EMPLOYEE EXPERIENCES OF HOW LEADERSHIP, COMMUNICATION AND COMMITMENT INFLUENCE FOOD SAFETY CULTURE AT A CAPE TOWN MEAT PROCESSOR

by

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DECLARATION

I, Garikai Gono, declare that the contents of this dissertation represent my own unaided work and that the dissertation has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Signature:  **Date:** October 2020

ABSTRACT

Recurrent foodborne disease outbreaks resulting in sickness and deaths are a global concern. Ongoing investigations reveal that foodborne disease outbreaks have been attributed to the breakdown of food safety management systems due to improper human behaviour or lack of food safety culture.

This study aims to describe employee experiences of the food safety culture at a meat processor in Cape Town and to provide recommendations to assist the company to lessen the risks associated with policies and behaviours that lead to unsafe meat production. Through a comprehensive literature review, the research established the need for a comprehensive food safety culture and identified links between organisational culture, human behaviour and safe food production. A qualitative methodology was used to gather data on employee experiences of how leadership, communication and commitment influence the food safety culture at a Cape Town meat processor and proposes amendments.

The research findings revealed that leadership showed commitment to food safety through a documented food safety management system and effective training provision but that the system was not fully implemented due to its complexity and provision only in English, limiting food handlers' understanding. The findings further revealed the benefits of autocratic leadership in providing instruction and decision-making. However, this leadership style sometimes resulted in lack of effective delegation, impacting on staff morale and limiting the integration of a comprehensive food safety culture. Lack of leadership commitment in providing some critical resources and in taking disciplinary action where necessary were found to negatively impact safe production practices. Gaps in communication, such as lack of feedback and consultative discussion, were also found to negatively impact safe food production.

However, employees reported teamwork fostered by the owner/manager as creating a sense of belonging among employees and encouraging innate individual commitment towards safe food production. This research thus concluded that there are shortcomings in the company's food safety culture, suggesting a potential significant food safety risk. More specifically, the research concluded that elements considered important in maintaining a positive food safety culture, including exemplary leadership, accountability, provision of crucial resources, effective communication and consistent food safety behaviour, were absent.

The major recommendations from this study are that food safety management system documentation should be translated and that relevant training should be ongoing. Where relevant, more consultative leadership style and effective delegation should be practised. Leadership should exhibit better commitment to food safety through provisioning of crucial

resources, which include time and equipment. Attention should be given to facilitating two-way communication and improving feedback.

Exploration into food safety culture to understand employee behaviour especially in Africa where there are recurrent foodborne diseases in the meat-processing industry is crucial to providing proactive measures towards safe food. Although food safety culture is unique to each business, this case study has identified shortcomings at the meat processor suggesting potential food safety risks and proposes ways in which safe meat production could be improved. The results also suggest a need for further research on the subject of food safety culture and its potential to reduce foodborne diseases.

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ACRONYMS AND ABBREVIATIONS

AQSIQ	Administration of Quality Supervision, Inspection and Quarantine
CCP	Critical control point
FDO(s)	Foodborne disease outbreak(s)
FMCG	Fast-moving consumer goods
FSC	Food safety culture
FSMS	Food safety management systems
FSSC	Food Safety System Certification
GFSI	Global Food Safety Initiative
GMPs	Good manufacturing practices
HACCP	Hazard analysis critical control point
HARBPC	Hazard analysis and risk-based preventive controls
ISO	International Organization for Standardization
NCID	National Institute for Communicable Diseases of South Africa
OPRPs	Operational pre-requisite programmes
PRPs	Pre-requisite programmes
WHO	World Health Organization

GLOSSARY

- **Communication**: “A transmission process of a message from one individual to another through an oral, written or non-verbal form” (Turkalj & Fosic, 2009:35).
- **Food safety hazard**: “An agent present in food in the form of biological, chemical, physical or a condition of food with the potential to cause an unfavourable health consequence” (International Standard [ISO], 2018:5).
- **Food safety management systems**: “A set of interrelated or interacting elements to establish policies and objectives and to achieve these objectives, used to direct and control an organisation with regards to food safety” (ISO/TS, 2013).
- **Food safety**: “Assurance that food will not cause an adverse health effect for the consumer when it is prepared or consumed in accordance with its intended use” (ISO, 2018:4).
- **Food**: “Any substance, whether processed, unprocessed or raw, which is intended for human consumption” (ISO, 2018:4).
- **Foodborne disease outbreak**: A foodborne disease outbreak occurs whenever two or more people are epidemiologically linked by a common food or beverage source (Shonhiwa et al., 2018:4).
- **Global Food Safety Initiative:** A position paper on culture of food safety (Global Food Safety Initiative [GFSI], 2018).
- **Hazard Analysis Critical Control Point:** “A systematic preventive approach to food safety from biological, chemical and physical hazards in production processes with the potential to cause finished products to be unsafe through measures designed to reduce these risks to a safe level throughout the food supply chain” (South African National Standard [SANS], 2007).
- **ISO 22000: “**An international standard developed by the International Organization for Standardization with food safety specifying the requirements for a food safety management system through interactive communication, system management, prerequisite programs and hazard analysis critical control point principles” (SANS, 2005).
- **Processed meat:** “Raw meat transformed through salting, curing, smoking or other cooking to enhance flavour or shelf-life extension” (Shan et al., 2017:82).

CHAPTER 1
INTRODUCTION

1.1 An introduction to Food Safety Culture

Food safety culture (FSC) is a subject of much discussion although the concept is still poorly understood (Jespersen et al., 2017a:371). To date there has not been one single accepted definition; however, the majority of the definitions have common elements. Nyarugwe et al. (2016:84) note FSC is a subcomponent of the organisational culture focusing on food safety. Jespersen at al. (2017a:371) define FSC as the aggregation of the prevailing, relatively constant, learned, shared attitudes, values and beliefs contributing to the hygiene behaviours used in a particular food-handling environment.

Studies assessing FSC have specifically identified the interlinking elements of leadership, management systems, communication, knowledge, training, competence, risk awareness, perceptions, employee confidence and commitment, work pressure, accountability and environmental factors as some of the FSC elements affecting an organisation (Griffith et al., 2010a:429, 2010b:439; Neal et al., 2012:472; Abidin et al., 2013:22; Nyarugwe et al., 2016:84; de Boeck et al., 2017:206; Nayak & Waterson, 2017:1115).

Griffith et al. (2010b:439) proposed six factors in the assessment of an FSC—management systems, style and process, leadership, communication, commitment and environment and risk perceptions. This study focuses on three FSC elements, namely leadership, communication and commitment, which a number of studies note as critical elements in an FSC. These elements have been identified as the risk factor in operations implicated with foodborne illness outbreak (Powell et al., 2011:818).

Leadership plays an important role in creating FSC by establishing direction and tone (GFSI, 2018:12), providing resources (Griffith et al., 2017:737), inspiring the team (Yiannas, 2009:16), influencing behaviour (Griffith et al., 2010b:443) and maintaining a positive FSC (Griffith et al., 2017:736). Communication is crucial in the establishment of an FSC as it encourages sharing of food safety information (Ball et al., 2010:82), facilitates transfer of knowledge and skills (Griffith et al., 2010b:447), promotes understanding (Griffith et al., 2017:735), stimulates motivation (Spaho, 2011:392), alters attitude (Yiannas, 2009:49) and influence behaviour (Yiannas, 2009:50). Commitment from leaders through the provision of resources and commitment from food handlers influences the development (Griffith et al., 2017:737) and maintenance (Neal et al., 2012:471; Griffith et al., 2017:737) of a positive FSC.

The presence or absence of these three elements influences the prevailing FSC in an organisation, either positively or negatively.

1.2 Background to the research

Food is essential to our survival and food safety is therefore an ongoing global concern. The World Health Organization (WHO) estimates that 600 million people, almost 1 in 10, will at some stage fall ill after eating contaminated food, whether the food is processed or has been prepared by others. The first-ever publically reported estimate by the WHO (2015) stated that annually, around 420 000 people died from the consumption of contaminated food as a result of inadequate food safety measures during processing, resulting in the loss of 33 million healthy life-years.

Globally, children under the age of 5-years old account for 40% of these fatalities, amounting to 125 000 deaths every year (WHO, 2020). Diarrhoeal diseases are the most common illnesses resulting from the consumption of contaminated food, causing 550 million people to fall ill and resulting in 230 000 deaths every year.

While foodborne disease outbreaks (FDOs) are generally under-reported in South Africa (Niehaus et al., 2011:693), the National Institute for Communicable Diseases of South Africa (NCID) recorded the most recent outbreak of listeriosis, a potentially lethal foodborne disease, in 2018 (WHO, 2018). Between January 2017 and April 2018, 1 011 confirmed cases were reported in South Africa, resulting in 216 recorded deaths associated with the consumption of *Listeria*-contaminated processed meat (NICD, 2018). Concurring with WHO global figures of neonatal deaths associated with FDOs, 41% of the deaths from the listeriosis outbreak in South Africa were neonates.

The source of the 2018 listeriosis outbreak was identified as a ready-to-eat processed meat product manufactured at a meat-processing plant in Polokwane, South Africa. *Listeria monocytogenes* strain ST9 was cited as the most common bacterial strain responsible for deaths from the contaminated food sources. Implicated products were recalled; however, the WHO (2018) raised concerns at the time that exported products may have resulted in listeriosis cases in other countries. According to the NICD (2019), in October 2019 at least 87 laboratory-confirmed listeriosis cases were reported in South Africa following the deadly world 2017/2018 outbreak. Thus, the listeriosis threat continues to loom large over South African food manufacturers and the consumers who buy their products.

The threat to human survival and well-being posed by FDOs goes far beyond sickness and death resulting from eating contaminated food. There are also economic implications, including factory closures, job losses, brand image damage, share price fluctuations and high costs associated with product recalls and destruction and possible litigation. Other implications include banning of exports and strict regulations by importing countries, as well as changes in consumer purchasing behaviours.

Flynn (2019:1) notes that the burden of FDOs on both public health and welfare and on the economy has often been underestimated due to under-reporting and difficulty in establishing causal relationships between food contamination and the resulting illness or death. Unsafe food creates a vicious cycle of disease and malnutrition, affecting particularly infants, young children, the elderly and sick persons. Thus, all the multiple aspects of safe food production continue to be a critical area for research and development.

When food is processed or prepared by someone else, we rely on every person in the supply chain to make the right decision in ensuring safe food supply. According to the Global Food Safety Initiative (GFSI, 2018:6), in a position paper on a culture of food safety, these decisions are affected by the cultures which either enable or hinder decisions and practices of food safety. Wisniewska and Zamojska (2015:197) note that food safety hazards dependent on human factor risks cannot be prevented by a food safety management system (FSMS) alone. Food safety hazard prevention relies on appropriate human behaviour and a positive FSC.

Griffith et al. (2010a:435, 2010b:453) and Yiannas (2009:12) note that FSC is strongly influenced by the thoughts, values, attitudes and learnt behaviours of employees, both individually and in groups, towards food safety. In response to the urgent ongoing need for better understanding of FSC in organisations and to identify how they can improve their FSC, this study was carried out at Company X, which is a meat-processing plant in the Western Cape, South Africa.

Company X is a family-owned business which has been producing sausages, hams and other cold meat specialities since the early 2000s. Company X is solely managed by Mr X, the owner-manager, who established and manages the day-to-day function of the business. Company X has a staff complement of more than 100 employees of various nationalities, comprising South Africans, Germans, Namibians and Zimbabweans. The majority of Company X's processed meat products are supplied to a private label retailer, which has stores across Africa and their products are also available at selected outlets throughout South Africa and Namibia.

Some of Company X's products are also sold by a retail chain, which brands the company's produce with the retailer's own label. It is a pre-requisite of the retailer for its suppliers to have an internationally recognised and certified FSMS in place, such as the International Organization for Standardization (ISO) 22000, or Food Safety System Certification (FSSC) 22000 (Parker, 2014:14). The global adoption of these FSMS has been an accepted measure towards ensuring food safety (Nyarugwe et al., 2016:78) across the food supply chain.

However, despite Company X having a certified ISO 22000 system in place and rigorous third party audits annually with the goal of producing safe processed meat, consistent provision of safe meat is of concern. According to Company X's Management Review Report, more than 64 customer complaints regarding suspected contaminated food were recorded for the period

between 2017 and 2018, of which 9% were related to microbiological hazards (Management Review Team, 2019). This highlights gaps in the company's prevailing FSC. Powell et al. (2011:818) point out that companies not only need a detailed FSMS but also a positive FSC to ensure food safety.

According to Jespersen et al. (2017a:371), although FSC is now subject to much discussion, the concept is still poorly understood. Studies have identified leadership, management systems, communication, knowledge, training, competence, risk awareness, employee confidence and commitment, work pressure, accountability and environmental factors as critical human elements affecting an organisation's FSC. (Griffith et al., 2010a:429, 2010b:439; Neal et al., 2012:472; Abidin et al., 2013:22; Nyarugwe et al., 2016:84; de Boeck et al., 2017:206; Nayak & Waterson, 2017:1115).

This case study, conducted at Company X, is an analysis of a current example of a prevailing FSC in the South African meat production and packaging industry. This study was undertaken to help the company gain a better understanding of how certain critical factors that influence management systems and human behaviour impact the company's FSC. The study describes the employees' experience of how three critical elements of FSC, namely leadership, communication and commitment, influence safe production of processed meat at Company X. These three key elements are emphasised in the ISO 22000 standard as the foundation of a successful FSMS and thus crucial for ensuring an effective FSC. A number of studies (Griffith et al., 2010b:447; Spaho, 2011:392; Neal et al., 2012:471; Griffith et al., 2017:729) support the notion that leadership, communication and commitment are critical elements in a positive FSC

Leadership plays an important role in creating an FSC by establishing direction and tone (GFSI, 2018:12), providing resources (Griffith et al., 2017:737), inspiring the team (Yiannas, 2009:16), influencing behaviour (Griffith et al., 2010b:443) and maintaining a positive FSC (Griffith et al., 2017:736). Communication is crucial in the establishment of an FSC as it encourages sharing of food safety information (Ball et al., 2010:82), facilitates transfer of knowledge and skills (Griffith et al., 2010b:447), promotes understanding (Griffith et al., 2017:735), stimulates motivation (Spaho, 2011:392), alters attitude (Yiannas, 2009:49) and influences behaviour (Yiannas, 2009:50). Commitment from leaders through provision of resources and commitment from food handlers influence the development (Griffith et al., 2017:737) and maintenance (Neal et al., 2012:471; Griffith et al., 2017:737) of a positive FSC.

