

Development of a Bespoke Food Safety Culture Measurement Tool for a Low-Risk Food and Drink Manufacturer

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Introduction

Until recently, management of food safety in food and drink manufacturing/processing (FDMP) businesses has focused on physical, chemical, biological and allergenic risks (FSA, 2017). Assessment of food safety culture (FSC) is now a fundamental requirement in the food industry and encompasses consideration and analysis of the foundations that food safety (FS) practices are based (GFSI, 2020).

FSC is defined as “the prevailing attitudes, values and practices related to food safety that are taught, directly and indirectly, to new employees” (Taylor, 2011). Its importance has resulted in the measurement and improvement of a company’s FSC is now included in all GFSI certified FS standards and EC Regulation 852/2004 (on the hygiene of foodstuffs), meaning that for many businesses there is now a requirement to complete this. In BRCGS for FS specifically, there is the explicit requirement that “the site’s senior management shall define and maintain a clear plan for the development and continuing improvement of a food safety and quality culture” (BRCGS, 2018).

FDMP businesses can choose to use a commercially available measurement tool or create their own measurement tool. Use of a commercially available FSC measurement tool often relies on quantitative data and can contribute to inaccurate results (Jespersen and Wallace, 2017) and also may be financially out of reach for small businesses. Conversely, as a relatively new concept, SME expertise of FSC measurement may also be limited, providing challenges to enable effective FSC measurement.

Aims

This study aimed to use in-depth, qualitative data to inform development of a bespoke food safety culture measurement tool for a low-risk food and drink manufacturer.

Methodology

Use of qualitative interviews were undertaken with company employees to obtain in-depth insight into factors that may influence FSC in the company.

- An interview schedule was developed based on a review of FS and FSC literature. The schedule was structured according to four FSC parameters (People, Process, Purpose and Proactivity) (Taylor and Rostron, 2018) and 20 dimensions, set out in the BRCGS recognised “Culture Excellence” assessment tool (BRCGS, 2021).
- The schedule had a broad scope to enable the understanding of staff attitudes and perceptions that may influence FSC in the company, as well as awareness of FSC and FS risks.
- Interviews were carried out with 21 company employees (11 from management and 10 operatives).
- Anonymous audio files of the interviews were transcribed; a content analysis was carried out using NVivo (Version 12).
- Ethical approval was obtained for implementation of this study (PGT-2878).

Results and Discussion

Variable attitudes and perceptions toward FSC influencing factors were determined from the study. Discrepancies were determined between participant groups with differing attitudes toward ‘co-ordination’ and ‘vision’, whilst operatives and management attitudes toward ‘empowerment’ and ‘investment’ concurred. Data suggested a difference in food safety perceptions between management and operatives.

People Empowerment – Reward – Teamwork – Training – Communication	
Operative	Management
“if I’ve seen someone not following the rules... I will have a chat to that person” O9	“I definitely have a lot of pride in what we do.” M7
“no problem stopping a line if I see anything.” O5	“It’s embedded with people” M5
“because everyone actually cares about their job” O7	“there’s a lot of trust put in individuals” M3
“I think they do drill it into you, which they should.” O1	“It’s actually delivered in a way so you can understand it” M
	“it’s sufficient to keep us legally compliant” M1

- Management and operative participants all reacted positively to parameters associated with personal empowerment in the business, as well as empowerment of others.
- Operatives perceived personal responsibility to ensure food safety and felt they had authority to take action if food safety were compromised.
- There was a positive attitude toward training within both participant groups, however responses indicated improvements could be made.

Purpose Vision – Values – Strategy – Targets – Metrics	
Operative	Management
“we’ve got a big responsibility to keep this tradition” O4	“I truly believe our business likes to do the right thing and it thinks very seriously about doing the right thing.” M2
“they do a lot of events like charity and stuff” O6	“I don’t think we’re a business that is totally about prosperity” M3
“Make it a nice place to work and make money, make people’s lives happy” O7	“We are constantly giving that message out that we want to have a very high standard.” M5
“It’s delivering quality products to our customers” O9	“it’s not just about money, product and hitting goals... we’re actually changing people’s lives who we’re working with” M5
“I’m not quite sure that something like that would actually... that information would go down to me, really perhaps” O3	“We are fair, consistent, equal.” M7

- Management reported awareness of the company’s published values; operatives perceived values to be associated with money, charity and products. Operatives were predominantly unaware of company targets or measurements indicating a need for intervention.
- Complaint analysis associated with FS targets was a common theme discussed amongst management participants.
- There was no clear awareness in either participant group regarding a food safety strategy for the business.

Process Control – Coordination – Consistency – Systems – Premises	
Operative	Management
“I believe we all have to follow the same rules and the same standards” O4	“some of the managers... concentrating on the numbers” M9
“nine times out of ten it’s always the same...” O7	“and I think that’s an indication of those people who have got the action... perhaps it’s because they don’t have the appetite for it (Re: internal FS actions).” M10
“we are expected to work to a standard that’s been put in place, so everyone following the same, same rules.” O9	“basically I think kind of how each of us manage different” M8

- Management indicated departmental inconsistencies in FS controls, reportedly due to management styles, individual priorities and inherent differences between product/department requirements. Operatives perceived all employees worked to a same level of FS control.
- Some employees indicated that many of the product risks products are due to suppliers at origin, indicating a need to promote awareness of FS risks within the production process. Management highlighted a disjointed approach to decision making.

Proactivity Awareness – Foresight – Innovation – Learning – Investment	
Operative	Management
“I’d rather just be honest with it, with it being food safety as well” O5	“Some people get it straight away and they’re kind of proactive in dealing with it. Some people leave it to the last minute or they don’t even action it until the last minute.” M0
“I think it’s very important to stop an issue occurring in the first place” O9	“I think we could do a bit more with the managers.” M10
“we have rules, but we need to understand,” O8	“I’m thinking of something like, you know, a weekly toolbox talk or a weekly audit of food safety.” M2
“the new electronic system will make it a lot easier to trace it rather than matching up lots of pieces of paper” O5	“We don’t think, how much is this going to cost? We actually do it, that’s what’s needed and then get it sorted.” M1
“I’m strongly believe that they will do (invest where required)” O8	

- Management indicated discrepancies between departments regarding the need for FS controls and FSC measurement.
- Operatives indicated positive opinions about the business’ awareness of FS hazards and influences.
- Both management and operatives discussed new investments such as a computer system and investment in new equipment. Management indicated opinions that investment linked to FS was not treated in the same way as other investment.

- FDMP business employees indicated a lack of awareness of the term FSC and the importance of a positive FSC.
- Many operatives were unaware of FS measurement metrics in place in the business, whilst management predominantly discussed complaints data as the sole FS metric in place.
- Management demonstrated a greater understanding of FSC themes associated with the ‘proactivity’ parameter.
- Management and operative attitudes toward ‘investment’ were aligned – both indicated belief that sufficient investment was provided by the company.
- Attitudinal differences were apparent between managers and operatives relating to the ‘control’, ‘co-ordination’ and ‘vision’ parameters. This requires further exploration when determining the FSC of the business and may be a focus of future intervention.
- Control of contractors, asset care and FS communications (including training, metrics and targets) were areas where further investigation is required to better understand the FSC of the business.

Conclusions

- Qualitative interviews enabled an in-depth insight into attitudes and perceptions associated with FSC from management and operative employees in a FDMP business.
- Data has informed development of a bespoke quantitative FSC questionnaire which included attitude assessment related to parameters and dimensions determined in this qualitative study.

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