A survey of food safety training in small food manufacturers

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Abstract
A survey of food safety training was conducted in small food manufacturing firms in South Wales. Structured interviews with managers were used to collect information on the extent and level of food hygiene and HACCP training and the manager's perceptions of and attitude towards training. All the businesses surveyed had undertaken some hygiene training. Hygiene induction programmes were often unstructured and generally unrecorded. Low-risk production workers were usually trained on the job whilst high-care production staff were trained in hygiene to Level 1. Part-time and temporary staff received less training than full-timers. Regular refresher training was undertaken by less than half of the sample. None of the businesses made use of National Vocational Qualification (NVQ) qualifications. Over half of the managers/senior staff had undertaken higher levels of hygiene training and half had attended a HACCP course. Managers trained the workforce to operate the HACCP system. Formal training-related activities were generally only found in the larger businesses. Few of the manufacturers had made use of training consultants. Managers held positive attitudes towards training but most regarded it as operating expense rather than an investment. Resource poverty, in terms of time and money was perceived to be a major inhibiting factor to continual, systematic training.

Keywords: Food hygiene, training, small food manufacturers

Introduction
Food processing is a growing and important sector for the Welsh economy. There are estimated to be 700 firms in the sector, employing around 20,000 (FSWRF 2000). The major sub-sectors are concerned with bread, meat and poultry, dairies, cheese and ice cream and fruit and vegetable processing. The occupational profile of this sector is dominated by a large group of operatives who make up 45% of the workforce.

New European Union (EU) Food Hygiene Regulations will require all food businesses (except primary producers) to implement food safety management procedures based on HACCP principles from 2006. Most (87%) food businesses are small caterers with less than 10 employees and the Food Standards Agency (FSA) have made these a priority in its strategy for widening the implementation. However many food manufacturers are little different in terms of size from caterers and face similar problems. A survey by Mortlock et al. (2000) reported that half of all food manufacturers employed less than 23 food handlers and a quarter
employed less than six staff. He found that business size was a significant factor in the use of HACCP in the manufacturing sector. The FSA states that whilst large food manufacturers will already be operating food safety procedures based on HACCP principles, there is only limited data available on HACCP implementation by smaller businesses. Mortlock et al (1999) reported that businesses with senior staff qualified at higher levels in food hygiene were more likely to have implemented HACCP systems. Elementary training in food hygiene is considered insufficient to provide trainees with the knowledge to carry out risk assessment. He showed that less than one fifth of managers were trained to supervisory level (Level 2) and only 31% had received HACCP training. He opined that many managers underestimated the risk associated with the processing of their products (Mortock et al. 1999).

There is a legal requirement to train staff commensurate with work activity. Consequently, managers of food businesses have to determine what levels of training are appropriate for their staff in order to meet legal requirements and to operate the HACCP system. They need to be trained to make these decisions (Smith 1994). It has been reported that food manufacturers generally focus training for operatives on satisfying legal requirements (FSWRF 2000).

The purpose of this survey of small food manufacturers in Wales was to determine the provision of food safety and hygiene training and the implementation of HACCP systems. It also sought to collect managers’ perceptions of the benefits and barriers to training.

The survey

The Food and Drink Directory 2002, produced by the Welsh Development Agency Food Directorate was used as a source of food manufacturers in Wales. The Directory lists 516 food businesses, 98% of which would be defined as Small or Medium Enterprises according to EU Recommendations. A small business is defined as an enterprise that employs fewer than 50 persons and whose annual turnover does not exceed 10 million Euros. Sixty small businesses were contacted by telephone and requested to participate in the survey. If they agreed arrangements were made to interview the manager or senior member of the production staff. The majority of those who did not contribute to the survey were absent or unavailable at the time of the initial telephone call. Nine businesses refused to participate mainly on the grounds of lack of time. Thirty food manufacturers in South Wales agreed to take part in the survey but six of these failed to honour interview arrangements, usually due to the occurrence of unexpected events such as staff absence. The final sample consisted of twenty-three businesses. The aim of the structured interview was to gather information on the provision of training and the attitude of the manager towards this activity. The survey covered:

- the type of business
- the number of staff, whether full or part-time or temporary
- training activities - the assessment of training needs, training policy, the training budget, training records, use of training consultants
- qualifications of senior staff
- types of training - induction training, on the job training (OJT), formal food hygiene training, refresher training, HACCP training
- perceptions of the barriers and benefits of training.

Results

The range of products made by manufacturers in this survey included baked goods (20%), meat and meat products (20%), dairy (20%), beverages (10%), confectionery (6%) and others
Sixty-five percent (65%) of the businesses fell into the category of microbusinesses, which are defined by the EU as those with up to 9 full time employees or sole traders (DTI, 2004). Half of the businesses employed part-time staff (55%) and temporary staff (52%).

