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Managing uncertainty in food supply chains – the case of British Food Manufacturing

Abstract

In the age of *permacrisis*, business and society continue to be characterised by high levels of uncertainty, fragility and unpredictability. Set in the UK, this paper offers an analysis of how managers in the British food manufacturing sector are tackling a succession of challenges caused by recession, Brexit and Covid-19. Alongside job cuts and revenue loss, managers in the food manufacturing sector operate with the constant threat of food contamination, and the negative consequences of year-on-year increases in the number of people affected by or dying from food contamination. Such errors are damaging brand identity, causing further revenue loss and potential termination of operations. Using an ethnographic case-study approach, we identify how managers can build resilience by integrating a three-part stratagem of control–co-operation–communication, which can assist in developing a progressive food safety culture. Moreover, we argue that this approach will help managers prepare for the imminent recession.

Keywords: Recession, Brexit, COVID-19 Pandemic, Food Safety Culture

Gérer l'incertitude dans la chaîne d'approvisionnement alimentaire – le cas de l'industrie alimentaire britannique

Résumé

À l'ère de la *permacrise*, les entreprises et notre société continuent d'être marquées par un niveau élevé d'incertitude, de fragilité et d'imprévisibilité. Dans ce contexte, le présent papier propose une analyse de la manière dont les responsables du secteur de l'industrie alimentaire britannique font face à une succession de défis provoqués par la récession, le Brexit et le Covid-19. Outre les suppressions d'emplois et les pertes de revenus, les responsables du secteur agroalimentaire sont confrontés à la menace constante de la contamination des aliments et aux conséquences négatives de l'augmentation, d'année en année, du nombre de personnes touchées ou décédées à la suite d'une contamination alimentaire. De telles erreurs portent atteinte à l'identité de la marque, entraînant des pertes de revenus supplémentaires et une éventuelle cessation d'activité. À l'aide d'une étude de cas ethnographique, nous identifions la manière dont les gestionnaires peuvent renforcer la résilience en intégrant une stratégie en trois parties (contrôle, coopération et communication), qui peut contribuer au développement d'une culture progressive de la sécurité alimentaire. En outre, nous soutenons que cette approche aidera les managers à se préparer à la récession imminente.

Mots clés : Récession, Brexit, pandémie COVID-19, culture de la sécurité alimentaire

Managing uncertainty in food supply chains – the case of British Food Manufacturing

Introduction

This paper uses an ethnographic case study approach to examine how managers in the British food manufacturing sector have experienced the disruption and challenges triggered by the 2008 recession (from which earnings have still not officially recovered), Brexit and Covid-19. This new level of uncertainty, fragility and unpredictability is commonly referred to as permacrisis (Borges de Castro, 2021) to describe an extended period of instability and insecurity.

Being exposed to such risks, "sometimes humbling our self-perceived capacities for managing them, quite naturally gives way for reaching into the field of crisis management to understand better how to deal with such extreme events" (Karlsen and Antonsen, 2023:1).

In many sectors, managers have been forced to execute job cuts and manage loss of revenue. In the food manufacturing sector in particular, managers need to manage the constant threat of food contamination, and the negative consequences of year-on-year increases in the number of people affected by (or dying from) consuming contaminated food. Food contamination can lead to acute poisoning or long-term diseases, such as cancer (Mohammad et al., 2018), which has a negative impact on brand identity, causing further loss of revenue and potential termination of operations (Marucheck et al., 2011).

In this vein, our aim is to identify and explain how managers can build resilience; our objective is to develop a three-part stratagem of 'control–co-operation–communication' that can inform managers who are striving to establish a progressive food safety culture. Wiśniewska (2022) describes food safety culture as a dynamic mosaic of subcultures that are conducive to reporting unsafe incidents and making reporting employees feel comfortable in this situation. This paper

builds on prior research (Watson et al., 2018a) to examine the multifaceted impact on managers in the British food manufacturing sector, as they embark upon fostering a positive health and safety culture in the age of permacrisis.

The current permacrisis provides an opportunity for researchers, albeit in hindsight, to engage in reflective self-scrutiny around the capacity to provide knowledge that could inform policy on the management challenges involved with managing uncertainty (Karlsen and Antonsen, 2023). It raises the question of what can be learnt, and the search for a stratagem that could describe and provide advice on the challenges of permacrisis, acknowledging the academic view of crisis management.

The remainder of the paper is divided as follows. First, the literature review traces the key milestones in the succession of challenges facing managers caused by post-recession recovery, Brexit and Covid. Next, the methodological approach is outlined, followed by a discussion, then concluding comments.