ISO 22000 (ISO, 2018:10) explicitly refers to setting food safety objectives, the communication of these objectives, the establishment of a food safety policy and availability of resources, which include time, interest and money as evidence of commitment by leadership. Griffith et al. (2017:733) contend that the creation of an FSC is the responsibility of senior management through a documented FSMS. Leadership is seen as playing a vital role in establishing

direction and tone for an FSC through the creation and development of food safety policies and standards aligned to the company's strategic direction (GFSI, 2018:12).

Leadership sets the food safety vision, stipulates expectations, inspires the team to follow and enables a top to bottom communication flow (Yiannas, 2009:16; ISO, 2018:10; GFSI, 2018:12). Policies are just documents and requirements; their true meaning and value comes when translated into clear behavioural expectations of employees. Leaders have to walk the talk to ensure a positive FSC, with managers demonstrating commitment towards food safety. The GFSI (2018:12) concurs, noting consistent, visible and credible leadership commitment to food safety and accountability as the foundation of an FSC.

An organisation's food safety policy aligns food safety requirements with the company's strategic direction. According to ISO 22000 (ISO, 2018:10), the food safety policy addresses the food safety ownership by all employees of the organisation and establishes the responsibility for food safety throughout the supply chain.

The operation of an organisation is highly dependent on communication, either formal or informal (Griffith et al., 2010a:427), as it strongly influences organisational behaviour through the communication of the company's food safety expectations and food safety policy. This includes sharing of food safety information via various mediums, such as leaflets, posters, signs, newsletters and conversations uncovering common meanings within an organisation and which leads to better FSC understanding. According to the GFSI (2018:20), consistent and clear communication with all staff members enables better understanding of the organisation's food safety practices and overall approach to food safety.

Communication plays a vital role for an effective FSC through sharing of emotions, thoughts and food safety information between two or more parties (Powell et al., 2011:820). Communication alters individual's attitudes, helps in socialising through creation of a community and assists in controlling processes. Furthermore, relevant food safety information communication reminds employees of food safety and influences employees' behaviour towards a positive FSC (Yiannas, 2009:50). Communication, or lack thereof, on food safety expresses the prevailing FSC of an organisation. The organisation's food safety policy plays an important role in raising awareness among all new and existing employees, must be referenced regularly in the company's communication and be easily accessible to everyone (GFSI, 2018:12).

According to the GFSI (2018:12), leadership commitment is demonstrated through proper allocation of resources. These resources include finances, people and time. Griffith et al. (2017:736) point out the importance of leadership and management commitment as crucial in the creation and maintenance of a positive FSC, which is consciously, or sub-consciously, passed on to supervisors and general workers. Both leadership and general workers'

commitment towards food safety plays an important role in creating a positive FSC. Leadership commitment to food safety can significantly influence the development of a strong FSC (GFSI, 2018:12). Nayak and Waterson (2017:1118) acknowledge the need for broad-based support for FSC implementation, however, they single out commitment as a particularly critical challenge within the food industry.

Leadership, communication and commitment, together with policy documents, are noted internationally in a number of studies (Neal et al., 2012:472; Nyarugwe et al., 2016:84: Nayak & Waterson, 2017:1115; de Boeck et al., 2017:206) as interrelated, critical elements that form the foundation of an FSMS and determine the effectiveness of an FSC within an organisation.

This study describes how employees at Company X experience the influence of leadership, communication and commitment on the FSC and the production of safe meat at Company X.

1.3 Rationale for the study

Ongoing investigations into FDOs and associated deaths have attributed the breakdown of FSMS to improper human behaviour or lack of a positive FSC (Griffith et al., 2010a:431; Ijabadeniyi, 2013:968; de Boeck, et al., 2015:242; Jespersen et al., 2016:117). Evaluation of FDOs show evidence of a poor FSC as responsible for contaminations (Powell et al., 2011:818). Due to these incidents, FSC is increasingly recognised as a risk factor in FDOs (Griffith et al., 2010a:435; Nyarugwe et al., 2016:77; Griffith et al., 2017:729).

Many studies on FSC assessment have been conducted internationally in the food services industry (Neal et al., 2012:472; Abidin et al., 2013, 2014; de Boeck et al., 2017:202, 2019; Andrade et al., 2020).

However, studies on FSC, such as those conducted by Powell et al. (2011:817), Jespersen et al. (2016:174), Wisniewska and Zamojska (2015:197) and Nyarugwe et al. (2018:186), emphasise the need for further exploration into FSC. This is crucial to understanding employee behaviour, improving food safety compliance and in producing safe products, especially in Africa where there are recurrent FDOs in the meat-processing industry.

Studies in other parts of the world show that FSC can be specific to each country as each country has its own traditions and regulations (Nayak & Waterson, 2017:1115), hence the need for further research into the prevailing FSC in South Africa (Griffith et al., 2017:729)

1.4 Significance of the research

Given the continuous national and international outbreaks of food production-related diseases, ongoing research is needed to gain a better understanding of FSC and to improve and monitor this situation. These continued incidences of FDOs emphasise the importance of studies such

as the current one, which dig deeper into the FSC of various organisations, both nationally and internationally, as a proactive measure against disease outbreaks.

Griffith et al. (2010a:426) note the growing interest in research into FSC, which Jespersen et al. (2017a:371) mention as a concept which is still only partially understood. Neal et al. (2012:472), Jespersen et al. (2017a:371), Nayak and Waterson, (2017:1114) and Griffith et al. (2017a:729) all note that there is still little conclusive research in the area of FSC. Exploration into FSC does not only help prevent deaths but also averts associated economic implications, including job losses, loss in profits, share price fluctuations, brand damages and legal action. All these factors point to a need to pursue research in the area of FSC.

The research findings will benefit both the meat-processing and food industries in South Africa as a whole in understanding FSC. The research findings could help retailers to manage their suppliers by including FSC elements into the supplier's requirements for FSMS and to reduce food safety hazards in a holistic manner, while satisfying their customer needs. This in turn will help retailers to retain customers in the competitive retail environment of the early 2020s. Although culture is unique to each business, research findings provide a framework for an FSC.

Griffith et al. (2010b:453) note that there is no unique standard for the assessment of FSC in organisations. Jespersen and Wallace (2017:245) concur stating that systems for evaluating culture are fragmented and built on disparate scientific theories. However, it is important in research to identify the attributes and behaviours of employees working in the food manufacturing, packaging and retail environments in South Africa, to better understand and facilitate development and maintenance of a positive FSC.

This study is thus a contribution to the body of knowledge on FSC in a South African environment. The food industry needs more knowledge on human behaviour to be proactive in reducing the food safety hazards. This study seeks to provide both industry and training facilities with information to enable better FSC developments in the workplace and at training institutions, such as colleges and universities. The contribution of this study aligns with the WHO's (2019) sustainable development goal number 3 to end preventable deaths of new-borns and under-5 children by 2030.

While there are many common factors affecting FSC both nationally and internationally, the design and implementation of FSC is unique to each organisation and findings are not always generalisable. For this reason, this research adopts a case study approach to identify the specific strengths and weaknesses in the FSC at the selected company.

1.5 Research aim

This study aims to describe employee experiences of the FSC at Company X to assist the company to lessen the risks associated with policies and behaviours that lead to unsafe meat production.

1.6 Research objectives

The major research objectives of this study are to:

- Establish the need for a comprehensive FSC at food processing organisations.
- Identify the links between organisational culture, human behaviour and safe food production.
- Describe employee experiences of how leadership, communication and commitment influence the FSC at Company X.
- Propose amendments to policies and human behaviour that will help to eliminate unsafe food production at Company X.

1.7 Research questions

The major research questions for this study are:

- What are the needs for a comprehensive FSC at a food-processing organisation?
- What are the links between organisational culture, human behaviour and safe food production?
- What are employees' experiences of how leadership, communication and commitment influence the FSC at Company X?
- What policies and behavioural changes should be introduced that could help to eliminate unsafe food production at Company X?

1.8 Research methodology and design

This research adopted a qualitative approach as it involved naturalistic data. In this study, the population included employees at Company X, a meat processor in Cape Town, South Africa. The population consisted of 105 employees and a stratified purposive sampling method was used to select the sample. The primary data were collected from 16 individuals with structured interviews conducted with employees at the selected company. Data were collected using a voice recorder, which the researcher then transcribed into word documents for data analysis purposes. Data were then coded and analysed using a thematic approach. The data collection was completed before the advent of Covid-19 pandemic.

1.9 Research limitations

The research was limited to Company X, a meat-processing company in Cape Town, South Africa. The research focused on the prevailing FSC at Company X and on employees'

experiences of how the three key elements of FSC, namely leadership, communication and commitment influence the safe production of processed meat at Company X. The sample population was limited to 16 purposively selected employees working at Company X due to the high costs and extended time requirements to research the whole population.

1.10 Ethical considerations

Permission to conduct the study at Company X was given by the company's owner/manager. Ethical clearance was also obtained from the ethical committee of the Faculty of Business and Management Sciences at the Cape Peninsula University of Technology (CPUT) (see Appendix A), where this research was registered prior to the research being conducted. Participation in the study was voluntary and anonymous. Employees were fully informed of the purpose of the study to dispel any possible misconceptions or anxieties. They had the right to withdraw their participation at any stage or to refrain from answering any of the questions in the interview schedule. Data obtained were only used for the purpose of this research and will be stored online by the researcher. This research was submitted to Turnitin and complies with CPUT similarity report requirements.

1.11 Chapter overview

Chapter 1: Introduction and overview

This chapter provides an overview of the study and gives the definitions and explanations of key terms and concepts relevant to the study. The chapter gives the background, rationale, significance and limitations of the study and details the study aim, objectives and the research questions to be answered by the study findings. This chapter also notes the research methodology adopted, the sample population, data gathering and analysis methods. This chapter also noted the ethical considerations for this study.

Chapter 2: Literature review

This chapter provides from current, relevant literature, the South African and international perspectives on FSC. It identifies from existing literature a number of examples of previous food safety outbreaks, food safety control measures and food safety legislation. The chapter reviews literature on critical factors relating to the organisational culture and human behaviours that impact FSC. This review also reports from available literature on the three major factors that emerge repeatedly throughout the literature reviewed. These elements are leadership, communication and commitment.

Chapter 3: Research methodology and design

This chapter describes the usefulness of adopting a qualitative methodology for this study. It also discusses the benefits and possible shortcomings of a case study approach and using structured interviews to collect data. The chapter details the use of thematic analysis, a suitable

data analysis tool for this study. The chapter also defines the further notes the ethical considerations for this study.

Chapter 4: Data analysis and discussion of the results

The chapter describes the data collected from the structured interviews conducted among employees at Company X. The data are then analysed using a thematic approach and the findings are discussed in detail with reference to the research questions and relevant literature.

Chapter 5: Conclusion and recommendations

This chapter provides concluding remarks on the findings of the study. This chapter draws a number of recommendations regarding amendments to documents and human behaviour that may help to eliminate unsafe food production at Company X, Suggestions are also made for possible future studies originating from gaps or related areas of interest from the literature review and the study findings.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

The purpose of the literature review is to provide a critical overview of important facts and background information from previous studies relevant to the subject currently under study (Welman et al., 2005). Thus, the literature review helps the researcher to prevent duplication of existing efforts and aims to show how new studies may fit into the larger body of existing research (Welman et al., 2005). The literature review also serves to identify gaps in the existing literature to be considered in future research (Bless et al., 2016:24).

This chapter begins by reviewing studies that describe findings into inquiries of FDOs that made international headlines. These studies provide insight into the seriousness and negative impacts of such outbreaks and highlight the need for ongoing research into FSC. The chapter then provides information relating to the general background of food safety through the introduction of hazard analysis critical control points (HACCPs) to prevent food safety related disease outbreaks and subsequent adaption of FSMS standards.

Finally, the chapter reviews literature pertaining to critical factors relating to the organisational cultures and human behaviours that impact FSC. Although the literature covers a wide variety of necessary factors, this review focuses on the three major factors which emerge repeatedly throughout the literature reviewed. These elements are leadership, communication and commitment.

2.2 Foodborne disease outbreaks

An FDO occurs whenever two or more people are epidemiologically linked by a common food or beverage source (Shonhiwa et al., 2018:4). Flynn (2019:1) focused on the burden foodborne diseases place both on public health and welfare and on the economy. Flynn (2019:1) notes that FDOs are often underestimated due to underreporting and the difficulty to establish causal relationships between food contamination and resulting illness or death.

These recurring FDOs are a result of unsafe processed meat continuing to occur. Carter (2019:1) noted that in 2019 at least 25 deaths were linked to a *Listeria* outbreak, caused by contaminated meat produced by a German meat processor, which occurred in Germany. Whitworth (2019:1) reported a listeriosis outbreak in the Netherlands in 2019, which resulted in three deaths and further twenty-one infections. These continuous, recent FDOs indicate shortcomings in measures to assure food safety within organisations. Wisniewska and Zamojska (2015:197) noted that food safety hazards, dependent on human factor-risks, cannot be prevented by FSMS alone. Food safety hazard prevention relies on appropriate human behaviour and a positive FSC.

Since the 1980s, other parts of the world, such as the United States of America (USA), Europe and Asia, have been hit by severe FDOs. According to Spiric et al. (2015:266), more than 800 FDOs were recorded in the USA during 2013. In Europe, according to Spiric et al. (2015:266), at least 5 000 FDOs were recorded during 2013. While China has had a number of serious foodborne incidents (Geng et al., 2015:2136), most of them with international repercussions, which resulted in export bans of Chinese products (Jia & Jukes, 2013:236).