Planning for training

Formal systems of training related activities such as a training policy and training plan, training needs analysis, individual development plans and appraisal systems were largely lacking in businesses with less than 20 employees. Businesses that had sought external funding for training or were approved by the British Retail Consortium (BRC) were more likely to have formal systems for training.

All the food manufacturers in the survey had engaged in some training activity in the year prior to the survey but only 15% of the firms with less than 4 employees had a training budget, whilst nearly 40% of the businesses with 5–25 employees had a dedicated training budget. Training was documented in 59% of firms. The smallest businesses were less likely to maintain training records. Few of the manufacturers (18%) had made use of a training/management consultant to advise on training and training needs. Even local colleges had not been approached not to mention Business Link, the National Business Advice Service Business operated on behalf of the government or Education and Learning Wales (ELWa). The managers of small businesses did not appear to have high levels of enthusiasm for training consultants.

Induction and on the job training

All the manufacturers conducted induction training but the content, delivery and recording of this activity varied. Personal hygiene standards, personal health and fitness to work were topics included in all induction sessions, including those for temporary staff.

In this survey all the businesses provided some form of on-the-job training (OJT), and in some small businesses this was the only form of training. ‘Learning by doing’ was seen as an appropriate means of introducing new recruits to the job. External training was often viewed as second best because of its cost and general nature. Managers reported that informal training was more easily integrated into the firm’s everyday activities, involved the minimum loss of output or disruption of work. It could be undertaken in short episodes and could be synchronised closely with the firm’s production cycle. It could be more easily focused closely on the worker’s specific individual and work role needs. Some managers believed that they would not find the same levels of skills in external trainers as they had in their more experienced staff. Others believed that their requirement for craft skills such as bakery and meat cutting, were unavailable locally. Managers reported that most training time was spent imparting job-specific skills such as understanding the operation of machinery, managing changeovers, routine machine maintenance, understanding and applying food safety and food hygiene practices.

Managers identified few disadvantages of informal OJT except that poor work habits could be passed on from existing employees to new recruits. Many small businesses did little to structure, record or evaluate their own OJT.

Food hygiene and safety training

Caterers and retailers are given guidance on compliance with the training requirement in the Industry Guides but there is no specific guidance on appropriate training levels for the food
manufacturers. Sixty-three percent of full-time food handlers had been trained to Level 1 in food hygiene but only 24% of part-time staff and 5% of temporary staff. All the manufacturers used external trainers to provide this training. The free training services of the providers of cleaning chemicals were used by 14% of businesses. Staff were trained on-site in cleaning techniques and general hygiene awareness.

A Level 1 hygiene qualification was held by 64% of the managers and 62% of the businesses had some staff trained to Level 2 (Intermediate) and 59% to Level 3 (Advanced).

A majority of food producers (81%) claimed to be operating full HACCP system and to have provided in-house HACCP training for production staff. Just over half of the managers (52%) had attended HACCP training courses but these were usually elementary and non-accredited. A Foundation or Level 1 certificate in HACCP principles was held by 14% of the managers and one manager had a Level 2 qualification in HACCP.

Less than half (41%) of the firms claimed to carry out regular refresher training. In the smaller businesses, managers were confused about the ‘shelf life’ of the Foundation food hygiene certificate and unaware of update training courses. Training needs did not appear to be determined by an assessment of risk or by reference to formal performance standards, except in the larger firms. The stimulus for seeking refresher training was usually the recommendation made by the enforcement authority.

Qualifications and training for senior staff

Most managers had craft or technical experience, sometimes backed by technical qualifications (50%) in food production/processing. This experience had often been acquired by working in the family business. Managers considered that their technical ability, general management and leadership were adequate. The educational qualifications of the managers were of a moderate standard. There were a variety of technical qualifications such as Higher National Diplomas, HNC, BTEC, OND, City and Guild (Level 3) and some with degrees in Food technology/food science or agricultural science. Some owner-managers were graduates in business studies. Others held degrees in disciplines unrelated to the food business.

Perceptions of and attitudes towards training

When asked to identify the most important benefit of food hygiene/safety training to their business, 62% of managers said to satisfy the Environmental Health Officer. Other benefits of training that were given were: increased awareness of staff to hazards (52%), enhanced confidence to delegate (48%), improved quality (38%) and safety of food products (35%) increased productivity (34%) and improvements in employee job satisfaction (24%).