Literature review

Managing post-recession recovery

The financial losses from the 2008 global recession have been estimated around $60trn-$200trn for the world economy and between £1.8trn and £7.4trn for the UK economy (Chen, Mrkaic and Nabar, 2019). The effects are still very noticeable across the entire UK economy – in terms of lower consumer spending and reduced interest rates, both of which fail to generate increased lending and investment (Stuckler et al., 2017). This downturn was further compounded by low UK productivity growth owing to low wage growth, flexible labour markets, inadequate technological innovation and investment (Mayhew and Anand, 2020).

Economic instability was further heightened by the UK Brexit vote to leave the European Union. The Office for Budget Responsibility (OBR), which gives independent and authoritative

analysis of the UK's public finances, estimated the cost to the UK economy of withdrawing from the EU to be in excess of £33 billion. To cover up the Brexit fiasco (Agnew, 2020), the government propelled the myth of restoring UK sovereignty (Murphy, 2021). Mounting doubts increased the nervousness of 'UK PLC' (an informal term referring to the collective performance of the UK economy as a whole), which was struggling to address challenges caused by "competition and lack of demand growth, along with skill shortages in labour, management and marketing" (Cosh, Hughes and Lester, 2006: 14).

As the UK began its post-Brexit re-structuring, various changes were proposed that evoke "Winston Churchill's view of the country at the intersection of three great circles of external relations: the British Commonwealth and Empire, the sphere of transatlantic relations and the English-speaking dominions, and the soon to be united Europe" (Adler-Nissen, Galpin and Rosamond, 2017: 582). This re-structuring, however, was brought to an abrupt halt when governments worldwide were forced to introduce pandemic measures, notably lockdown, in order to limit the transmission of the Covid-19 virus.

Brexit: An unprecedented challenge for managing food supply chains

In January 1973, the UK Prime Minister Edward Health brokered an invitation to join the European Community (EC) as their 9th member state without seeking the support of the UK voters – having twice been denied membership to the EC. The first European referendum was held in 1975 and resulted in a 67% vote to remain in the EC, although Euroscepticism ebbed and flowed as part of the differing views of UK voters (Spiering, 2015). In 2013, the former British PM David Cameron stated that if the Conservative party were to win the election of 2015, then the UK people would be heard regarding their desire to leave or remain as members of the EU (Grice, 2013).

Prior to the Conservative election success, Cameron was forced by angry Eurosceptic cabinet ministers to commit to the Conservative electoral manifesto and put the UK referendum to voters (Watson et al., 2018a). It is worth noting that the referendum campaign revealed, in retrospection, what can be best described as falsehoods propelled by both sides of campaigners – the 'remain' and the 'leave' – which produced a national footprint of animosity. Cameron's strategists were confident that although the result could be level-pegged, they foresaw that there would be a stronger vote to remain, as the agenda had been instigated by Eurosceptics rather than by UK citizens. On June 23rd 2016, the electorate defied polling predictions and delivered a close 52% to 48% majority to leave the EU. The following day, Cameron had no choice but to admit defeat and resign as British PM. He later stated that the vote to leave was triggered by the unhappiness fuelled by populism (Alexander, 2016). There then followed a 4-year transition period to negotiate a withdrawal agreement that would allow the UK to formally leave the EU on January 31st 2020 (Edgington, 2020). Ever since, managers working in (or with) the UK have been facing a complex process of policy redefinition (Fuller, 2021).

The vote to leave the EU in the signing of Article 50 of the Lisbon Treaty was greeted by uncertainty and insecurity (Watson et al., 2018a). The incoming PM, Teresa May, who had voted to remain, struggled to impose her leadership and unite her cabinet to deliver a coherent departure plan. This dithering aggravated decision-making and confidence in the exit strategy, and her leadership attracted much criticism, including from former US President Donald Trump (Macaskill, 2018). The withdrawal bill equated to c.£84 billion (Connolly, 2018), surrounded by fears of how UK-EU assets and budgets would be divided – and the rights of UK and EU nationals (Peter, 2016).

Former Sainsbury's CEO, Justin King, stated that the penalties of Brexit would result in significantly higher prices, fewer choices and lower quality (Grut, 2017). The UK economy had not yet fully recovered from the financial problems caused by the 2008 recession. The currency

markets responded on June 24th 2016 when the British pound experienced its most severe trading day, falling 10% and the UK FTSE 250 also fell 8%. The unprecedented fall in currency drove up the annual rate of inflation from 0.5% to 2.9% (Allen and Davies, 2016). Subsequently, costs supressed wage growth and consumer spending, positioning the UK as the weakest G7 economy (Cadman, 2016).