FDOs that made international headlines include:

- The John Tudor & Son contaminated meat incident in 2005 which resulted in 157 people falling ill and one death in the USA (Powell et al., 2011:820).
- The Maple Leaf Foods contaminated deli meat in 2008, which resulted in 57 cases and 22 deaths in Canada (Powell et al., 2011:820).
- The Peanut Corporation of America's *Salmonella* contaminated peanuts in 2009 which caused 691 illnesses and 46 deaths in the USA (Powell et al., 2011:820).
- The Cantaloupes contaminated with *Listeria monocytogenes* in 2011, which caused 33 deaths in Canada (Baur et al., 2017:1).
- The 2008 deliberate contamination of milk powder with melamine produced in China, which affected more than 40 000 infants and resulted in six deaths (Jia & Jukes, 2013:238).

While the major concern of disease outbreaks is resultant sickness and associated deaths, there are also economic implications such as factory closures, job losses, brand image damage, share price fluctuations and the high costs associated with product recalls and litigation. Food safety-related illnesses and deaths account for a $15.5 billion economic burden on the United States every year (Hoffmann, 2015:1).

Documented examples of the broader implications of food contamination include the 2011 cantaloupes contamination with *Listeria monocytogenes* in Canada, which caused 33 deaths (Baur et al., 2017:1). Lawsuits were filed against the producers, Jensen Farms and the retailer Walmart, for the cantaloupe contamination. The two owners of Jensen Farms, Jens Eric and Ryan Jensen, were charged with allegedly introducing cantaloupes containing the poisonous *Listeria monocytogenes* bacteria. Eric and Jensen pleaded guilty to the charges and were ordered to pay $150 000 damages (Baur et al., 2017:2) but Walmart made confidential settlements with families of the victims.

In 2009, The Peanut Corporation of America's peanut butter *Salmonella* outbreak resulted in the company becoming bankrupt (Powell et al., 2011:820). The 2008 Chinese milk scandal whereby milk powder produced by Shijiazhuang-based Sanlu Group was deliberately contaminated with melamine, a type of plastic known for its flame-retardant properties, resulted in a number of criminal prosecutions being conducted by the Chinese government against

people involved with the scandal (Jia & Jukes, 2013:238). The Chinese government viewed the contamination in such a serious light that two people were executed, one person was given a suspended death penalty, three people received life imprisonment, two received 15-year jail terms and seven local government officials, as well as the Director of the Administration of Quality Supervision and Inspection and Quarantine (AQSIQ) at the time, were fired or forced to resign.

From the available information, it appears that detailed investigations into the recurring FDOs take time to be completed. Powell et al. (2011: 820) report on detailed findings of inquiries into the *Listeria monocytogenes* outbreaks that made international headlines at the time, namely the John Tudor & Son contaminated meat in 2005 and Maple Leaf Foods' contaminated deli meat in 2008. The investigations had similar findings, pointing to a negative FSC. Some of factors highlighted in the findings included failure to carry out procedures such as cleaning and separating of raw meat from cooked meat, poor maintenance of the facilities, inadequate training of staff, poor hygiene habits and disregard for the importance of food safety—to achieve higher profit margins and make it a top priority (Powell et al., 2011:820).

These continuous FDOs indicate shortcomings in measures to assure food safety within organisations. Although the actual causes of the largest outbreak of listeriosis detected in South Africa are not known to date, repercussions of such listeriosis outbreaks have already been experienced. Maghina (2018:1) notes that the immediate aftermath of the listeriosis outbreak in South Africa resulted in:

i) Closure of two factories and one abattoir
ii) A 75% decrease in processed meat demand
iii) A 50% decrease in pork cold-cuts demand
iv) A 40% decrease in the meat industry profits and
v) 2 000 job losses in the processed meat industry.

Most outbreaks are associated with the consumption of food contaminated with pathogens, which are classified as biological food safety hazards. A food safety hazard is defined as biological, chemical and a physical agent in food, or condition of food, with the potential to cause an adverse health effect (ISO, 2005). SANS (2007) lists four categories of food hazards:

i) Physical hazards: e.g. metal, plastics, bones, hair;
ii) Chemical hazards e.g. oils, cleaning chemicals;
iii) Allergens hazards: e.g. milk, fish, nuts, eggs; and
iv) Biological hazards: e.g. *E.coli*, *Listeria monoctyogenes*, *Salmonella, staphylococcus, Clostridium perfringens*.

Raw meat naturally contains some microorganisms, which may include pathogens carried asymptomatically by animals. Generally, meat is a safe product when cooked and handled properly before consumption. However, problems arise when hygienic practices are not followed in the handling of meat and meat products and foodborne pathogens present are allowed to survive and multiply. These pathogens, which include *Clostridium perfringens*, *Salmonella*, *Escherichia coli 0127:H7* and *Listeria monocytogenes,* have been identified as culprits for the deaths and illnesses in most FDOs (Powell et al., 2011:817).

Over the years, recurrent outbreaks due to pathogens have led to increased attention being focussed on the control of microbiological hazards in food production, processing and handling. Jol et al. (2006) found that advancements in the knowledge of food safety hazards resulted in the adaption of HACCPs and new food regulations being passed by various governments.

2.3 Hazard analysis critical control points

The history of food safety is probably nearly as old as human history itself (Griffith, 2006:7). A HACCP is a methodical means of identifying, evaluating and controlling hazards which are significant to food safety (ISO/TS, 2013) and was introduced internationally in the early 1970s (Griffith, 2006:13). HACCP enables the control of food safety risks at all points along the production line, instead of waiting for microbiological testing of the final product (Griffith et al., 2010b:442). HACCP has been incorporated into food safety legislation by a number of countries, including South Africa, (Griffith, 2006:13) and has been adapted as a pre-requisite for food manufacturing facilities.

The extent to which governments are involved in HACCP implementation is a matter of national policy. In 2011, the Food Safety Modernization Act was passed in the USA, requiring all food-processing facilities to have Hazard Analysis and Risk-Based Preventive Controls (HARBPC) (Grover et al., 2016:241). This was a further step to HACCP, enabling a preventative food safety system (Food and Drug Administration [FDA], 2017) that would set the tone for the development and adoption of similar standards internationally. Likewise, European Union regulations regarding microbiological safety emphasise that a food business operator has the main role and responsibility of obtaining traceable evidence of HACCP and other hygiene control procedures (Spiric et al., 2015:268). Current legislation in Europe requires food businesses to have an FSMS based on Codex HACCP Principles (Griffith et al., 2017:730). Adaption of these HACCP-based food safety programmes are a legal requirement in various countries, including Australia, New Zealand, Canada, Russia, China and India (Weinroth et al., 2018:13)

In South Africa, implementation of certified HACCP systems is now mandatory for food-handling enterprises in accordance with the South African Department of Health, Regulation

638 (South Africa. Department of Health [SA. DH], 2018), promulgated during the 2018 listeriosis outbreak. Furthermore, it is a requirement for all food-handling facilities in South Africa to have a Certificate of Acceptability based on the requirements stipulated in Regulations Governing General Hygiene Requirements for Food Premises and The Transport of Food and Related Matters under Foodstuffs, Cosmetics and Disinfectants Act (FCDA) of 1972 (SA. DH, 2018: Regulation 638).

Most organisations have developed HACCP systems over the years to reduce food safety hazards. However, implementation has been hindered by various human factors. Griffith et al. (2017:738) note a successful development of HACCP in their case study. However, they highlight poor implementation due to lack of co-operation from subordinates, lack of time and unwillingness to handle required documentation. De Boeck et al. (2016:79) concur, citing lack of time and expertise as a barrier to the adequate implementation of HACCP. Furthermore, de Boeck et al. (2017:212) note a lack of knowledge from workplace teams on how to apply the HACCP principles as a weakness to food safety systems. Grover et al. (2016:242) conclude that a lack of understanding of various guidelines, lack of qualified and experienced staff, limitations related to finances and restricted technical know-how as challenges to implementing a HACCP towards prevention of food safety hazards.

Although implementation of HACCP has been successful in some organisations, de Boeck et al. (2019:1110) reports complacency as the greatest hazard to successful HACCP implementation, together with self-satisfaction, accompanied by unawareness of actual deficiencies. Griffith et al. (2010b:450) express complacency as a measure of over-confidence in FSMS, due to under-estimating the food safety risks and the dangers or ignoring warning signs of possible problems.

Ijabadeniyi (2013:967) argues that focusing on implementation of HACCP without the presence of FSC has led to the processing and distribution of contaminated food. Grover et al. (2016:241) concur that HACCP, as a stand-alone system, is not sufficient in controlling food safety hazards but should form part of the overall total FSMS of an organisation.

2.4 Food safety management systems

The global adoption of a FSMS is a measure to assure food safety across the supply chain (Nyarugwe et al., 2016:78). FSMS are defined as a

> "…set of interrelated or interacting elements to establish policy and objectives and to achieve those objectives, used to direct and control an organisation with regard to food safety" (ISO/TS, 2013).

The fundamentals of an FSMS consist of regulatory compliance, standard operating procedures, policies, training and auditing (Powell et al., 2011: 818). FSMS are based on

multiple public and private standards of global acceptance (Nyarugwe et al., 2016:83), including ISO 22000, FSSC 22000 and BRC.

These systems are founded on a combination of three categories for the management of hazards control measures, namely Pre-requisite Programmes (PRPs), Operational Pre-requisite Programmes (OPRPs) and Critical Control Points (CCPs).

2.4.1 Pre-requisite programmes

PRPs are defined in ISO (2018) as basic conditions and activities necessary to maintain a hygiene environment throughout the food chain suitable for the production, handling and provision of safe food for human consumption. These basic conditions and activities, as indicated in ISO (2018), include construction and layout of buildings and associated utilities, layout of premises, waste and sewage disposal, cleaning, maintenance and preventative maintenance, management of purchased materials, measures for the prevention of cross-contamination, personnel hygiene, pest control and training programmes.

Investigations into the John Tudor & Son contaminated meat episode in 2005 and the Maple Leaf Foods' contaminated deli meat problem in 2008 highlighted the absence of some of these basic conditions (Powell et al., 2011: 820), which resulted in the FDOs. Furthermore, a study by Griffith et al. (2017:729) on South African food services highlighted the absence of these basic conditions. These PRPs are implemented prior to the application of HACCP principles, where OPRPs and CPPs are identified through hazard analysis and assessment.

2.4.2 Operational pre-requisite programmes and critical control points

An OPRP is defined in ISO (2018) as a PRP identified through a hazard analysis, essential to increase the likelihood of introducing food safety hazards in the product or in the processing environment, where OPRPs in the meat industry include cooling and chilling of products. OPRPs control food safety hazards that are not controlled by CCPs.

A CCP is defined in the ISO (2018) standard as the food processing step at which control of a significant food safety hazard can be applied and is essential to prevent or eliminate the food safety hazard, or to reduce the food safety hazard to an acceptable level. Specific steps in meat processing, such as cooking, are applied to eliminate or reduce food safety hazards. South African regulations specify the acceptable levels of *Listeria monocytogenes*, a target organism in ready-to-eat meat, are < 100 cfu/g (SANS, 2011).

The failure of a CCP poses food safety risks; for example, *Listeria monocytogenes* in processed meat would pose a significant risk to consumers if cooking was not carried out to the prescribed combination of time and temperature to achieve correct 6-log reduction of *Listeria monocytogenes*. Acceptable levels of hazards in food are based on the globally

accepted FSMS, however, the elaboration of the FSMS differs among organisations (Nyarugwe et al., 2016:83), which allows self-regulation and implementation.

2.4.3 FSMS implementation

Nyarugwe et al. (2016:83) argue that the implementation and maintenance of an FSMS is the responsibility of the quality assurance manager. According to Griffith et al. (2017:243), studies reviewed concluded that FSMS should be adapted to the risk level of a food organisation to be able to reach a satisfying safety, hygiene or quality level of processed foods. De Boeck et al. (2017:202) conclude that human factors might impact the implementation and follow-up of an FSMS and therefore recommend a more human behavioural approach to FSMS in food companies. Effectiveness of an implemented FSMS is dependent on the compliance of the food handlers with food safety and hygiene procedures and rules (Nyarugwe et al., 2016:83). Actual decisions and behaviours within the organisation contribute differently to food safety.

Regardless of the advances in the food industry through implementation of HACCP and FSMS, food safety hazards have not lessened (Wisniewska & Zamojska, 2015:197). De Boeck et al. (2015:242) agree that despite the efforts to develop and implement FSMS, consumer food poisoning and outbreaks still occur. Research into FDOs has pin-pointed the human factor as the weakest link in the food supply chain and so the disease outbreaks and associated deaths can be attributed to inappropriate human behaviour in the FSMS or the FSC of an organisation (Griffith et al., 2010a:431; Ijabadeniyi, 2013:968; de Boeck et al., 2015:242)

Furthermore, de Boeck et al. (2015:242) report that many of the incidents have been traced back to human error and failure to comply with food hygiene or food safety procedures. Wisniewska & Zamojska (2015:197) note inappropriate behaviour of employees, failure to follow set practices, procedures, norms or values, are deemed proof of lacking FSC. De Boeck et al. (2017:203) argue that the human behaviour of all employees towards food safety, regardless of the employees' hierarchical position in the organisation, is influenced by the prevailing FSC.

This has shifted the focus from a document-driven FSMS to a more human approach to safety, as reflected by the introduction of concepts such as FSC and food safety climate (de Boeck et al., 2019:1103). Wisniewska and Zamojska (2015:197) opine that food safety hazards dependent on human factor risks cannot be prevented by FSMS alone.

According to de Boeck et al. (2015:243), trends towards the interest of human dimension in food safety matches the accumulating empirical evidence of the key impact of organisational culture and climate on employees' decision-making and behaviour. Nyarugwe et al. (2016:77) note multiple national cultures as increasing complexity of the organisational cultures, which have significant bearing on FSMS effectiveness.

