (19%); and to (5) facilitate new market entry or to expand market size and sales (20%).

For those businesses already operating one or more quality assurance programs (Part C), the main reasons for having doing so were to: (1) satisfy or to meet customers requirements (52%); (2) to seek the highest standard of quality and food safety (41%); (3) to achieve continuous food safety, quality control and maintenance (34%); (4) to gain a competitive advantage/market leadership (26%); and (5) greater food safety/consumer confidence (20%).

One of the main incentives was the desire by the company to participate in the *Buy West, Eat Best* generic food marketing scheme managed by the Department of Agriculture and Food WA (DAFWA). This voluntary program provides Western Australian consumers with the assurance that they are supporting the local food industry by purchasing safe, good quality WA food products that are made primarily from WA ingredients. To be eligible to use the *Buy West Eat Best* logo, the business had to have a food quality assurance scheme or quality protocols in place (DAFWA 2008). In addition, the associated rise of private standards, driven primarily by the supermarkets, have had a major impact on the WA food and beverage industry as retailers move to minimise their customers exposure to possible food derived illness, associated product recalls and the potential for litigation (Batt 2001).

The disincentives of QA programs

The main reasons for not implementing one ore more QA programs (Part A) were: (1) the high costs of QA implementation and maintenance of QA programs (51%); (2) there was no

need or no legal requirement (35%); (3) the business was too small (35%); (4) the lack of time (33%); (5) the lack of information (20%); and (6) the lack of resources (12%).
Besides the uncertainty associated with the costs of implementing and maintaining the QA program, another major outcome of the personal interviews was the fact that many respondents (28%) wondered why QA programs were necessary. For many, the need to implement QA systems was another imposition on their business by regulators and retailers.

Benefits/advantages of QA programs

A number of businesses are adopting quality assurance programs to improve their competitiveness or to satisfy customer requirements in the market (Arauz and Suzuki 2004). While QA may be an instrument to differentiate the product offer, for many SMEs, the decision to implement a QA system is most often the result of customer pressures rather than the benefits such as improved efficiency and effectiveness (Curkovic and Pagell 1999). Stamou (2003); Mutlu et al. (2003) and Henson (2008) argue that the benefits derived from QA can be grouped into two categories: internal benefits and external benefits. Firm driven (internal) factors include: (1) organizational benefits; (2) financial benefits; (3) people benefits; and (4) general benefits. Customer and regulatory driven (external) factors include: (1) commercial benefits; (2) communication benefits; (3) quality and safety benefits; and (4) general benefits.

The results of this study show that the main benefits or advantages for businesses who are currently in the process of implementing one or more quality assurance programs (Part B) include: (1) ensure and increase product safety and quality (18%); (2) to gain new customers and/or additional customers (15%); (3) continual improvement in the business culture, staff moral and awareness (15%); (4) improved company image (12%); and (5) establish a system of traceability to assure hygiene and food safety standards (9%).

The main benefits or advantages arising from operating under one or more quality assurance (Part C) were perceived to be: (1) continual improvement to the business structure or culture and improved staff moral (29%); (2) reduced waste and reduced costs (19%); (3) greater customer confidence and customer satisfaction leading to a better company image/reputation (18%); (4) a traceability system in place which meets customers food safety standards (12%); and (5) improved relationships with suppliers and customers (8%).

Barriers/disadvantages of QA programs

A review of the literature (Küpper and Batt 2009 – in press) suggests that the challenges in implementing QA programs in small businesses are more difficult than in larger ones because of their small size and limited resources (Aggelogiannopoulos et al. 2007). The main difficulties small enterprises face in adopting and implementing a QA program are: (1) small businesses do not often have professional quality managers, which results in the need to hire external consultants. At the same time, the business does not have the internal business skills to evaluate and select those consultants; (2) SMEs have insufficient qualified staff to implement a QA program; and (3) in most cases, the necessity for documentation is not well understood by the management (Rodringes-Escobar et al. 2006).

On the other hand, it can be argued that the barriers and constraints to the adoption of QA systems by SMEs can be grouped into two main categories: internal barriers and external barriers (Mutlu et al. 2003; Stamou 2003; Henson 2008). The internal barriers include: (1)

inadequate resources; (2) unfavourable attitudes and perceptions: (3) implementation barriers; and (4) general barriers. The external barriers include: (1) insufficient support and guidance; (2) economic barriers; (3) the high costs of certification and verification; and (4) staff/employee resistance.

This research has found that the main barriers which were encountered or experienced by WA food and beverage businesses in their decision to implement one or more QA programs (Part B) included: (1) the lack of time (40%); (2) the high cost of QA implementation (35%); (3) a negative attitude to the increased amount of paperwork/duplication/documentation (18%); (4) the high cost of QA certification (16%); and (5) the lack of information (11%).

For those businesses operating under one or more quality assurance programs (Part C) in WA, the main barriers encountered in the introduction of QA programs included: (1) a negative attitude to the increased amount of paperwork/duplication/documentation (25%); (2) the high cost of QA certification and maintenance (24%); (3) resistance of staff/lower management (18%); (4) the lack of time (16%); and (5) the lack of staff training or education (15%).

Clearly, the major barriers to the adoption of QA programs include: (1) the increased paper work/bureaucracy; (2) the high costs of certification/verification; and (3) the lack of sufficient drivers or incentives to improve food quality. The main reason why SMEs do not use QA programs is because they perceive that it would increase their costs in time.

Discussion and conclusion

This paper has provided an overview of the issues associated with the adoption of one or more QA programs among SME in the WA food and beverage industry. In much of the literature on business-level decision making, the starting point is to look more closely at the actual decision-making process and how these processes are influenced by external and internal constraints. In understanding the drivers, the benefits and the barriers towards the adoption of QA, it is important to recognise that the overall business aim must be to produce safe food. Here it is important to recognise the value of QA in protecting the food and beverage industry in an environment of increasing distrust and as a means of differentiating the product in a congested market that may not only add value to their product but justify its higher price in the market (Souness 1999, Kontogeorges and Semaos 2008).

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