The nervousness surrounding the Brexit vote seized the attention of businesses as the economic future became very uncertain (Watson et al., 2018b). Managers trading with the UK evaluated Brexit and its effect on their firms using economic indicators (e.g., exchange rate fluctuations, economic growth rates and tariff barriers) and personal-level factors (e.g., previous experience, emotions and their confidence) to shape their strategic response (Barron and Boutary, 2020). In contrast, managers based in the UK faced new issues (Downes, 2017), particularly immigration controls, as immigrant workers contributed £103 billion or 7.6% to the national Gross Value Added in 2013 and employed 3.8 million people, of whom 7% are EU nationals (2.2 million +/- 0.1 million) and non-EU nationals 4% (1.2 million +/- 0.1 million) (O.F.N.S, 2016). There were further problems for managers operating in the non-core regions who were effectively blocked out of all Brexit-related negotiations, and found themselves wholly unprepared for the post-Brexit realities (Billing et al., 2021).

When the country was in dire need of strong leadership to navigate through Brexit, Teresa May was beleaguered with misfortune throughout her 34-month premiership (Stewart, 2019). Her demise can be attributed to her endeavours to re-unite a deeply divided ‘leave’ and ‘remain’ cabinet office via her proposed Withdrawal Bill. However, the bill was rejected three times in parliament as it went too far for ‘leavers’ and not far enough for ‘remainers’ (Liz, 2019). Following the resignation of two cabinet ministers, Teresa May resigned on June 7th 2019 (Kuenssberg, 2019), and was replaced by Boris Johnson who saw himself as the kingmaker (Hayward, 2020) who would ‘get Brexit Done’ (Adams, 2019).

PM Johnson had inherited a negotiation forum with the EU who had repeatedly invalidated the former PM's proposals (Boffey and O'Carroll, 2019). Fears and nervousness mounted in the food sector and elsewhere, over the possibility of a 'no deal' result that would impose operating under World Trade Organization (WTO) terms – in other words, the basic trade rules for countries without a trade deal (Sanford, 2019).

Managers in the food manufacturing sector were unprepared for the changes that lay ahead – including the introduction of a new tariff system, certification, licences and special labelling of foods, plants and live-stock for export, imposing higher costs for suppliers and consumers (King, 2020). Without the EU agreement to UK food quality standards, food products needed to be checked at border crossings with ensuing delays affecting supply chains and the shelf-life of food products, especially fish, dairy and poultry (Seferidi, 2018). UK managers voiced concerns that the anticipated delays would cause EU food producers to seek alternative markets and, in doing so, cause food shortages in UK supermarkets (Syal, 2019) and intensify food insecurity (Ranta and Mulrooney, 2021). Fears of losing UK fishing rights in EU waters were further intensified by additional EU tariffs on UK seafood and shellfish exports (O'Carroll, 2019). Yet, the biggest challenge by far was how to avoid a hard border between Northern Ireland and the Republic of Ireland for customs control (Karlsson, 2017), which would have a huge impact on the food manufacturing sector (Campbell, 2019).

A last-minute trade deal was agreed on December 31st 2020. From 1st January 2021 EU trade agreements no longer applied to the UK, at an estimated administrative and legal cost of c.£2bn (Owen and Lloyd, 2021) although the full impact of Brexit will not be known for years to come (Grocer, 2021). While managers in the food sector were relieved to avoid a 'no deal', they then faced problems of unharvested fruits and vegetables being left to rot in the fields (Petetin, 2020), causing the reduced availability of fresh produce on the shelves and inflated food prices (Gawlewicz, 2022). The trade deal affected every level of the supply chain (Bisciari, 2019).

At present, managers in the UK food industry are moving cautiously ahead to fathom how the Brexit deal will unfold long-term. Whilst on the surface, a 'zero-tariff, zero-quota' may appear a favourable deal (Boffey and O'Carroll, 2020), it may prove problematic for manufacturers and exporters of food. Under the rule of origin, UK businesses are required demonstrate why they are entitled to a tariff-free entry into the EU for each product, and all contents must be produced in the UK (Reuben, 2021). Products with ingredients from countries outside the UK/EU are therefore affected.

Negotiations failed to agree a process to diminish the duty of sanitary and phytosanitary (SPS) quality checks in relation to animal food including plant origin when crossing borders (Partridge, 2021). Consequently, UK exports of food products such as dairy and meat need to demonstrate compliance with regards to animal welfare and slaughter methods, which amounts to approximately one third of all freight. Such a requirement has frustrated the UK food sector as the EU had relaxed inspection processes with countries such as New Zealand, where less than 1% of food products are required to follow SPS inspection checks. The inspection audits raise the question of trust between the UK and EU, and are a direct consequence of both parties adopting separate costly bespoke procedures (Vogeler, 2019).

