An overview of food safety compliance and technical accreditation in the Welsh food and drink manufacturing and processing industry.

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Introduction

Food safety scheme compliance/technical accreditation (FSSC/TA) are essential for food and drink manufacturing and processing businesses (FDMPBs) to ensure product safety, enable brand protection, and to evidence due diligence in compliance with UK food law.

Increasingly, FDMPBs select bespoke 3rd party accredited standards, developed to meet industry requirements and rationalise retailer-specific schemes, rather than generic ISO certified schemes[1]. Compliance with such privately operated scheme is often a prerequisite to supply[2].

The Welsh Government has identified that to enable growth of the Welsh food and drink sector in line with their action plan, of 30% growth to £7bn by 2020[3], there is a need to support FDMPBs in Wales to achieve and maintain FSSC/TA.

Although previous research identified the majority of FDMPBs in Wales are small-medium sized enterprises[4,5], data detailing the FSSC/TA of FDMPBs in Wales are currently lacking.

Purpose

The study aimed to establish the provide an in-depth overview of FDMPBs FSSC/TA in Wales, including the drivers, benefits, barriers and support to enable Welsh FDMPBs to obtain/maintain FSSC/TA.

Methods

A mixed methods research approach facilitated completion of the study. Ethical approval was granted from Cardiff Met. (SREC reference: 7720).

- Online self-complete questionnaires were completed by Welsh FDMPBs (*n*=99) to identify FSSC/TA status.
- A series of focus groups (*n*=7) were conducted at locations in North and South Wales with:
  - Stakeholders (Government, Non-Governmental Organisations (NGOs), procurement services, food inspectors, environmental health officers, retailers and scheme owners) (*n*=19).
  - FSS auditors/mentors (*n*=9).
  - Welsh FDMPBs with FSSC/TA (*n*=20).
  - Welsh FDMPBs without FSSC/TA (*n*=17).
- Online self-complete questionnaires were completed by Welsh FDMPBs (*n*=34) to identify potential support mechanisms to

Results

Completion of the study has given a broad overview of food safety compliance and technical accreditation in the Welsh food and drink manufacturing and processing industry. The study has established significant associations between company sizes and FSSC/TA , barriers to obtaining and maintaining FSSC/TA and desirable support mechanisms have been identified.

FSSC/TA status of FDMPBs in Wales

Over a third (38%) of FDMPBs reported having no accreditation. British Retail Consortium (BRC) (24%), Safe and Local Supplier Approval (SALSA) (16%) and Soil Association (12%) were most frequently reported (see Figure 1).

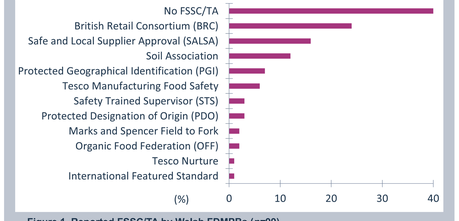

Figure 1. Reported FSSC/TA by Welsh FDMPBs (*n*=99).

As indicated in Table 1, majority of FDMPBs reported to be micro sized (59%). Statistical analysis determined:

- Micro sized FDMPBs were significantly associated with not having accreditation ($p<0.001$).
- SALSA was significantly associated with small/medium FDMPBs ($p<0.001$).
- BRC accreditation was significantly associated with large FDMPBs ($p<0.001$).

Table 1. Reported business size and FSSC/TA of Welsh FDMPBS (*n*=96) (*according to EC definitions of business size[6]).

Business size*	Employees	Turnover	FDMPBs	with FSSC/TA	with SALSA	with BRC
Micro	<10	<£2 million	59%	27%	12%	6%
Small	<50	<£10 million	26%	83%	25%	42%
Medium	<250	<£50 million	11%	100%	20%	60%
Large	>250	>£50 million	4%	100%	0%	100%

Furthermore, it was determined FDMPBs with FSSC/TA were significantly more likely ($p<0.05$) of supplying wholesale, major retailers, food service and the public sector than those without FSSC/TA.

Barriers to obtaining/maintaining FSSC/TA

As illustrated in Figure 2, multiple barriers faced by FDMPBs to obtain/maintain FSSC/TA were discussed which related to:

- Time, cost and resources
- Knowledge and skills
- Communication and access to information

Figure 2. cloud indicating word frequency when discussing barriers to FSSC/TA.