A small staff base (43%), high employee turnover (32%) and lack of time (57%) were barriers to training mentioned by more than one third of the sample. A similar number found the cost of training courses prohibitive. Others commented on the lack of suitable courses (14%) and insufficient flexibility by course providers in the delivery of appropriate courses (9%).

Many managers were critical of the lack of funding for in-house training unless linked to National Vocational Qualifications (NVQ) awards. NVQs are competency based qualifications which can be taught and assessed in the workplace and would appear to be ideal for small firms. However managers generally lacked information on NVQ qualifications and how to access them. They could not afford to release staff for training nor could they afford to train staff as NVQ trainers. None of the businesses in this survey offered relevant qualifications such as NVQ Level 2 - Performing Manufacturing Operations in the Food and Drink Operations.
Some representative quotations from managers on training issues given during interviews are given.

“We are a very small business and have no training programme as such. We have no trainers and have never asked for advice on training. Our employees are well enough trained by us to do what we want.”

“When our trained staff are poached by competitors, there is little incentive to invest in training.”

“When we recruit staff we are looking for people who will work hard, be flexible and can follow simple directions. We will train them to do what we want.”

“Staff regard attendance at training courses as a ‘holiday’.”

“We find it difficult to find cover for staff who attend training courses. Some of our staff are reluctant to attend external training courses.”

“We cannot afford to send staff on expensive training courses.”

“We would never use consultants. They lack our in-depth knowledge of the business and cost too much!”

“Where can you get an affordable short introductory food microbiology course locally?”

“My biggest training problem is the logistics. I need courses to be provided on a Sunday.”

Discussion

In small businesses the primary responsibility for training lies with the general manager. Unfortunately effective training did not seem to be high on the agenda of priorities for some of the small businesses in this survey. There was awareness that training was a crucial element in the productive and managerial process but there was notably less acceptance of the need to allocate funds beyond basic training requirements.

Small businesses are usually initiated by those with a production, marketing and general management background. Small manufacturers may recruit managers with financial expertise but they rarely appoint qualified personnel manager and usually perform the personnel function themselves or appoint some one from inside from a non-managerial position.

Small manufacturers make very little use of training or other consultants from whom they might have benefited. The objective should be to find new ways of persuading small firms to seek advice as routine rather than when it is too late.

Not surprisingly OJT emerges as the most common type of training activity undertaken within the industry. The prominence of this type of training can be attributed to the fact that many establishments employ only a small number of people and thus have difficulty in providing additional employees to cover working shifts for those engaged in training. Many small firms operate in an informal, flexible and unstructured way and it might be expected that training will fit into this pattern. Research reveals that formal training is not the primary means by which people learn in organisations. In one study individuals reported that they acquired less than 10% of their work competency from formal training (Tannanbaum 1997). The
Centre for Workforce development study of 10000 employees in various organisations reported that up to 70% of workplace learning is informal (Pfeffer and Simon 2000). Others also have found that informal on the job instruction is 3 to 6 times more prevalent than formal training. Transfer rates for traditional formal training programmes are poor. Several researchers (Baldwin & Ford 1988) suggest that no more than 20% of the dollars spent on training resulted in transfer to the job.

Much of the literature is characterised by what Abbott (1994) refers to as pejorative overtones in relation to informal OJT activity in small firms. This infers that this type of training is inferior to the more formal, off the job approach adopted by larger firms (Jones and Goss 1991). However both Abbott and others stress that if such methods meet the needs of a particular sector, the criticism of their informal nature is clearly not justified. Unfortunately, research (Riding and Mortimore 2000) has shown that there is a significant tendency for staff not to view the OJT they had received as training and this may lead to them not valuing it.

Kerr and McDougall (1999) believe that it is possible for small businesses to embrace human resource development while still maintaining their informal approach, where the owner-manager has the awareness and drive to create congruence between training and learning activities and the business plan, even if the latter exists only in their mind.

However unstructured OJT can result in poorly trained employees, employees who use ineffective or dangerous methods to produce a product or produce a product that varies in quality. OJT must be structured to be effective. Successful OJT is based on principles emphasised by social learning theory. These include the using credible trainers, supervisors or peers who models the behaviour or skill, communication of specific key behaviours, practice, feedback and reinforcement.

Effective OJT programmes should specify who is accountable for conducting them and should use staff trained in the principles of structured OJT. Instructors need to be taught how to apply learning design principles to their OJT. Businesses need to build accountability into the programme, both from the instructors and the trainees.

**Hygiene and HACCP training**

The proportion of full time of high-risk food handlers who had received formal hygiene training at Level 1 was similar to that found by Mortlock et al. (2000). In both surveys the extent of training for part-time staff and temporary staff was more restricted. In this study many part-time and temporary staff were used in low-risk activities and were trained commensurate with work activity by OJT. Some managers of small factories expressed a desire to increase the amount of off-work training intervention but commented on the difficulty they perceived in providing additional employees to cover working shifts for those engaged in training.