On a positive note, UK hauliers are still authorised to operate between the UK and EU without the need for permit approval (Gowans, 2020). However, haulage drives are now restricted after reaching a first 'foreign' point of entry to two additional journeys within that country, of which a maximum of one cabotage operation for UK hauliers (de Leon, 2021), thus limiting the risk of having to travel back without a load (Gowans, 2020). UK haulage managers also report that the administrative and physical checks are causing significant delays (Davies, 2021) – yet, without the required documentation, hauliers are being turned away from departure ports for the EU, further exacerbating the delays. Also, UK food exporters are now required, as a 'third country', to ensure that all wooden pallets are heat-treated prior to the export of goods to the

EU as a quality assurance process to reduce the likelihood of contamination and the uncontrolled dissemination of pests (Payne, 2020). This new condition has generated extra costs to the supply chain, procurement and distribution of pallets throughout the UK's transportation hubs – for instance, pallets delivered in one location (such as Northern Ireland) may result in stockpiles if goods are not required for the hauliers' return trips.

The UK fishing industry will acquire an increased share of its own water to fish (Edgington, 2020); 25% of EU boats' fishing rights in UK waters will be transferred to the UK fishing fleet in the next 5 years, in line with the UK-EU agreement to revise how the catch is divided (Morris and Barnes, 2021). It is anticipated that by 2026, UK fishing industry will absorb an extra £145m of fishing quotas year-on-year. For the time being, however, there is growing evidence to suggest UK fish exporters are struggling to export to the EU owing to delays in completing the required Health Certificates for each catch of different species and from which ports (Helm and Savage, 2021). Such delays have resulted in lost sales, as the shelf life of seafood in many cases had expired (Fraser, 2021). The situation is further compounded by disgruntled French fishing boats thwarting the new fishing rights of UK fishing boats (Harrison, 2021).

In respect of the 'Good Friday Agreement' in Northern Ireland to maintain peace, the EU conceded that there should be no hard boarder between Northern Ireland and Ireland. However, despite assurance from Boris Johnson that there would be frictionless trade between Ireland and Great Britain (England, Scotland and Wales), the UK government surreptitiously conceded to a new regulatory boarder between Northern Ireland and Great Britain, referred to as the 'Northern Ireland Protocol' (Campbell, 2021). Consequently, as the UK is now outside the EU, Northern Ireland is required to adopt EU 'regulatory' cross-border checks in the form of customs documents and physical checks for food products such as dairy, meat and poultry. In essence, a boarder has been established in the Irish Sea (Edgington and Morris, 2021), despite hopes for a digital border (Karlsson, 2017). UK food exporters to North Ireland struggle to

complete the necessary documents, resulting in delays for imports and exports, decreases in food exports and mounting challenges for supermarket supply chains (O'Carroll, 2020).

The impact Covid-19 on managing food supply chains

Against the backdrop of managing the post-recession economy and Brexit, British food manufacturers were then confronted with the outbreak of Covid-19, which spread rapidly worldwide (WHO, 2020). Its grip on civilisation took hold at unprecedented speed, leaving a trail of human and economic suffering, resulting in over 3.5 million deaths and 167 million cases (WHO, 2021). Governments worldwide locked down their economies for all-but-essential services such as food supply chains (Nicola et al., 2020; WHO, 2020), and over 160 countries worldwide issued a 'stay at home' order to limit the spread of infection (Habe et al., 2021).

Reports indicate that the pandemic affected the food and drink sector more than any other sector of the UK economy (ONS, 2020a), owing to drastically reduced consumption. Although there was an increase in home consumption, out of home consumption (which generates larger revenue margins) was supressed by lockdown conditions (Pieters, 2021). Various studies indicate that the food sector suffered an 89% drop in business, resulting in 675,000 sector-specific job losses of employees mainly between the ages of 16-24 years old (Food Service & Hospitality Market Research Report – FSHMRR, 2020; OECD, 2021). In 2020, the UK 'Positivity-Rate' of transmission was 5% and the transmission rates posed an unparalleled economic challenge, including within the food and drink sector, confirming fears that this sector was among the worst affected (ONS, 2020a). The ONS also indicated in April 2020 that 23% of businesses had suspended operations and approximately 60% of businesses that remained in operation reported a fall in revenue (ONS, 2020b). Whilst the pandemic had a significant effect on national job reductions, the food sector experienced record growth especially in supermarket door-step delivery services and across their operations (Goodley and Ambrose, 2020).

Throughout lockdown, managers in the food manufacturing sector and their supply chains were required to maintain essential operations, unless required to suspend their operations due to Covid outbreaks (Aday and Aday, 2020). The outbreaks of Covid transmission cases were mainly associated with meat processing plants, prompting an urgent need to re-evaluate the risks and opportunities to redefine priorities and adjust factory operations processes (Nakat and Bou-Mitri, 2021) but managers in the British food manufacturing sector were overwhelmed by other problems. The cramped working conditions were blamed for increasing the Covid transmission cases; much of the workforce on factory operations were low paid and low skilled staff, and barely spoke English so they struggled to understand the quality procedures (McSweeney, 2020). There have been claims of merely 47 notifications of Covid transmissions with no deaths reported to the UK's Health and Safety Executive (HSE) by food manufacturers who employ over 430,000 workers (Davies, 2020), although it is estimated that the number of reported incidences could be 30 times higher (Halliday, 2020).