2.5 Organisational culture

Neal et al. (2012:469) describe organisational culture as a behaviour-based system focussing not only on processes but also on people. Yiannis (2009:11) state that the term “culture” in this context is not easy to define exactly and suggests it is “the ways of thought, behaviour, competencies, attitudes and values of a group”. Schein (2018, cited by Jespersen et al., 2016:174), a pioneer in organisational culture, defines organisational culture as:

> A pattern of shared basic assumptions that was learned by a group as it solved its problems. The group found these assumptions to work well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems.

Nazarian et al. (2014:67) suggests that individuals are exposed to culture from birth, while Nyarugwe et al. (2016:79) proposes that national culture plays a pivotal role in creating an organisational culture, which affects FSMS and differs within an organisation, within a country and from country to country. Jespersen et al. (2017a:371) opines that groups formulate culture and often the same groups make decisions on how to strengthen culture by investing resources based on their attitudes and assumptions.

Nyarugwe et al. (2016:81) argue that culture can be described from both an interpretative and functionalist approach to help in understating an organisational culture. An interpretive approach is a way of thoughts, behaviours, competencies, attitudes and values, while functionalist approaches are policies, procedures and practices to achieve an ideal organisation. According to Neal et al. (2012:469), understanding the interaction between both functionalist organisational policies and procedures and the human dimension of employees enables a successful FSC.

Previous researchers have identified an over-emphasis on the functionalist approach to organisational culture as a barrier to food safety practice performance (Abidin et al., 2013:01) and that a successful FSC also depends on organisational support and encouragement from managers and co-workers.

Organisational culture needs to possess an underpinning vision articulating the organisation’s goals and values, while leadership helps food handlers to align with the goals (Griffith et al., 2010b:443). Top management needs to be aware of their leadership role and responsibilities in the formation of an organisational culture and equip their managers with the necessary skills to create and uphold a positive FSC at all levels (Griffith et al., 2017:740).

The role of organisational culture in influencing and changing behaviours has been extensively studied in areas such as workers’ health and safety education. These studies reveal that prevailing cultural norms do influence behaviour. Griffith et al. (2010b:440) report that organisational culture and management systems influence behaviour of food handlers,

generated by leadership actions. Therefore, the role of organisational culture should be given serious consideration in establishing successful FSCs. Neal et al. (2012:469) believe that understanding of organisational culture determines the success of food safety training and education.

An analysis of the major contaminated product recalls between 2008 and 2013 by Jespersen et al. (2017b:42) reveals that one of the major factors behind the recalls is the failure of connection between real-time food safety practices and the official policies that govern organisational culture. Powell et al. (2011:820) conclude that change in organisational culture may lead directly to a change in the behaviour of the food handlers towards a culture of food safety.

2.6 Food safety culture

FSC is a subcomponent of organisational culture focusing on food safety, which should be the dominating culture in food organisations (Nyarugwe et al., 2016:83). Jespersen et al. (2016:174) notes FSC in the food manufacturing industry as being rooted in the definition, dimensions and characteristics of organisational culture. Griffith et al. (2010b:453) argues that the FSC concept evolved from organisational culture via health and safety culture.

An FSC is an emerging risk factor in FDOs (Griffith et al., 2010a:435, 2017:729). Neal et al. (2012:469) describe an FSC as the way things are done in an organisation, while Powell et al. (2011:818) maintain that food safety should be the dominating culture in food establishments. Although there is no common definition for FSC (Griffith et al., 2010a:433, 2010b:453), the GFSI (2018:6) defines an FSC as shared thoughts, values, attitudes and norms affecting a mindset and hygiene behaviours of employees as individuals and groups towards food safety within an organisation. Neal et al. (2012:469) describe an FSC as a behaviour-based system having a foundation in the scientific knowledge of human behaviour, organisational culture and food safety.

FSC goes beyond the fundamentals of an FSMS and incorporates communication efforts, awareness of responsibilities, commitment by management and consideration of the entire organisation affecting food safety as an integrated system (Powell et al., 2011:818). According to Nyarugwe et al. (2016:78), FSMS principles are crucial for a positive FSC but notes that its influence on FSC is not yet clear.

Studies have been conducted ranging from basic aspects of FSC (Griffith et al., 2010a:429; Powell et al., 2011:818; Neal et al., 2012:471; Wisniewska & Zamojska, 2015:197; Griffith et al., 2017:729; Nayak & Waterson 2017:1114) to specific studies linking FSC to food safety climate (de Boeck et al., 2015:242). Furthermore, studies focusing on the role of influencers

demonstrated their importance to motivate employees and enhance FSC (Abidin et al., 2013:22).

From the available information, it would appear that little research has been done in South Africa assessing FSC elements. Research which assessed elements of food safety management and FSC was conducted by Griffith et al. (2017:729) at a prominent South African entertainment, hotel and food service complex. The findings of this study revealed an absence of any positive FSCs post-assessment of elements, including food safety leadership, communication and support, which were considered deficient and with minimal motivation for staff to practise good hygiene, hence their proposal for further studies on FSC in the South Africa food industry, including the manufacturing sector.

A previous study by Ijabadeniyi (2013:968), which assessed FSC knowledge among professionals of some food processing companies in Durban, South Africa, acknowledged the presence of an FSC to some extent. This study seeks to explore the elements of an FSC at the selected meat processor, at three specific employment levels of food handlers, supervisors and management and could draw on Ijabadeniyi's (2013) findings. A study by Griffith et al. (2017:733) notes some of the elements contributing to the lack of an FSC, such as the lack of clear food safety objectives and non-conformance by management towards food safety, indicating a lack of commitment from leadership.

A good FSC is characterised by employees' share of the sense of the purpose in maintaining food safety standards (Nayak & Waterson, 2017:1114). However, incongruent perceptions regarding FSC might exist within an organisation (Jespersen, et al., 2017:43), while de Boeck et al. (2016:79) report that managers perceive some attributes of the FSC in the organisation differently than the subordinates do. They called for further research on FSC perceptions between organisational stakeholders.

De Boeck et al. (2016:79) propose a conceptual model of FSC, which defines FSC as the interplay of the food safety climate perceived by the employees and managers of a company (the so-called "human route") and the FSMS in place. This would be influenced by the technology available, the company's characteristics and the organisation, the 'Deal context' (so called "techno-managerial route"), resulting in a certain level of food safety and hygiene of the final products. A food safety climate, being a constituent of FSC, encompasses the elements of FSC that are associated with (shared) perception on individuals towards leadership, communication, commitment, resources and safety risk awareness, which reflect on an FSC (de Boeck et al., 2017:203).

FSC is composed of a number of different subcomponents working synergistically, fitting together like a jigsaw (Griffith et al., 2017:739). FSC studies identified common interdependent elements, which include leadership, commitment, knowledge, training/competence, risk

awareness, perceptions, employee confidence, management systems, employee involvement, accountability, communication, work pressure, environmental factors (e.g. infrastructure, equipment, tools), risk perception, values and behaviour (Griffith et al., 2010a:429, 2010b:439; Neal et al., 2012:472; Abidin et al., 2013:22; Nyarugwe et al., 2016:84; de Boeck et al., 2017:206; Nayak & Waterson 2017:1115). Presence or absence of these elements influences the prevailing FSC in an organisation either positively or negatively. Griffith et al. (2010a:429), Nayak and Waterson (2016) and Griffith et al. (2017:729) concur that leadership, communication and commitment are critical elements towards creating a positive FSC.

2.7 Leadership

Griffith et al. (2017:733) point out that the creation of an FSC is the responsibility of the owner and senior management through a documented FSMS. Leadership plays a vital role in setting up direction and tone for the FSC through the development of food safety policies and standards aligned to the company's strategic direction (GFSI, 2018:12).

Leadership sets the food safety vision, stipulates expectations, inspiring the team to follow and enabling a top-to-bottom communication flow (GFSI, 2018:12; ISO, 2018.) Policies are just documents and requirements; their true meaning comes when translated into clear behavioural expectations of employees. Leaders have to walk the talk to ensure a positive FSC, with managers demonstrating commitment towards food safety (Yiannas, 2009:16). According to the GFSI (2018:12), consistent, visible and credible leadership commitment to food safety and accountability forms the foundation of an FSC.

An organisation's food safety policy places food safety requirements in alignment with the company's strategic direction. According to ISO (2018), the food safety policy addresses the food safety ownership by all employees and establishes the responsibility for food safety throughout the supply chain. For a successful FSC, there is need for leadership to be aware of their roles and responsibility in the creation of the FSC. Griffith et al. (2010b:443) opine that leadership and management are different entities with differing roles. Leadership deals with influencing people while management deals with controlling and creating expected results. Nanjundeswaraswamy and Swamy (2014:57) define leadership as "a process in which subordinates' voluntary participation is sought through social influences to achieve organisational goals". Employee performance and productivity is determined by the type of leadership, which can be either transformational or transactional.

Transformational leadership alters employees' mindsets by enhancing their development to embrace the overall vision, while transactional leadership rewards employees based on meeting objectives. A study by Taylor et al. (2014:567) describes transformational leaders as having the ability to improve follower-performance by meeting their needs. Leadership can be participative, autocratic or democratic and Iqbal et al. (2015:5) established the participative

style as boosting performance, since employees experience power and confidence while performing their duties. Under the autocratic style, employees feel inferior as decisions are taken by leaders, while in the democratic style there is little discretionary power for better performance.

Griffith et al. (2010b:444) express the need for food safety leadership, which they define as the extent to which leaders meet business objectives through engaging staff in hygiene/safety performance and compliance. For an effective FSC, leaders have to set the example, including managers demonstrating commitment (Yiannas, 2009:16). Managers influence employees without them realising it, so food safety accountability rests with leaders as they have the power and influence to create a positive FSC through changing behaviours, thoughts and beliefs of individuals within a group (Griffith et al., 2010a:435). Furthermore, a study by Abidin et al. (2013:04), identified emphasis and prioritisation of food safety as crucial towards the creation of a positive FSC. According to Griffith et al. (2017:739), top management is responsible for at least 94% of difficulties within organisations, as it controls the assigning of resources, establishing and implementing of work methods and influencing the culture of the working environment.

Inappropriate leadership and management is evidenced in a negative FSC (Griffith et al., 2010b:141) and individual attempts to improve food safety may be ineffective. Personal support of employees by leadership improves food safety behaviour, as employees feel welcomed and valued (Ball et al., 2010:81). Food handlers rely on the food safety knowledge of management (Neal et al., 2012:472). Abidin et al. (2013:03) argues that leadership needs to show accountability, through taking disciplinary action against individuals who do not follow food safety rules and that there is a great need for consistency to ensure a positive culture. Abidin et al. (2013:04) further note that a positive FSC is enhanced by soft skills, which are thought not to be job specific-knowledge and skills but interpersonal attributes and the ability to work as a team. The creation of a positive FSC rests with the leadership who set the food safety objectives and communicate them to the employees.

2.8 Communication

The operation and success of an organisation is highly dependent on communication, both formal and informal (Griffith et al., 2010a:445). Turkalj and Fosic (2009:35) define communication as a transmission process of a message from one individual to another in an upward, downward, or sideways direction through an oral, written (verbal) or non-verbal form. Communication has become a very important part of most organisations, especially where employees' work activities are based on teamwork (Spaho, 2011:390).

According to Spaho (2011:391), the communication transmission process indicates the dynamic and non-constancy of communication; in other words, as individuals change, so does

communication. An effective verbal message transmission implies use of a language common to the culture of an organisation, transmitted in spoken or written form, while non-verbal communication includes actions, eye behaviour, touch, hand gestures, body movements and facial expressions. Communication stimulates motivation and acts as a source of information for employee tasks and policy (Spaho, 2011:392). It plays a crucial role in altering individual attitudes, creation of a community and assists in establishing control processes. Effective communication is required for both human relations and the success of a business (Spaho, 2011:390). To ensure an effective and efficient communication system, there is a need for managerial expertise in message deliverance and receipt. Akilandeswari et al. (2015:154) suggests that effective communication is dependent on clarity of thought and expression, correctness or appropriateness, conciseness, a conducive environment, feedback and completeness. These are briefly discussed in the following paragraphs.

- **Clarity of thought and expression**: there is a need for the communicator to first think, have knowledge and understating of what needs to be conveyed, as clarity elicits effective feedback.
- **Correctness or appropriateness**: there is a need for the communicator to consider spelling, grammar, content, format, social and cultural appropriateness, timing and choice of medium appropriateness to purpose and audience.
- **Conciseness**: there is a need for a message to come straight to the point through conveying the necessary and important information, therefore saving time. A logical and coherent sequence of the message is essential.
- **Conducive environment:** the communicator needs to be aware of the environment to assist the audience in receiving the information in the intended context.
- **Feedback:** effective communication is ensured by a two-way communication and efforts from both the sender and receiver to communicate are crucial.
- **Completeness:** there is a need for complete messages because incomplete messages result in misunderstanding and faulty interpretation. Complete messages facilitate the achievement of desired results with no expense of additional messages (Akilandeswari et al., 2015:154).

According to Powell et al. (2011:821), the creation of the culture of food safety involves the application of best science, best management and best communication systems. An FSC is supported by the frequent sharing of information and communication about food safety risks with food handlers. The study by Ball et al. (2010:82) on factors affecting the implementation of FSMS, identified a sideways communication system as encouraging the sharing of information among workers and feedback whether positive or negative playing a vital role. Abidin et al. (2013:03) conclude similar findings, pointing to the effectiveness of a two-way communication through managers' feedback and a bottom-up communication approach. Powell et al. (2011:821) opine that messages which are compelling, rapid, relevant, reliable,

repeated, multi-linguistic and culturally sensitive, are the most effective. It is further proposed that food safety information sheets are an effective communication tool, as research by Chapman et al. (2010:1101) reports positive influences towards food safety behaviours demonstrated through increased hand washing and reduced cross-contamination events. Akilandeswari et al. (2015:156) note that effective communication in organisations involves:

- Listening carefully and responsively;
- Expressing individual messages clearly and completely;
- Translating complaints and criticisms into specific requests and explaining requests;
- Expressing more appreciation and inviting consent; and
- Making better communication an important part of one's everyday life.