Time, cost and resources: The design, implementation, verification and review of food safety management systems were described as 'time consuming' and investments are required in people, processes, products, equipment and the environment to achieve/maintain FSSC/TA (see Figure 3).

> ***"I can put it down to two things, time and money. Running the business takes up a lot of my time, the time that's left goes towards my accreditation, I can't afford to get a technical person."***
> (Participant 43, owner, FDMPB without FSSC/TA).
>
> ***"It's the money and resource, for smaller companies the cost of having the audit, but for big companies it's the people to input the standard."***
> (Participant 66, Retail representative).

Figure 3. Participant quotes relating to time, cost and resource barriers.

Knowledge and skills: Numerous FDMPBs indicated problems in recruiting skilled and experienced staff leading to increased training costs. Shortage of technical graduates was a major discussion point (see Figure 4).

> ***"We've not got enough people coming through the right courses to take the jobs to enable them to actually put these schemes in place."***
> (Participant 06, FSS auditor).
>
> ***"The food industry has got a shortage of qualified technical staff."***
> (Participant 02, FSS auditor/mentor).

Figure 4. Participant quotes relating to knowledge and skill barriers .

Communication and access to information: Many believed too many schemes to be available and FDMPBs find it difficult to select and work towards suitable FSSC/TA due to the lack of information and visibility from scheme owners (Figure 5).

> ***"A barriers is knowing which standard is appropriate for your business."***
> (Participant 29, owner, FDMPB with FSSC/TA).
>
> ***"The fact that there are multiple standards out there, and always there's one that isn't recognised, different customers want different standards."***
> (Participant 59, NGO stakeholder).

Figure 5. Quotes relating to communication and access to information barriers.

Benefits, drivers and support mechanisms

The drivers and benefits for obtaining FSSC/TA identified in the focus groups are indicated in Figure 6.

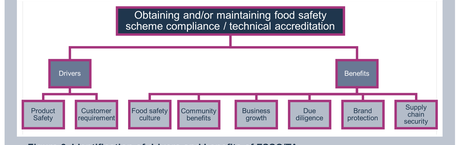

Figure 6. Identification of drivers and benefits of FSSC/TA.

Key factors identified as drivers for obtaining/maintaining FSSC/TA included product safety and customer requirements (Figure 7).

> ***"If you haven't got it, you can't trade."***
> (Participant 45, owner, FDMPB without FSSC/TA).
>
> ***"Customer requirement. If they didn't insist on it, would we do it all?"***
> (Participant 15, technical manager, FDMPB with FSSC/TA).

Figure 7. Participant quotes relating to drivers for FSSC/TA.

Identified benefits included food safety culture, business growth, due diligence, brand protection, and supply chain security (Figure 8).

> ***"You're maintaining those high level standards, so people keep their jobs, the factory doesn't shut"***
> (Participant 39, Head of Technical, FDMPB without FSSC/TA).
>
> ***"Food safety system will improve the profitability of the business."***
> (Participant 03, FSS Auditor/Mentor).

Figure 8. Participant quotes relating to drivers for FSSC/TA.

The support mechanisms perceived to be most beneficial and necessary to assist FDMPBs to implement and maintain FSSC/TA were funding for training (68%), support for the implementation of FSSC/TA documentation (64%), on-site support by means of mentoring and coaching (50%) and pre-audits (46%) (Figure 9).

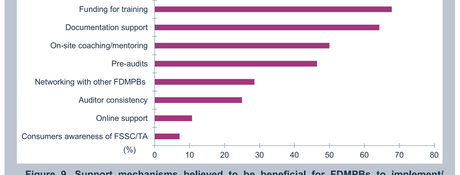

Figure 9. Support mechanisms believed to be beneficial for FDMPBs to implement/ maintain FSSC/TA (*n*=28 FDMPBs).

Significance of study

- Significant associations were determined between sector, size and FSSC/TA in Welsh FDMPBs
- Cumulatively, the potential barriers that exist for FDMPBs in Wales to obtain and/or maintain FSSC/TA have been identified as the time, cost and resources required to develop food safety management systems, the limited availability of skilled staff that are knowledgeable and technically experienced, and the lack of visibility and information available from FSS owners.
- The research has identify the support required for Welsh FDMPBs to overcome the barriers to obtaining/maintaining FSSC/TA. Such data may inform the development of support mechanisms to enable increased uptake of FSSC/TA and accelerate food sector growth in-line with Welsh Government aspirations.

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