The problems reported in the literature serve as a reminder of Beck's (1992) arguments of how humankind is producing hazards and risks ourselves by transitioning to a society characterised by not being able to foresee the impacts of day-to-day actions in neither space nor time. In line with Hu et al. (2022), effective crisis management is a crucial aspect of organizational resilience requiring a well-prepared and well-coordinated response, as well as a commitment to transparency and accountability. No business is immune to crisis, whether it be a recession, an unexpected referendum outcome or a global pandemic.

Managing food safety

In the specific case of the food sector, a major challenge facing managers is the lack of a clear definition and understanding of food safety culture (Watson et al., 2018b). There is limited industrial recognition too, owing to the lack of a standardised approach for measuring food

safety culture against performance (Dodsworth et al., 2007). Each year, over 600 million cases of food contamination are reported, resulting in 450,000 deaths (WHO, 2015). Such failures are not confined to under-developed or impoverished countries but are highly evidenced in developed and affluent economies. By means of an illustration, in the USA, around 48 million people suffer from food poisoning, resulting in 3,000 annual deaths (Ruiz-Capillas and Herrero, 2019). The figure for Europe stands at around 23 million, with nearly 5,000 deaths a year (WHOE, 2019). For the UK, an estimated 2.4 million food contaminations are reported each year, with 180 annual deaths (Whitworth, 2020), at a cost of over £1bn a year for the UK economy (Sustain, 2018). Since 2015, there has been a year-on-year rise in the number of food incidents in the UK (FSA, 2018). Food and drink recalls have risen by 62% and allergen recalls by 78% (Reece, 2017), and the number of foreign bodies found in food has increased by 350% (Ridler, 2018).

The British food manufacturing sector has seen an increasing number of 'zero rated' food manufacturers who require urgent improvements to food hygiene standards (FSA, 2018). Managers admit that the vast majority of food contamination cases could have been avoided (Watson et al., 2018a). Food safety is very much reliant on employee compliance to safe systems of work; many failures are the result of non-compliant employee food safety behaviour (De Boeck et al., 2017). Indeed, 97% of food contaminations is linked to non-compliance of food handlers (Griffith et al., 2010). Thus, failure to comply will significantly weaken and potentially render food manufacturers quality assurance systems redundant (Yiannis, 2009). However, the blame cannot be solely attributed to the behaviour of employees. It is very much contingent on the commitment of managers, many of whom over-rely on investing in well-respected quality assurance systems – instead of enforcing a food safety culture.

Managers act as a thermostatic regulator of their organisation's food safety culture (Bennis, 2009) since their actions (or inaction) have a direct impact on food safety performance. Put

simply, the organisational culture (Schein, 2004; Nayak and Waterson, 2016) is communicated by managers, which in turn influences the behaviour of the workforce in terms of food safety cultural compliance (Zhai and Watson, 2021). Yet, in many cases, food safety culture is ignored until serious non-compliance occurs, which can be costly (Watson et al., 2018a) – the act of disregarding food safety culture is interpreted in the literature as 'change blindness' (Beanland et al., 2017).

Previous studies of food safety culture have used a systematic literature review (cf., Panghal et al., 2018; Manning et al., Zanin et al., 2021). While this provides a chronological account of food safety measures, it overlooks the 'lived experience' of managers in response to ongoing changes in the external business environment. Lived experience refers to "the pre-reflective, immediate consciousness of the experiences which are then subsequently reflected upon and interpreted in hermeneutic phenomenology" (Kleinhans et al. 2015: 89). Addressing this gap in knowledge, we put forward the following research question:

> *In the case of the British food manufacturing sector, what steps can managers take to build resilience while facing ongoing changes in the external business environment?*

Methodological approach

To answer the research question, information was gathered using an ethnographic case-study approach, which is a qualitative research methodology that involves in-depth exploration and analysis of a particular social phenomenon, group or community (Parker-Jenkins, 2018), observing and recording their behaviours and participating in their daily working life (McLeay et al., 2019). Scholars often use an ethnographic approach to develop rich insights into experiences within a business sector (Nussbaum, 1993). This approach emphasises the observation of individuals and groups in their natural settings, and the collection of data through multiple sources, including interviews, field notes, audio and video recordings, and artifacts.

The researchers chose this approach in order to further understanding of the culture, values, beliefs, practices and experiences of the people under study, by immersing themselves in the community and building relationships with its members; the findings of which are typically presented as a narrative description of the phenomenon or group, using key observations and direct quotations from participants (Parker-Jenkins, 2018).