Yiannas (2009:49) underscores the importance of sharing information via various media such as leaflets, posters, signs, newsletters and conversations. Using a multi-dimensional approach to communication facilitates understanding, alters individuals' attitudes and helps in socialising through the creation of a community. Communication plays a vital role for an effective FSC through sharing of emotions, thoughts and food safety information between two or more parties (Yiannas, 2009:49). Furthermore, relevant food safety information communication reminds employees of food safety and influences employees' behaviour towards a positive FSC (Yiannas, 2009:50).

Another critical aspect of effective communication in organisations is the transfer of important information, knowledge and skills via training. Vijagyabanu and Amudha (2012:276) define training as a tool to attain individual and organisational needs in relation to the jobs being undertaken, with the intention to improve work culture. A study by Husain et al. (2016:796), on improvement in food safety knowledge and the practices of food handlers through food safety training, indicates significant improvement in food safety knowledge and behaviour amongst food handlers post-training sessions. However, Neal et al. (2012:468) conclude that in the food service industry, more traditional ways of imparting information through unilateral trainer-to-trainee were not very effective. They propose the development and use of behaviour-based training methods as more effective for food safety education. Griffith et al. (2017:731) identify lack of knowledge as a reason for failure of food handlers to follow food safety practices and they recommend ongoing training interventions. Neal et al. (2012:468) maintain that the best way to train employees is in such a way that knowledge is translated into both practice and changes in behaviour, which would reduce foodborne illnesses as employees practise good hygiene when empowered with food safety knowledge (Griffith et al., 2017:735).

Powell et al. (2011: 818) note that the creation of a culture of food safety requires the best science application with best management and communication systems. Baur et al. (2017:6)

contend that a change in food handler behaviour will ensure successful FSCs. Supervisors play a vital role as a link between management and food handlers and their skills are crucial for ensuring food safety. Commitment from management, supervisors and food handlers towards food safety influences the FSC within the organisation (Griffith et al., 2017:736).

2.9 Commitment

Commitment of organisational leaders to food safety influences the development of a positive FSC (GFSI, 2018:12). The ISO (2018) standard contains clauses requiring commitment to food safety from top management. ISO (2018) notes that setting food safety objectives, communicating the objectives, establishment of food safety policies and ensuring resource availability, which includes time, interest and money, is evidence of commitment. Griffith et al. (2017:737) state that the provision of time and other resources to complete tasks is the responsibility of management, which they view as the cornerstone for implementation of an effective food safety system.

Griffith et al. (2017:737) report that there is a need to invest in food safety facilities to encourage good hygiene practices and demonstrate food safety commitment towards a positive FSC. The provision of a positive environment through adequate and quality resources influences food safety practices (Abidin et al., 2013:04), hence, the need to ensure adequate manpower and time for completion of tasks to avoid compromises. According to Griffith et al. (2017:740), top management is responsible for 94% of difficulties within organisations because it controls the assigning of resources, establishing and implementing methods of work and influencing the culture of the working environment.

Furthermore, de Boeck et al. (2015:247) argue that commitment of leaders is demonstrated by setting a good example through acting quickly to resolve hygiene and food safety problems. Neal et al. (2012:471) and Griffith et al. (2017:736) opine that management's commitment is important towards the creation and maintenance of a positive FSC. This is consciously or sub-consciously passed on to supervisors and food handlers (Griffith et al., 2017:736). Powell et al. (2011:819) are of the view that an organisation's food safety commitment may be shown by providing a chronological account of outbreaks. Research in the food services by Neal et al. (2012:468) concludes that top management's commitment and employees' behaviour are the most important factors in the developing of a positive FSC, enabling the reduction of the risk of foodborne illness outbreaks.

Griffith et al. (2010b:448) classify commitment into three types which influence individuals towards food safety, namely affective commitment, continuance commitment and normative commitment. Angelis et al. (2011:572) describe affective commitment as the willingness of an employee to be involved in duties beyond his/her job boundaries through an attachment to and identification with an organisation. Griffith et al. (2010b:448) express continuance commitment

as an individual's desire to continue working for an organisation because they cannot afford to do otherwise, while normative commitment is to continue working for an organisation due to facing pressure from others. Angelis et al. (2011:572) define employee commitment as the feelings of allegiance and loyalty towards an organisation which results in the employee remaining in the organisation.

Griffith et al. (2010b:448) suggest that individual commitment towards food safety can be identified during an interview with new employees. However, they also point out that the maintenance of the commitment of employees may be difficult during hard economic times. Neal et al. (2012:471) emphasise that during the hiring process, organisations should consider individuals with a strong work ethic who would take responsibility for their own actions. Griffith et al. (2010b:449) define food safety commitment as the extent to which employees consider their own values and beliefs about food safety aligned with the organisation vales. Overall commitment towards an FSC is required from all parties, leaders, middle managers and food handlers (Powell et al., 2011:821), supported and demonstrated through sharing of information.

According to Vijagyabanu and Amudha (2012:227), workforce commitment and their calibre and aptitude towards task completion determines organisational success. Neal et al. (2012:469) further acknowledge that teamwork of employees with the same attitudes and beliefs towards a practice enhances the chances of conformity to standards. Ultimately, individual responsibility for food safety is crucial for the implementation of proper food safety behaviour. The findings by Neal et al. (2012:472) highlight personal responsibility for food handling as crucial towards the creation of a positive FSC. Ball et al. (2010:81) conclude that full commitment is required from new employees, compared to those who have been in the industry for some time.

Visible management on the floor and walking the talk enable the creation of a positive FSC as employees tend to look up to their managers to perform duties (Neal et al., 2012:471). Research in dairy manufacturing by Nyarugwe et al. (2018:192) reports that management openly violated hygiene requirements, which food handlers perceived as lack of commitment by management. Ijabadeniyi (2013:970) proposes the need for employers and employees at all levels of an organisation to believe and show commitment towards food safety.

2.10 Summary

The literature reviewed in this chapter identified FSC as a subcomponent of organisational culture dealing with food safety, which has become a risk factor in the provision of safe food production. Reviewed studies on FDOs pinpoint the cause of disease as the breakdown of FSMS, due to inappropriate human behaviour, or a lack of an FSC. Insight into the prevailing

FSC of various food manufacturing and packaging plants is vital to build an informed and improved FSC.

The literature reviewed also indicated that while the major concern of disease outbreaks is resultant sickness and associated deaths, there are also economic implications. Most FDOs have resulted in factory closures, job losses, brand image damage, share price fluctuations and the high costs associated with product recalls, litigation and worst-case execution of perpetrators.

Furthermore, the literature identified leadership, communication and commitment as the three cornerstones for an effective FSC. Presence or absence of these elements does influence the prevailing FSC in an organisation either positively or negatively. A positive FSC is evident through the successful implementation of the three key elements from top to bottom within an organisation.

The following chapter discusses the research methodology and design employed by this study.

CHAPTER 3
RESEARCH METHODOLOGY AND DESIGN

3.1 Introduction

This chapter discusses the research methodology and the research method employed in this study. The sample population, sampling techniques used and the research method for the collection, organisation and analysis of the research data are described. The research methodology begins with the research design, which constitutes the blueprint for the collection, measurement and analysis of data.

Interviewing, using an interview schedule, is a common method of data collection in qualitative research. This, as well as the thematic approach as the technique used to analyse the data, are also discussed. The chapter outlines the use of thematic analysis for data categorisation, presentation and analysis and concludes with a discussion on the ethical research principles considered in the study.

3.2 Research methodology

This study was qualitative in nature as it involved naturalistic data. Using structured interviews, the primary data were collected from 16 employees at the selected company. Naturalistic observation is a non-experimental, primarily qualitative research method, in which organisms are studied in their natural settings as the activities of interest and are those manifested in everyday situations (Salkind, 2010:6). This methodology was adopted in this study for its wealth of descriptive value to shed light on the influence of the three critical FSC elements of leadership, communication and commitment on safe production of processed meat at Company X.

Nassaji (2015:130) argues that qualitative research collects data qualitatively and the method of analysis is primarily qualitative, often involving an inductive exploration of the data to identify recurring themes, patterns or concepts and then describing and interpreting those categories. Furthermore, Nassaji (2015:129) propounds the value of qualitative methodology in providing a rich collection of data from various sources to gain a deeper understanding of individual participants, including their opinions, perspectives and attitudes.

There are a number of research approaches or designs in qualitative research, namely exploratory, descriptive or grounded theory. This research employed an exploratory approach. Maree (2019:11) asserts that the objective of an exploratory research is to identify key issues and variables and to gain a greater understanding of a phenomenon within a group of people. Exploratory research works towards building new insights or understanding and tends to be primarily inductive. This study embraced the exploratory perspective as it facilitated gaining first-hand knowledge of employees' lived experiences of how the FSC elements of leadership,

communication and commitment influenced the safe production of processed meat at Company X.

The research is grounded in an interpretive ontology as it tells a story from subjective individuals. The researcher adopted the interpretivist approach as it enables more accurate and comprehensive descriptions and interpretations of how people living in a particular context conduct their daily lives. This approach yields richness and in-depth explanations and descriptions of a number of elements of the prevailing culture, including ways of thought, behaviour, competencies, attitudes and values of a particular group (du Plooy-Cilliers et al., 2018:62).

Creswell (2014:38) holds that the researcher determines the research methodology, whether quantitative, qualitative or a combination of both. Much criticism has been levelled at qualitative research as some researchers question the scientific validity of this approach (Maree, 2019:54-56). However, as the topic of this study is mainly concerned with "stories and accounts which include subjective understandings, feelings, opinions and beliefs of the participants" (Matthews & Ross, 2010:142), it is well suited to a qualitative methodology.

Kothari (2004:3) notes that qualitative research is important in behavioural sciences to discover underlying motives of human behaviour and understanding human behaviour is critical to this study. Furthermore, qualitative research relies on linguistic rather than numerical data and further employs meaning-based rather than statistical forms of data analysis. This research adopted the view of du Plooy-Cilliers et al. (2018:62-63), that where the study is concerned to reveal the "meanings and values of the people being studied", then reality is not objectively determined but socially constructed. This study therefore sought to answer questions through analysing participants' authentic responses in authentic social settings using a qualitative methodology.

According to Creswell (2014:17), qualitative data are open-ended with no fixed responses, whereas quantitative data include closed-ended responses, therefore generating the rich amount of data that can assist researchers in developing hypotheses for quantitative investigations (Yeasmin & Rahman, 2012:158).

Utilising an interpretivist approach enabled the collection of substantial data as participants gave detailed descriptions to posed questions. To narrow the focus of this study and give it a practical, real-world application, a case study approach was adapted to limit the number of subjects. However, as FSC is unique to each organisation (Griffith et al., 2017:729) and as the data gathered were limited to one organisation, this places constraints on the generalisability of the results of this study. Nevertheless, the case study approach allowed the researcher to gain detailed, specific information and insight regarding the FSC at Company X to determine

the strengths and weaknesses of the FSC in this particular organisation and to make recommendations to improve the company's internal FSC.

Yin (2009:18) recommends a case study approach when the researcher does not have much control over events and focuses on a contemporary phenomenon in a real-life context. This study focused on three crucial FSC elements—leadership, communication and commitment. Although a case study is generally a bounded entity, Maree (2019:81) suggests that boundaries between the case study and its contextual conditions may become blurred. It was therefore important for the researcher to define the aims, objectives and limitations of the study clearly from the outset to prevent the research becoming too broad and unfocused, as has been addressed in Chapter One of this dissertation.

3.3 Research method

Qualitative data were collected using an interview schedule with pre-constructed questions as the research tool (see Appendix B). Individual face-to-face interviews were conducted in the factory during work hours. This approach allowed participants' time off work to concentrate on the questions, to ask for clarification where necessary, the privacy to answer honestly but confidentially and to think for themselves without being influenced by others' responses. The interviews were carried out in a structured manner, with the interviewer posing the question, recording responses and where appropriate, prompting further explanation or giving clarification on the questions. The data were recorded using a voice recorder and notes were made by the researcher. This made it easier for employees to respond freely as they did not have to struggle with writing responses, for some in a language other than their mother tongue.

This research utilised non-probability sampling to select the sample size. Non-probability sampling was utilised as the researcher used a case study strategy, which required purposive sampling. Gentles et al. (2015:1778) describe the power of purposeful sampling as the selection of information-rich cases for in-depth studies. This sampling method allowed the researcher to select units from three different levels within the selected Company X, namely, general workers, supervisors and managers.

3.3.1 Data collection

Matthews and Ross (2010:142) state that key differences in data collection between the quantitative and qualitative approaches are the structure of the data and the data collection method.

Quantitative approaches gather and utilise data that are:

- Structured – categorised or coded data to enable counting; and
- Structured by the researcher – the researcher chose on both the questions to be asked and the type of answers that can be given.

Qualitative approaches gather and utilise data that are:

- Constructed by the research participant in their own way; and
- Interpreted and structured by the researcher as part of the analytical process.

This qualitative study gathered and utilised data constructed in the way the participants shared it. Thereafter, the data were interpreted and structured by the researcher as part of the analytical process. Matthews and Ross (2010:142) express data collection as a practical activity, which has to be carried out within time, spatial and resource constraints using the most appropriate research tool. There are various research tools, which include questionnaires, interview schedules or the researchers themselves, as a means of data collection. To ensure effective and efficient data collection within time and cost constraints, an interview schedule was developed and utilised as the research instrument for this study.

Data collection may be structured, semi-structured or unstructured. In this study, a structured interview schedule was employed post-consideration of three factors in relation to any specific data collection method:

i) Validity of the data collection tool – the researcher has to ensure that the research tool is designed in a way best for data collection
ii) Consideration of management of potentially large amounts of raw data, such as interview transcripts and audio recordings. In terms of structured interviews, they must be planned for an approach to analysis during interviews.
iii) Required data collection skills, depending on the structure of data production such as transcribing recordings (Matthews & Ross, 2010:142).

This qualitative research approach utilised a structured interview schedule designed to collect data from the different levels of participants, being managers, supervisors and general workers at Company X.

The interview schedule was prepared following Phellas et al.'s (2011:192) suggestions. They propose three groupings of questions, namely must know, useful to know and nice to know. The "nice to know questions" were discarded when the interview schedule was finalised. Open detailed questions were constructed to enable participants to formulate their own answers and expand on their stories.