More managers or senior staff in this survey were qualified at Level 2 (Intermediate) and Level 3 (Advanced) than in the national survey reported by Mortlock et al. (2000). It is generally accepted that where HACCP has been implemented, managers are likely to hold higher level qualifications. The uptake and implementation of documented HACCP systems in this survey was higher than in the national survey by Mortlock et al. (1999) but similar to a more recent study by Fielding et al. (in press) who reported that 77% of small manufacturers were operating formal HACCP systems. More managers had received HACCP training, albeit at an elementary level. Many businesses claimed to train employees in HACCP but insufficient information was collected in the interviews on the type of training provided: whether it was an internal company training course, a company meeting or briefing or simple instruction for measuring and recording of information at a Critical Control Point (CCP) for monitors. Wallace (2001) has opined that sending one person on an external open course for
one or two days duration is unlikely to equip them with the knowledge they require to develop and implement HACCP in their business. Even the training of CCP monitors requires the trainer to instruct staff in basic HACCP philosophy and in the range of skills involved in monitoring. Managers who lack hygiene or HACCP training themselves will find it difficult to specify the knowledge, skills and abilities necessary to effectively control critical steps in the business. Hea-Ran et al. (2004) reported that only 40% of managers who had attended a ‘train the trainer’ course in HACCP went on to train their own staff in the first year following the course. A survey of HACCP implementation in retail butchers (Worsfold and Griffith 2003) found that managers who had received HACCP training still lacked the confidence to train their own staff in the system.

Refresher training

As with previous surveys of training (Mortlock et al. 2000) this study found that formal hygiene training was generally regarded by small manufacturers as a one-off activity and in most of the businesses, refresher training was neither planned, implemented or documented. Skill decay is a prevalent organisational problem. The longer a person goes without using a new skill the more that person will forget. A review of skill decay shows that on average, trained skills demonstrate little or no decay one day after training but demonstrate a 92% decrement after one year (Arthur et al. 1998). The US Department of Labour estimates that on average, 50% of employees knowledge and skills become outdated every 30 to 36 months compared to an estimated 12 to 15 years in the 1970s (Harris and Brannick 1999).

Perceptions of and attitudes towards training

In the smaller businesses the owner manager has sole responsibility for the management of human resources. Managers with professional qualifications in management tended to value formal training and actively encouraged their employees to engage in further development. Some managers appeared to regard training as an operating expense rather than an investment. Managers in small businesses were concerned about risking investments in training, fearing that training staff will make them more attractive to other employers and therefore contribute to staff turnover. Small business managers who lack professional skills themselves find identifying the training needs of others a difficult task. Some managers appeared to be unaware of the standards that can be achieved and the benefits of training.

The barriers to training identified by managers in this survey were similar to other surveys of small businesses (Mortlock et al. 2000; FSAI 2002).

Conclusions

The food manufacturing industry has a high proportion of small and micro businesses. In these businesses the primary responsibility for training lies with the general manager. Small food manufacturers are training their staff more than one might have expected. In this survey food manufacturers were meeting the legal requirement to ensure that production staff were trained commensurate with work activity. A large proportion of workers in these businesses were relatively low skilled and low risk and were trained to have an awareness of food hygiene that would enable them to minimise food contamination. With small workforces, the scope for releasing staff for training and providing cover for formal training, together with the costs, can be problematic. Despite these constraints most small manufacturers have invested in formal food hygiene training for many of their full time high-risk staff. HACCP training for
production staff was mainly conducted in-house by the manager or senior staff and may be very elementary. Small manufacturers may be better placed than many caterers of an equivalent size to comply with the HACCP requirements of the forthcoming Food Hygiene Regulations 2005 but many will still have much work to do. There was no uptake of competence-based qualifications such as NVQs.

The smaller the business the more informal was its arrangements for training. Training needs were rarely analysed. Informal OJT for production operatives was widely used by the industry. It could be more effective if the principles of structured OJT were applied. Much of the industry viewed training as a single event and not as an on-going process. Resource poverty, in terms of time and money was a major inhibiting factor to continual, systematic training in these small firms.

One way of attempting to widen participation of small firms in training and development activities is to promote the economic and/or organisational benefits of training activities. However the promotion of benefits alone is unlikely to engage those employers most reluctant to train and other innovative and potentially more expensive ways of intervention are needed to encourage the wider workforce development activity aspired to by the government (HM Treasury 2002).

References
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