The authors undertook work-shadowing and observation-participation in day-shift and night-shift work, over 6 months – in line with scholars who advocate the legitimacy of ethnography in research (Tadajewski, 2016). As proximity can lead to developing a close relationship with local agents, scholars must stay focused to avoid losing sight of the larger context (Darling-Wolf, 2008). This approach is therefore not based on theoretical presumptions. Multiple sources of data were used to gain further insights, including information available in the public domain such as the government Food Standards Agency, food manufacturers' websites and new UK regulations surrounding food production in the wake of the withdrawal agreement.

Data analysis

The researchers created themes by identifying patterns, concepts and categories that emerged from the data collected, through careful reading, coding and analysis – using the following six steps: (i) taking notes on key ideas, concepts and observations; (ii) breaking down the data into smaller units (phrases, sentences and paragraphs) to assign codes to each unit that represent the main idea or concept conveyed; (iii) looking for patterns and connections between the codes to identify themes that emerge from the data; (iv) refining the themes by re-coding the data or merging similar codes; (v) analysing the themes by interpreting the data in relation to the research question; (vi) presenting the themes in a clear and concise manner, using quotes. The researchers guaranteed total anonymity to participants; therefore, the company names were each replaced by a colour.

Findings

The main findings of our ethnography are summarised in two lists (below) using exemplary quotes to show (part i) six key observations raised by employees and supervisors/managers, from which we identify (part ii) two areas where resources need to be invested.

(part i) Key observations based on evidence of:

1. **Misinformation and miscommunication** (from managers to employees)

Employees Company Blue:

"*If management were to spend some time on the factory floor and listen to us, they would see what is really going wrong between management and front-line factory workers*"

"The challenge we face is that managers do not ensure staff follow procedures, they cut corners to hit their targets, and because they do, none one is going to challenge them. Hence, we have a lot of misinformation"

Manager Company Blue:

"*Many employees are here just for the money and the hearsay amongst them fuels the rumour mill that they will receive bonuses for years of service*"

2. **Mistrust** (between employees and managers)

Manager Company Yellow:

"Since Brexit and Covid, we struggle to get staff and those who are recruited often leave due to the work rate and poor staff inductions, but convincing HR to address these issues is very problematic. We want to work with HR, but they read it as interference"

Supervisor Company Yellow

"*It has always been like this, management fail to appreciate that staff have a memory and if you treat them badly, their faith in empty promises soon dies away, such as the effective regulation of staff absences, all this undermines our working culture*"

Employee Company Yellow

"*Management just don't listen, they get the supervisors to dish out the bad news, such as unpaid overtime at short notice"*

3. **Skills Shortage**

Manager Company Black

"What did the government think… our foreign employees weren't willing to wait for the Brexit vote, they swiftly relocated back to their home country or to mainland Europe"

Supervisor Company Black

"To be truthful, a lot of UK nationals do not want to work in a factory environment, even when they have the skills, the pandemic has certainly changed the mindset and work ethic"

Employee Company Black

"… as immigrant workers, we don't feel welcome anymore and many of us are heading to Germany or Holland where we have more job security"

4. **Knowledge deficit** (need for upskilling)

Manager Company Green

"Given the Brexit workforce shortages, we now have a culture in which many employees would rather leave than be upskilled, many just want an easy life, and the supervisors often turn a blind eye and we as managers are too busy"

Supervisor Company Green

"The staff inductions are rushed through to get more staff on the factory floor… it's down to the supervisors to spend time training them up, so we're stretched to the limit"

Employee Company Green

"Management think that we're all low-ability staff, if HR had a better recruitment process and if management took time to ensure we maximise our skills, knowledge and abilities, then they'd see that many of us held professional positions in our home countries, such as teachers, qualified auditors"

5. **Language barrier** (immigrant workers)

Manager Company Blue

"We have major problems with the level of English competence and an unwillingness for non-native staff to speak English… and this hinders communication"

Supervisor Company Blue

"It's company policy to ensure employees speak in English.. but, when we're under pressure with production runs, it's easier for foreign workers to use their native tongue"

Employee Company Blue

"We know it's not ideal or a long-term fix but it's quicker sometimes when we get a production run to let teams communicate in their mother tongue"

6. **Poor Induction Programmes**

Manager Company Yellow

"The situation in terms of staff inductions is challenging, as the government guidelines are not clear and the procedures for exporting are constantly changing… this has a potential knock-on effect for keeping up-to-date with training and compliance"

Supervisor Company Yellow

"Training is way too rushed, and HR are not really interested in checking with supervisors if their training is effectively implemented"

Employee Company Yellow

"HR really don't want to know, they offer poor induction and then supervisors get frustrated when we hold up production because of lack of training, so the supervisor steps in to help"

(part ii) Evidence of the need for resources to be invested to address the lack of:

1. **Two-way communication & information flow**

Manager Company Black

"With a high turnover of staff and sickness due to long Covid, there is an obvious impact on communications, particularly on the production run"

Supervisor Company Black

"*It's frustrating because management don't want to listen and when they do, well, nothing changes, instructions flow from the top down, never bottom up*"

Employee Company Black

"Yes, government policy for dealing with Brexit and Covid has always had an effect on our work, but the core problem is that managers don't talk to employees"

2. **Effective appraisal systems**

Manager Company Green

"We have an appraisal system but the problem is that managers are often too busy to conduct a formal appraisal and very much prefer to do face-to-face corridor chat...