The interview schedule was developed through the extraction of questions from a similar study conducted in South African by Griffith et al. (2017:729-743), assessing elements of FSC in food services. It was adapted as FSC remains a contributory factor to ongoing FDOs. The interview schedule was modified to align with factors important to the food processing industry,

taking into consideration literature from other studies which assessed the cultures of food safety (Neal et al., 2012:471; Abidin et al., 2013:04; Ijabadeniyi, 2013:42; Nayak & Waterson, 2017:1115).

The first section of the interview schedule consisted of biographical data and the second section comprised detailed interview questions on the employees' lived experiences of leadership, communication and commitment at Company X. The research questions posed to the participants were grouped under the following sections:

- Section 1: Biographical data
- Section 2: Leadership
- Section 3: Communication
- Section 4: Commitment

The interview schedule used in this study was reviewed by the research supervisor, facilitating the identification of unclear or inappropriate questions. This enabled refinement of poorly worded questions. Ryan et al. (2009:311) propose pre-testing or piloting of an interview schedule prior to commencement of interviewing. A pilot study is normally done to refine the interview schedule, so that respondents do not have problems in answering the questions, thus improving the validity and reliability of the data (Saunders et al., 2016:473). After three pilot interviews, the researcher was satisfied with the quality of responses and deemed it not necessary to modify the interview schedule significantly.

3.3.2 Interviews

Matthews and Ross (2010:219) define an interview as a type of communication between two or more people, either face-to-face or at a distance, via telephone, or internet, controlled by the person who asks the questions. Interviewing is a common method of data collection in qualitative research. As described by Ryan et al. (2009:309), individual interviewing is a valuable technique for qualitative research, with the aim to gain an in-depth understanding of a specific topic as individuals share their perceptions, understanding and experiences, contributing to an in-depth data collection.

Furthermore, Phellas et al. (2011:183) avers that unlike a questionnaire, interviews are flexible and when done correctly, gather information of greater depth. Interviews gather information about a participant's experiences, views and beliefs concerning a specific research topic (Ryan et al., 2009:309). There are three categories of interviews, namely structured, semi-structured and unstructured. This research employed a structured interview using an interview schedule (see Appendix B).

3.3.3 Structured interviews

Maree (2017:93) opines that in a structured interview the questions are detailed and developed in advance. Ryan et al. (2009:309) note that explicit questions in a structured interview prevent veering off the topic in question, which enables comparison of responses. The utilisation of a structured interview enabled the researcher to gain in-depth views and experiences of the employees of the prevailing FSC at Company X, as participants were presented with the same questions during interviews. This technique is considered superior to the traditional audits, which only assess an organisation's food safety climate, giving only the visible outer layer of an FSC (Griffith et al., 2017:732). The structured interview was important in this case study as literacy levels are low at Company X.

3.3.4 Face-to-face interviews

Face-to-face interviews, also known to be a dominant interview technique (Opdenakker, 2006:1) in the field of qualitative research, were used in this research. The use of face-to-face interviews allowed the researcher to explain questions that the participants did not understand and draw further elaboration on responses, as suggested by Phellas et al. (2011:182). Furthermore, face-to-face interviews enabled the researcher to pick up on non-verbal clues, indicating what was relevant to the participants and their responses to the different questions. Opdenakker (2006:10) argues that face-to-face interviews permit exploration of hidden meanings and understanding. In this exploratory study, questions were asked to allow access for further examination of the impact of the three critical FSC elements at Company X on the safe production of processed meat. The case study approach enabled close collaboration between the researcher and participant. It allowed participants to share their stories and enabled further probing and detailed responses.

To ensure confidentiality and anonymity, the face-to-face interviews were conducted individually in a boardroom at Company X. The environment allowed participants to relax and voluntary participation of individuals was confirmed, with the right to withdraw participation and debriefing to allay any misconceptions and anxieties.

The interviews began with a welcome message being read to the participants. A good quality message encouraged the participants to take part in the interview and possibly increased the response rate. The welcome message explained the reason for the research and its use for academic purposes, highlighting that confidentiality and anonymity were guaranteed. The right to withdraw was emphasised and permission to record was obtained before proceeding with the interviews. The voice recorder was checked for functionality before the start of each interview, in case of malfunctioning. The interviews began by asking for demographic information, which allowed respondents to relax. This was followed by essential questions directly concerning the main focus of the study.

The responses were recorded using a voice recorder, which enabled the researcher more time to focus on listening and exploring the participants' experiences. Furthermore, the use of a voice recorder ensured more accurate data than writing responses. Each participant was asked the questions in the same way, noted by Phellas et al. (2011:183) as standardising. Furthermore, asking of the questions was done in the same order, known as scheduling. To ensure trustworthiness of the findings further, the research incorporated the strategies of Noble and Smith (2015:35), which included accounting for personal biases, the acknowledgement of sampling biases and participant validation. The use of a detailed interview schedule prevented interviewer bias.

The duration of each interview was determined by the volume of information provided by each participant. Interviews were not time restricted and varied between 15 to 50 minutes. The voice-recorded data were stored online by the researcher for safekeeping and easy access for transcription. The researcher transcribed the collected data into MS Word documents for data analysis purposes Two interviews were disrupted due to the reluctance of participants to share information, possibly due to language barriers. However, the information they provided did form part of the data.

3.3.5 Researcher's role and recording of data

The researcher is a professional Food Scientist with 11 years' work experience in the food manufacturing industry and is also a Food Safety Lead Auditor who has conducted several audits in the food manufacturing industry. The researcher has considerable experience in the fields of dairy processing, meat processing and fruit and vegetable processing.

Structured interviews were conducted, based on the willingness of participants to be part of the research, without breach of their confidentiality. Their responses were recorded using a voice recorder, which enabled the researcher more time to focus on listening and exploring each participant's experiences.

3.3.6 Sampling type

Researchers have the choice of selecting probability or non-probability sampling methods. Sampling approaches fall into a spectrum ranging from approaches based on statistical theory, which aims to produce a sample highly representative of the whole population, to sampling approaches that are concerned with selection of usually fewer cases, which enables the researcher to explore the research questions in depth (Matthews & Ross, 2010:12).

Non-probability sampling was utilised as the researcher used a case study strategy, which required purposive sampling. Gentles et al. (2015:1778) describe the power of purposeful sampling as the selection of information-rich cases for in-depth studies. Selection of each unit was independent of the selection of any other unit, as recommended by Creswell (2014:222).

According to Matthews and Ross (2010:12), purposive sampling is useful in a qualitative method where the number of cases are usually less than for a probability sample, for the following reasons:

- Research that utilises qualitative data is not usually concerned with being able to generalise to a population; and
- Qualitative data gathering is both very time- and resource-consuming and the data gathered is itself rich in detail.

Due to the high costs and extensive time requirements to research the whole population, this research utilised a purposive selected sample enabling selection of participants from the three levels of managerial, supervisory and general workers. As it is impractical to collect data from the entire population, the sampling method chosen saved the researcher costs and time. The participants were chosen from the three hierarchical levels within Company X, based on availability and willingness to participate in the study (convenience sampling).

3.4 Data analysis

Qualitative research is recognised and valued in academic research, where Nowell et al. (2017:1) argue the need for such research to be conducted in a rigorous and methodical manner to yield meaningful and useful results. Furthermore, emphasis is placed on the need for researchers to demonstrate precise, consistent and exhaustive data analysis through recording, systemising and disclosing detailed analysis methods, which enables the reader to determine whether the process is credible or not. This research utilised thematic analysis as the data analysis tool.

3.4.1 Thematic approach

According to Ryan et al. (2009:312), in qualitative research analysis of data begins during data collection, this enables contradictions to be identified during the interview. The voice-recorded data were transcribed into MS Word format to enable thematic analysis, which Nowell et al. (2017:2) define as a qualitative research method, used across a range of epistemologies. Research questions were used to identify sub-themes under the three FSC elements of leadership, communication and commitment.

To ensure validity of data and interpretations, as proposed by Ryan et al. (2009:312), the transcripts were given to participants to check accuracy of transcription and they were happy for it to remain unchanged. Ryan et al. further note that data analysis of qualitative research and data collection takes place during the interview stage. Nowell et al. (2017:2) delegate assurance of rigour and trustworthiness as the responsibility of the researcher, as each qualitative research has its own specific techniques for conducting, documenting and evaluating the data analysis process.

Braun and Clarke (2006:77) describe thematic analysis as a method for identifying, analysing, organising, describing and reporting themes found within a set of data. Although rigorous thematic analysis may produce trustworthy and insightful findings, Nowell et al. (2017:2) note that there is no clear agreement on how a researcher should apply the method rigorously. However, if thematic analysis is used correctly, it affords a modified flexible approach to suit the needs of many studies, providing a rich, detailed and complex account of data. Thematic analysis offers an accessible form of analysis to new researchers.

Furthermore, thematic analysis enables the examination of the perspectives of different participants, highlighting similarities and differences and generating unanticipated insights. Thematic analysis enables summarising key features of large data sets, as the researcher is forced to take a well-structured approach in handling the data to produce a clear and organised report. Clarke and Braun (2013:120) are of the view that thematic analysis can be applied within a range of theoretical frameworks, from essentialist to constructionist.

Nowell et al. (2017:2) report that rigorous thematic analysis produces trustworthy and insightful findings. As mentioned by Braun and Clarke (2006:77), the method enabled examining the perspectives of different participants, highlighting similarities and differences and generating unanticipated insights. This research utilised the step-by-step approach as proposed by Nowell et al. (2017:4) to conduct a trustworthy thematic analysis, as detailed in Table 3.1.

Table 3.1: Establishing trustworthiness during each phase of thematic analysis

Phases of thematic analysis	**Means of establishing trustworthiness**
Phase 1: Familiarising yourself with your data	Prolong engagement with data
	Document theoretical and reflective thoughts
	Document thoughts about potential codes/themes
	Store raw data in well-organised archives
Phase 2: Generating initial codes	Use of a coding framework
	Audit trail of code generation
Phase 3: Searching for themes	Diagramming to make sense of theme connections
	Keep detailed notes about development and hierarchies of concepts and themes
Phase 4: Reviewing themes	Test for referential adequacy by returning to raw data
Phase 5: Defining and naming themes	Documentation of theme naming
Phase 6: Producing the report	Describing process of coding and analysis in sufficient details
	Report on reasons for theoretical, methodological and analytical choices throughout the entire study

Source: (Nowell et al. 2017:4)

It is impossible to eliminate bias. In this study, comments from all participants were included in the themes to reduce bias. This research applied Nowell's recommended phases in the following manner.

3.4.2 Phase 1: Familiarising yourself with your data

Qualitative data were obtained from 16 recorded interviews which were then transcribed by the researcher into MS Word documents. The transcribed data were confirmed by the participants as being an accurate account of what they had said. Both raw voice recorded data and transcripts were stored online for audit trial purposes data management is imperative in thematic analysis so the researcher identified the documents using numbers 1 to 16 according to when the interview took place. The data were stored, identified by the date of the interview, to provide an audit trail.

Nowell et al. (2017:5) propose that researchers should familiarise themselves through immerse reading. In this way, the researcher becomes familiar with the data through repeated reading over a period of one month, searching for meanings and patterns.

3.4.3 Phase 2: Generating initial codes

This phase began after the researcher had become familiar with the data. It involved the initial production of codes from data. Nowell et al. (2017:5) describe qualitative coding as a process of reflection and interaction with and thinking about data. During coding, the researcher identified important sections of text by highlighting, using highlighters of different colours. This research utilised a systematic process to code data, analysing specific statements and categorising them into themes.

3.4.4 Phase 3: Searching for themes

Phase 3 began after the initial coding of data and a list of different codes identified across the entire data had been developed. The researcher sorted identified coded data extracts into themes. Themes may be generated inductively or deductively from raw data and prior research. In this research an inductive approach was utilised, which resulted in a strong link to the raw data. Inductive analysis enabled coding of the data without trying to fit it into a pre-existing coding frame or the researcher's preconceptions. Codes that did not belong to any of the themes were grouped under a "miscellaneous" theme temporarily and later revisited to identify the suitable themes.

3.4.5 Phase 4: Reviewing themes

The coded data extracts were reviewed for each theme for a coherent pattern consideration. The researcher vetted all the themes, resulting in some themes being broken down further and returned to raw data to ensure themes represented the participants' voices.

3.4.6 Phase 5: Defining and naming themes

The researcher wrote a detailed analysis to identify the story each theme told, while considering how each theme fitted into the entire data set in relation to the research questions. The themes were not considered final until all the data had been read. The coding was

scrutinised by a research supervisor at CPUT in February 2020, to ensure the credibility of the findings. The themes were then presented in a manner which best reflected the data. The researcher used specific words of the participants as the names of the themes.

3.4.7 Phase 6: Producing the reports

This phase began after the researcher had established all the themes. Direct quotes from the participants formed an essential part of the results discussion. Quotes were included for better understanding and demonstrating the prevalence of the themes. Furthermore, extensive passages of quotations were included to give the reader a flavour of the original texts. All quotes were accompanied by the unique participant number to demonstrate that various participants were represented across the results. The researcher aimed at building a valid argument by referring to literature, allowing the story construed to have merit. The findings were constructed with broader relevant literature and the researcher identified where findings supported, contradicted or added to the current body of knowledge on FSC.

3.4.8 Validity and reliability of the interview

Reliability and validity are terms that are associated with quantitative research but are also linked to qualitative methods to attain trustworthiness, rigour and quality and to ensure that this study mechanically recorded data, as pointed out by Bashir et al. (2008:44). Validity in qualitative research is dependent on the data collection and analysis techniques.

3.5 Ethical considerations

Compliance with ethical research principles are vital for any research study and are required during the planning phase. The researcher sought access to organisations and to individuals prior to conducting the study. Ethics is defined as the “appropriateness of one’s conduct in relation to the rights of individuals who become the subject of the research or affected by it” (Bless et al., 2016:140). There are four categories of ethical consideration, namely, informed consent, protection from harm, right to privacy and honesty with professional colleagues. The research was ethically conducted, considering these ethical categories. Furthermore, other factors, including confidentiality, dignity and privacy were considered.