I'm sure things will settle down after the post-Brexit transition work is completed"

Supervisor Company Green

"Management don't really make much effort to do the annual appraisals and we rely on 'toolbox' talks to update staff instead of a formal appraisal"

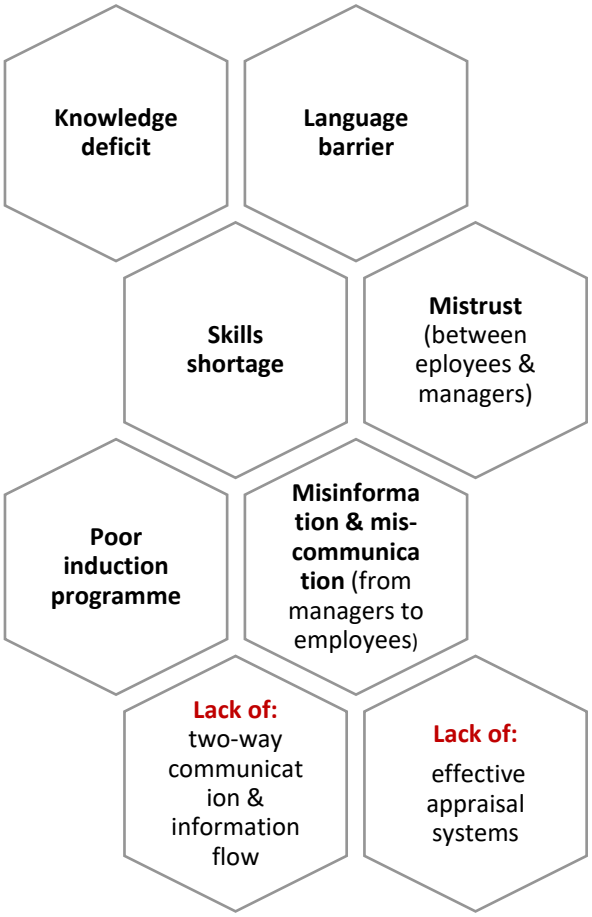
Employee Company Green

"I've never had an appraisal ever and management don't really seem to care, the priority here is to meet targets on time"

Discussion

From the findings, we developed a framework to show the core organisational barriers facing employees and supervisors/managers (see Figure 1 below).

Figure 1: Organisational barriers in managing food supply chains



The framework reveals organisational barriers stemming from the misalignment of

management and employees, in line with Watson et al. (2022). It provides a basis for developing ways forward to establish and embed a positive food safety culture, by generating commercially viable recommendations to organisations in this sector.

Taking the framework against the backdrop of the literature, we identify how managers can build resilience by integrating a three-part stratagem of control–co-operation–communication, which can assist in developing a progressive food safety culture, as follows.

Concerning ***'control'***, the importance and potential benefits of embedding a food safety management system into the organisational culture is critical (Schein, 2004; Nayak and Waterson, 2016; Wiśniewska, 2022). If implemented correctly, this system can provide a control framework to foster and sustain a positive food safety culture. However, a common misconception in many organisations is that managers frequently underestimate the level of resources required and overestimate the support of staff (Watson et al., 2018a). It is worth noting that costly quality systems do not automatically ensure compliance; to maintain an effective cultural control of operations, staff need to intrinsically embrace the concept (Mensah and Julien, 2011). To do this effectively requires an authentic leadership style of inclusivity. Doing otherwise can lead to misinterpretation, gossip, uninformed rumours and a general disconnect between management and employees. Ideally, the organisation needs to ensure that employees become active participants as part of their control procedures within the organisation (Zin and Ismail, 2012).

Secondly ***'co-operation'*** is equally important in the orchestration and development of a progressive food safety culture. Research indicates that there is a direct link between responsible behaviour and quality compliance (De Boeck, 2017). Once again, the role of leadership in brokering the co-operative bonds between management and employees is essential – and if done effectively, it can lead to greater responsibility and accountability (Taylor, 2011).