Permission to conduct a study at Company X was requested and granted by the Managing Director. The interviews were conducted in a boardroom to ensure confidentiality and anonymity of the research participants, which was maintained all the times. Respondents were assured that their participation was voluntary and that they had the right to withdraw from the study at any time. Furthermore, participants were debriefed to eliminate any misconceptions and anxieties. Prior to the research being conducted, ethical clearance was obtained from CPUT’s Faculty of Business and Management Sciences ethical committee (see Appendix A).

3.6 Summary

A qualitative approach was used in this research to answer the set study questions and achieve the objectives. This research involved naturalistic data. An exploratory approach was utilised to identify key issues and variables and to gain a greater understanding of the FSC within Company X. An interpretive ontology was followed as it allowed story-telling from subjective individuals, generating substantial data as participants gave detailed descriptions.

This chapter covered non-probability sampling linked to a case study design as employed in this study, where 16 participants were selected, comprising managers, supervisors and general workers. An interview schedule was utilised to conduct face-to-face interviews in a structured manner.

Thematic data analysis was discussed to draw meaningful inferences that could be generalised to the population from which the sample was drawn. The chapter concludes with a section on ethical research considerations.

The following chapter describes the primary data and analyses this data using a thematic approach. The chapter presents the findings drawn from this analysis and discusses these findings.

CHAPTER 4
RESEARCH DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 Introduction

This chapter discusses the findings from the interviews conducted with managers, supervisors and general workers at Company X. The chapter begins by defining terms relevant to the interview data, presents the demographic data, followed by identification of themes drawn from the interview data. The data were analysed to identify emergent themes from the interview data which reflect employees' experiences of how leadership, communication and commitment influence the FSC at Company X. The main body of the chapter presents a discussion of the interview findings under the theme headings and concludes with a summary of the research findings.

It should be noted that in practice, many of the themes are interlinked and the boundaries for each theme are difficult to establish exactly. Therefore, some reiteration of relevant points under the various theme headings is unavoidable. The themes are listed in the table below:

Table 4.1: Themes

Theme 1	Leadership Commitment
Theme 2	Food Safety Behaviour
Theme 3	Leadership Style
Theme 4	Communication Style
Theme 5	Training
Theme 6	Teamwork

4.2 Clarification of terms

Participants in this study mostly used the terms *leadership* and *top management* interchangeably to refer to the owner of Company X, who is also the Managing Director. As pointed out by Participant 9, "For me the leader is basically Mr X, who is the Managing Director." However, some participants at general worker level also referred to managers as leadership.

The term *management* refers to the managers within specific departments, namely Quality, Processing and Packing.

The terms *Technical Department* and *Quality Department* were also used interchangeably by participants. These terms refer to the same department, which is responsible for Quality Assurance.

4.3 Demographic data

The breakdown of the sample population is elaborated in section 4.4, reflecting the biographical variables of the 16 employees at Company X who participated in the interviews. This biographical breakdown of the population sample enabled the researcher to gain insight into how different hierarchy levels, age, tenure, education level and nationality within the organisation influenced the FSC.

4.4 Composition of sample population

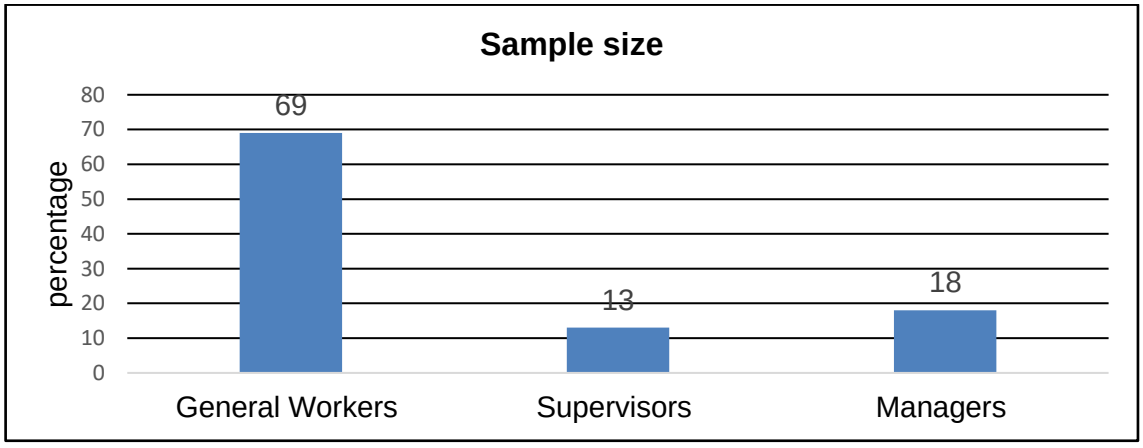

Figure 4.1: Sample size

Figure 4.1 indicates the composition of the 16 sampled employees at various levels, comprising 69% general workers, 13% supervisors and 18% managers. These figures are in contrast to the study by Nyarugwe et al. (2018:188) in Zimbabwe, focusing on three dairy manufacturers, which had fewer participants at managerial level of 7%, 13% and 14%, with a higher proportion of general worker, 93%, 87% and 86% respectively.

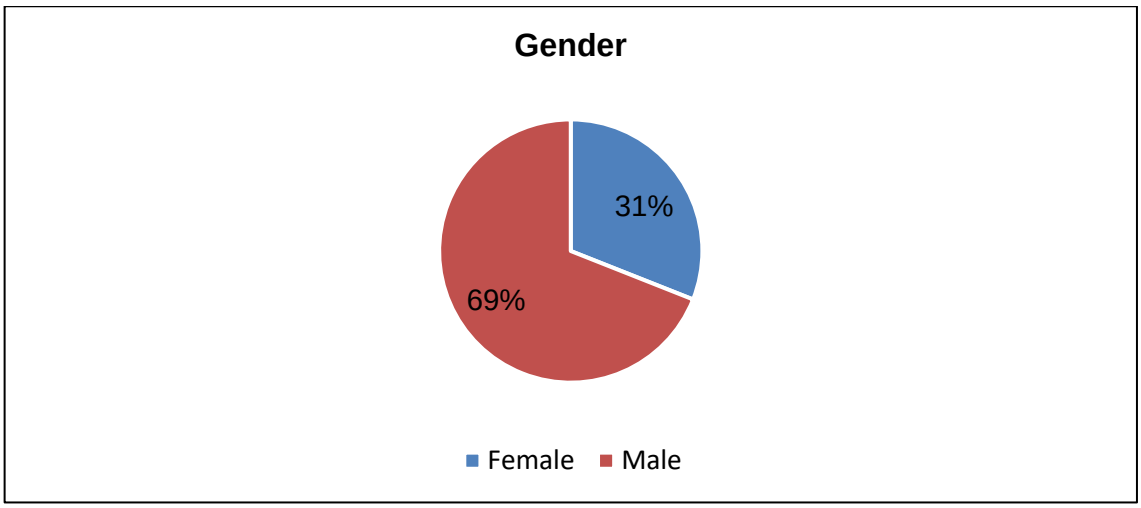

Figure 4.2: Gender

Figure 4.2 shows the gender distribution of the sample (n=16), consisting of 69% males and 31% females. This is in contrast to studies of two organisations in Poland by Wisniewska and Zamojska (2015:200); the first sample had 88% female and 12% male representation, while the second sample consisted of 100% male participants.

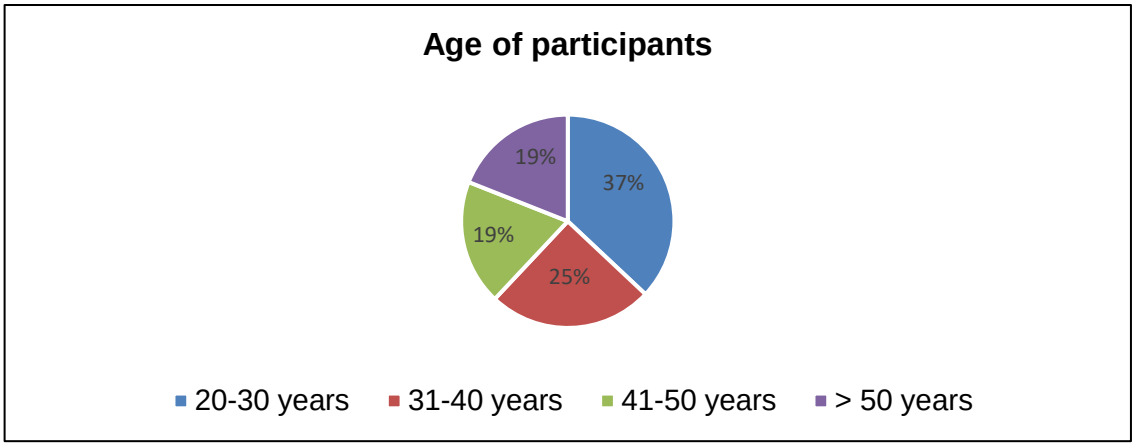

Figure 4.3: Age of participants

The research findings, as per Figure 4.3, show the majority (37%) of the research participants were between the ages of 20 and 30, followed by 25% between 31 and 40 years of age. Participants between the ages of 41 and 50 years and those older than 50 years, both comprised 19%. The study findings clearly reveal that a proportionately large percentage of participants were between the ages of 20 to 50 years (81%) in comparison to the lowest of 19% for participants older than 50 years of age.

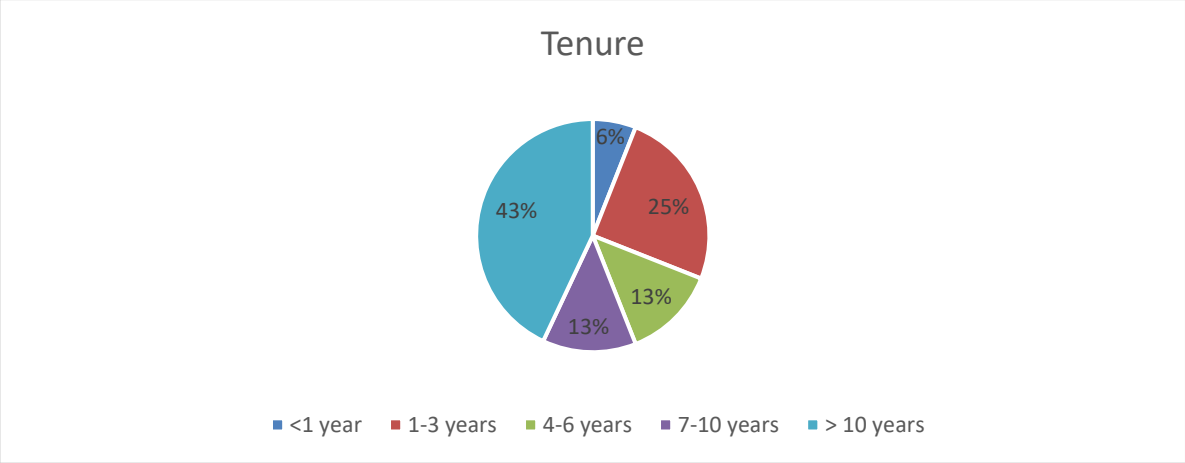

Figure 4.4: Tenure

Figure 4.4 illustrates the tenure of the respondents. Those with tenure of longer than 10 years comprised 43%, 25% had between 1 and 3 years, 13% for both 4-6 years and 7-10 years and 6% for tenure of less a year. The tenure of respondents in this study, where 57% had tenure of less than 10 years, aligns with a study by Nyarugwe et al. (2018:188), in that the majority of participants in the three companies they investigated had a tenure of less than 10 years. This is in contrast to a study of Wisniewska and Zamojska (2015:200), where more than 83% of the participants had more than 10 years' tenure.

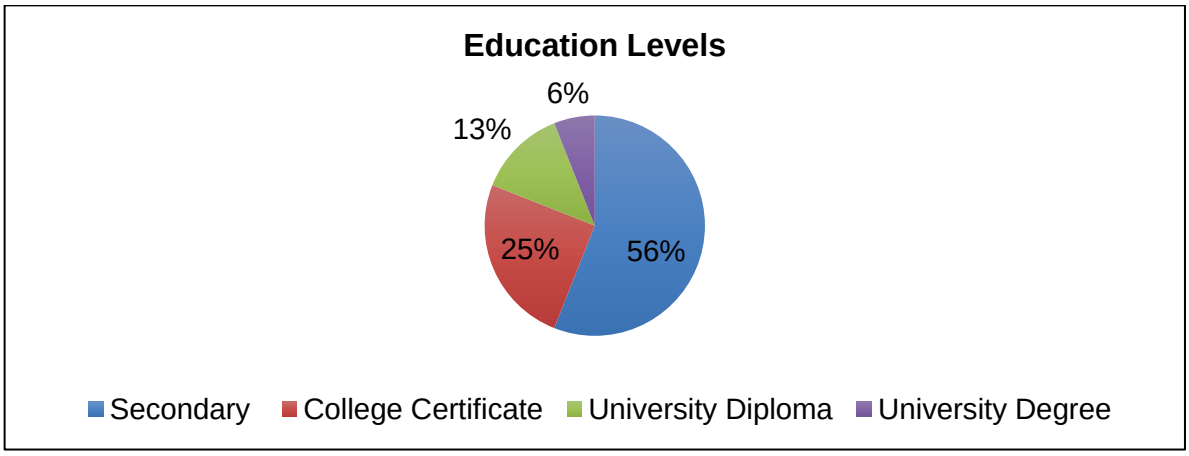

Figure 4.5: Education levels

Figure 4.5 depicts the education levels of participants, where 56% of the research participants had at least a secondary education, 25% had a further education and training certificate, 13% held a university diploma and 6% university degree. This study aligns with a study by Nyarugwe et al. (2018:188) at three different companies. The majority of the participants in two of the companies studied had secondary education levels of 71% and 68% and tertiary education of

29% and 32% respectively. However, one company had 63% of participants with a tertiary education and 37% of the participants had a secondary education, in contrast to this study.