As with employee involvement in control, their cooperation, and the systems to support this, (such as 360-degree communication, interaction and timely staff meetings) provide strong evidence that the organisation's infrastructure is able to drive and value such initiatives (Bray, Budd and MacNeil, 2020). Once again, many organisations begin with admirable intentions, then inadvertently veer off in a different direction, owing to perceived costs and work pressures, with the result that the culture of co-operation is then starved of dialogue and will manifest as dysfunctional groups framed by management-employee power struggles (Beauregard, 2010).

Lastly, ***'communication'*** plays a key role in the design of a positive food safety culture. Yiannas (2009) suggested that management commitment to effective communication is a fair indicator of their commitment to food safety culture. If employees feel deprived of official communication, then the natural solution is to seek information from informal 'rumour mill' communication, driven by gossip (Robinson and Thelen, 2018) – which inevitably erodes employee loyalty, trust and commitment (Wright et al., 2012). It should be noted that the effectiveness of any communication system depends on quality rather than quantity of information circulating (Hofmann and Morgeson, 1999). Studies confirm the correlation between interactive communications and compliance (Vredenburgh, 2002). When managers are committed to embedding a positive food culture, they generally engage in effective and interactive forms of 360-degree communication with the workforce (Watson et al., 2018a; Zhai and Watson, 2021). Anything less is counterproductive. In the pursuit of an effective food safety culture, communication must be clear, coherent and consistent – and above all, in line with the skills of the workforce (Wiśniewska, 2022). Organisations often distinguish between training the workforce and developing plans targeted at managers (Yu, 2017). It is often the case that whilst employees attend the required training sessions, managers often defer attending the sessions, using as a pretext their work commitments (Beer, Finnström and Schrader, 2016); if unregulated, this situation can become the norm.

There is a correlation between efficient organisations (that implement and monitor the effectiveness of their training and development systems) with positive compliance to functional food safety procedures (Da Cunha et al., 2014). A true gauge of effective training and development is via an operational appraisal scheme (Cappelli, 2018) – one in which appraisers are qualified and appraisees are both informed and see value in the process (Ko, 2015).

Finally, while the focus of this study is on managerial responses to uncertainties in the age of permacrisis, we acknowledge that managers are confronted by a multitude of factors that affect the successful implementation of a three-part stratagem of control–co-operation–communication in the workplace, but this is left to future research, outlined below.

Limitations and future research

This study is limited to a single context (i.e., British food manufacturing) and therefore cannot be extrapolated to other sectors or other countries. Future research could adopt a cross-sectional examination of market forces in different cultural contexts that impact upon managers, with the aim of producing a framework for comparison. Also, as the use of ethnography is still gaining legitimacy (cf., Tadajewski, 2016), we suggest undertaking mixed methods research in future investigations.

Concluding comments

The study presents a framework for understanding the core organisational barriers faced by employees and managers in managing food supply chains, highlighting the misalignment between management and employees as a key challenge in establishing and embedding a positive food safety culture. The authors suggest that managers can build resilience by integrating a three-part stratagem of control, co-operation, and communication. Effective control requires embedding a food safety management system into the organisational culture

and an authentic leadership style of inclusivity. Co-operation involves brokering bonds between management and employees, promoting responsible behaviour, and creating systems to support employee involvement. Communication is essential for creating a positive food safety culture, with management commitment to effective communication being a good indicator of their commitment to the food safety culture.

At the time of writing, the Brexit Freedoms Bill ended the legal status of all retained EU law, giving "the UK the opportunity to develop new laws that best fit the needs of the country and grow the economy" (Gov.uk, 2022). However, the new rules and regulations are causing severe damage to the UK economy, trade and foreign investment, stifling immigration and intensifying labour shortages. Adjusting to new ways of working without EU support will take time and effort. Besides, while there are encouraging signs that the various Covid vaccines have slowed down transmission rates, newly-emerging variants pose ongoing problems.

Managers in the British food manufacturing sector need to proceed with caution, investing resources into building resilience by embedding control-co-operation-communication to assist in the development of a progressive food safety culture. They face constant pressure to ensure that their supply chains are free from Covid transmission and that food contaminations are factored out of their business operations. To achieve this, it is critical that food manufacturers fully commit to a food safety culture, based on control, co-operation and communications. Building these elements into the organisational culture requires top-level management commitment and sufficient resources. The importance of food safety cultures for tackling food contamination, food poisoning and related deaths is increasingly recognised by international regulators; examples include the *Codex Alimentarius* designed by the World Health Organization and the Food and Agriculture Organization of the United Nations, and the revised EC regulation 2021/382 (EC, 2021) – to enhance Food Safety Management Systems (FSMS) via compulsory food safety cultural audits. The evidence is overwhelming; a positive food

safety culture not only reduces non-compliances but is also linked to enhanced employee morale, business sustainability and growth. To do otherwise is unethical and immoral, and runs the risk of catastrophic ramifications in terms of human life and business longevity.

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