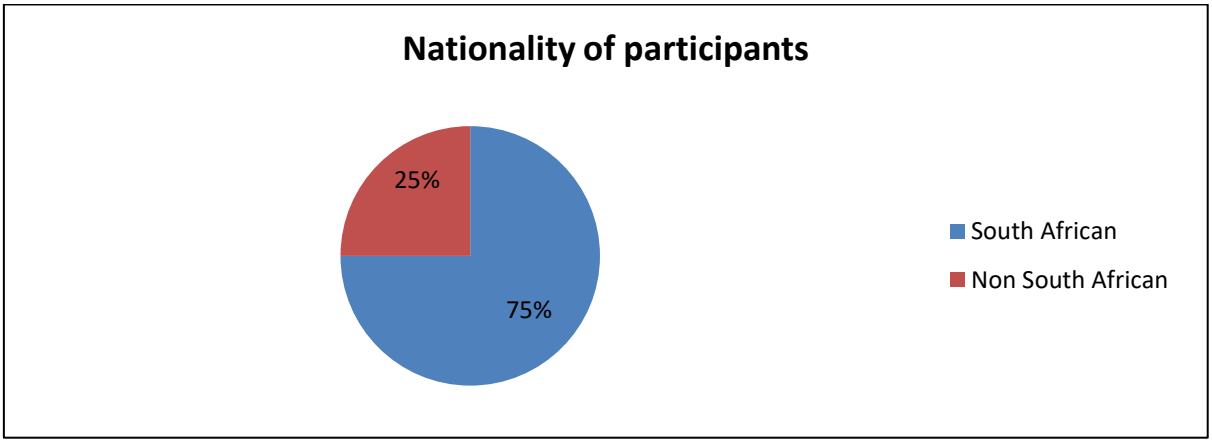

Figure 4.6: Nationality of participants

Of the participants, 75% were South African and 25% non-South African, as indicated in Figure 4.6.

4.5 Theme 1: Leadership commitment

Leadership plays an important role in creating an organisational FSC. Firstly, leadership must establish the direction and tone of the FSC through a documented FSMS (GFSI, 2018:12). Secondly, leadership must provide the resources needed to support a positive FSC (Griffith et al. 2017:733; 737). Data from research interviews conducted at Company X were scrutinised to ascertain employee experiences of the presence of both a documented FSMS and the provision of necessary resources at Company X

The data showed that supervisors and managers agreed that Company X does have a visible, documented FSMS in place.

Participant 13, a quality assurance supervisor, commented that Company X has an FSMS in place that is “a set of predefined rules, standards or parameters that govern or control the production of food in a safe way”. Participant 1, a manager and Participant 4, a supervisor, was of the same opinion, noting that “the company FSMS documents requirements, management responsibility….” (Participant 1) and “it’s a formal policy and implemented procedures that are supplied via the quality people” (Participant 4). Participants 1, 13 and 5, at managerial, supervisory and general worker levels respectively from the Quality Department, identified the FSMS as an ISO 22000 system which was implemented in the company. Thus, the data indicate that there is a general awareness among employees that there is a documented, accessible ISO 22000 FSMS in place. According to the ISO 22000

Standards document, this serves to indicate evidence of leadership commitment towards a positive FSC (ISO, 2018:4).

Many of the general workers (77%) acknowledged the presence of a documented FSMS at Company X. These participants gave various explanations of how they understood the ISO 22000 system. Participant 14 noted the FSMS as “the methods and steps that we supposed to follow”, “like to protect the food from bad things” (Participant 10) and “instructions of food safety like washing your hands, covering your hair” (Participant 2). In general, workers felt positive about the documentation. Participant 16 commented that, “if you see something wrong you must report it to your manager”. Other comments indicating employee awareness and understanding of relevant documentation included “I am trying to think. No use of cell phones in the factory and no jewellery” (Participant 8), “I think I have an idea about what is, things like the cooking temperatures, the storage temperatures of products” (Participant 12) and “one must be clean, if you work with raw meat, you must wash your hands” (Participant 16).

These comments suggest that Company X’s leadership has shown commitment to informing employees about the required standards. As discussed later in the chapter under section 4.9, there is evidence that leadership showed commitment to a positive FSC by providing relevant training to assist employees to know and understand the content of the FSMS. However, this was not enough to ensure that employees always comply with the documented standards. Many examples of this are cited in this chapter under section 4.6. Nevertheless, employees at Company X generally experienced the presence of a documented FSMS as having a positive impact on the safe production of food. The majority of participants at all levels in the company commented on the value of commitment to the documented food safety standards. Management and supervisors noted that the presence of these documents assisted them to support general worker adherence to the regulations.

Participants 1 and 3, both managers, explained that, “it helps with producing safe food” (Participant 1) and “if there is a problem, (it helps you to) pick it up quickly” (Participant 3). Participant 13, a supervisor, concurred, “I think it helps and the staff gets training on food safety and it goes a long way in producing safe food”.

General workers gave various insights on how they experienced commitment to the documented FSMS as positively influencing the safe production of processed meat: “…it helps us follow the rules in the factory” (Participant 2); “it’s a guideline that helps to produce food that is safe for customers” (Participant 8); “… protect the food from stuff not needed in the food and take care of the food to make sure the customer doesn’t find what is not needed in the food” (Participant 10); “help in a way that the quality of our work can be improved” (Participant 12); and “to make sure that you provide to the customer healthy and safe products and not make them sick” (Participant 14).

Participants 2 and 14, both at general worker level and both with seven years' tenure, believed that the commitment of leadership towards establishing an effective FSC had a positive outcome:

> I think if there was no FSC no one would come buy stuff here because it will be full of germs or complaints but people are coming so I think there is good FSC. (Participant 2)
>
> It is because I have not heard of people getting diseases or epidemic. (Participant 14)

However, despite the acknowledgement of the existence and positive benefits of a documented FSMS at Company X, some of the general workers indicated that they were either not familiar with, or did not understand, the content of the available documentation. The biodata reveal that 73% of the general worker sample does not have post-secondary education and that 25% are foreign nationals who are not English first language speakers. Of the South African cohort, many may also not be English first language speakers. As the documentation is available in English only and is long and complex reading, less educated or English second language speakers may struggle to read and properly understand the contents. These views are substantiated in the discussions below. However, general workers across the education and language spectrum indicated some difficulty understanding the FSMS documents, indicating a need for ongoing training.

Neal et al. (2012:468) notes that the best way to train employees is in such a way that knowledge is translated into both practice and changes in behaviour, which would reduce foodborne illnesses as employees practise good hygiene when empowered with food safety knowledge (Griffith et al., 2017:735).

Knowledge and understanding by all employees of an organisation's FSMS enables the creation of a positive FSC as the knowledge is translated into both practice and behaviour change (Neal et al., 2012:468). Employees who indicated difficulty with understanding the documented FSMS were:

- Participants 6 and 7, both foreign nationals with secondary education and less than three years' tenure (English is not their mother tongue)
- Participant 15, a South African with a college certificate and with more than ten years' tenure (English is not the mother tongue)
- Participant 8, a South African, who holds a university degree (English is not the mother tongue)
- Participant 11, a production manager, also a South African with more than 10 years' tenure, who is a college graduate, commented, "I don't know much because I haven't looked at it but I know that there are things on the policy".

The data clearly suggest that there is good intent among leadership and the majority of general workers to commit to the documented rules but that lack of knowledge and understanding of all the rules is a stumbling block to safe food production.

Participant 1, a manager, highlighted the need for more training on the FSMS for better understanding. He cited the level of education as a possible hindrance to understanding:

> For people to understand, training should actually be done on the floor especially with the people that don't understand it, also not very educated and have to learn the stuff. It is not easy to understand the stuff.

In addition, translating the ISO 22000 manual into various languages may be of benefit, as 25% of the participants were foreign nationals and 37% were black South Africans who would most likely not speak English as their first language.

Nyarugwe et al. (2016:83) note that the implementation and maintenance of an FSMS is the responsibility of the quality assurance manager. Participant 1, a quality assurance manager, highlighted the need for more training of employees for better implementation of the FSMS, "More training and emphasis on food safety needs to be applied". Participant 4, also a manager, agreed, "I think the company should offer more training for (employees) to understand".

This strong call from participants for ongoing training to ensure a positive FSC at Company X emerged as a major theme from the data analysis. This theme will therefore be discussed in greater detail later in this chapter, under section 4.8.

Some participants suggested that despite the presence of relevant documentation, the FSMS was not being fully implemented in practice and that improvements were required. The most common reason given for this was that often the focus was on quantity, on producing as much as possible as quickly as possible and that this led to a compromise in quality.

Participant 13, a female quality assurance supervisor, noted, "while I know that on paper management is committed to producing safe food", that this was not always translated into action. Participant 11, a male production manager agreed, noting that leadership was committed to food safety, "but just on paper and not being done". Practising what is documented is essential for safe food production. These sentiments, shared by the participants, align with Powell et al. (2011:818) who note that companies not only need a detailed FSMS but also human behaviours that are fully compliant, to ensure safe food production.

Participant 1, a quality assurance manager, further stated that "the aim is good but for us being successful I do not think we are there yet". Participant 13, a supervisor, responded that:

> On a scale to of 0 to 100 I think I can say maybe 90% of the times we produce food in a safe way and the 10% is to account for the times when production does not follow food safety standards.

Participant 4, also a supervisor, noted that "the system is effective in itself but it's not implemented by the people on the floor". It seems clear that the presence of a documented FSMS at Company X indicates leadership's good intent and commitment towards food safety. However, the FSMS documents are not always well understood because of language differences and the complexity of the information. Furthermore, ongoing investigations into food safety outbreaks and associated deaths have attributed to the breakdown of FSMS to improper human behaviour (Griffith et al., 2010a:431; Ijabadeniyi, 2013:968; de Boeck et al., 2015:242; Jespersen et al., 2016:117). Experiences shared by participants at all levels in Company X pinpoint lack of compliance with the FSMS due to improper human behaviour as negatively impacting safe food production.

Participant 11, a manager, explained:

> If you follow the system it should be effective, in our case it's not effective as such because there are things that are happening which are not supposed.

Participants 8, 9 and 5, all general workers with less than three years' tenure, agreed. They commented that "the system is effective but not being followed" (Participant 8); "I think if we follow it correctly it should be fine but I think most of us don't" (Participant 9); "I think the company is still young and still growing. It's getting there but not 100%" (Participant 5).

Implementation and maintenance of an FSMS towards the creation of a positive FSC also requires leadership to provision a number of resources, namely people, time, infrastructure and work environment (ISO, 2018). Griffith et al. (2017:737) also confirm the provision of resources as commitment by leadership. Data reveal that leadership at Company X makes provision of resources towards safe food production. Participant 1, a quality assurance manager, responded:

> I think the resources are made available. It's just a matter of utilising them, they definitely there, the knowledge is there, everything is there.

The majority of participants agreed that there was provision of physical resources, which included infrastructure, equipment, chemicals and personal protective equipment in the form of coats, boots and hairnets.

Participants 3, 4 and 11, employed at managerial and supervisory levels, confirmed the provision of resources, "Gumboots, hairnets, overall and all these are provided" (Participant 3); "the structures are there" (Participant 4); and "everything is available" (Participant 11). Participants 2, 10, 12, 15 and 16, all general workers, agreed, "They give us everything, white coats, boots and hairnets" (Participant 2); and "like the tools, my uniform and boots"

(Participant 10). “The equipment is there” (Participant 12); “all tools are provided” (Participant 15); and “the mop caps, boots are available all the times” (Participant 16).

General workers agreed that the provision of physical resources enhanced the safe food production. Participant 14 explained:

> The blue gloves which you can easily see when they go into the product, blue plasters, they give the correct chemicals to ensure its strong enough to get rid of bacteria.

However, while the majority of participants noted the availability of most of the necessary physical resources, there was also evidence of a lack of other crucial equipment needed for completion of important tasks that guarantee safe food production. Participants 1, 8 and 13, all from the quality department and whose main responsibility is to ensure safe food production, agreed to the absence of some crucial equipment such crates, pallets and thermometers. Participant 1, a quality assurance manager explained:

> There is shortage of pallets to keep bins off the floor, at the moment that’s our problem. I have just asked for extra stainless steel trolleys because we still have a problem of lugs being directly on the floor and as you know we cannot use black dollies, so we definitely short and quite important to keep it off the floor as you know.

Participant 13, a quality assurance supervisor and Participant 8, a quality controller, shared similar experiences.

> Sometimes you find out that to attain food safety on the go you need certain equipment which is not available all the time (Participant 13)

> I will tell about the thermometers, sometimes we don’t have enough (Participant 8).

The South African Department of Health Regulation 638 (SA. DH, 2018) stresses the importance of thermometers which are used for product temperature checks, guaranteeing cooking as an important step to eliminate *Listeria monocytogenes*, which has been the main cause of FDOs.

Participant 13 explained the consequences of the absence of such equipment during certain periods:

> For instance, it has to be bought, meaning that period when its being bought food safety is compromised for example floor crates, we don’t have enough of them. People are using crates used for packing as floor crates.

Previous research by Griffith et al. (2017:737) noted the provision of all critical resources to complete tasks, as the cornerstone for implementation of an effective food safety system and a positive FSC. There is therefore a need for more commitment by leadership to ensure provisioning of all the resources required to ensure safe food production at Company X.

ISO (2018:10) also explicitly refers to the availability of money as evidence of commitment by leadership. Some participants indicated money as an issue. Participant 8, a quality controller with just over one year of tenure, explained:

> When we raise the issues, our manager tries by all means to get them but some seniors always have an issue with that telling us they are expensive.

Similar sentiments were shared by Participant 5, also a quality controller with less than a years' tenure, who noted that "money is an issue to fix problems".

Participant 11, a production manager, also noted "space constraints" as a resource deficiency and other participants were of the same opinion. The data therefore show that there is need for the allocation of sufficient financial resources by top management who has the power and authority to make such provisions. These findings concur with Griffith et al. (2017:737) who note that in the food service industry, there is a need to invest in food safety facilities to encourage good hygiene practices and demonstrate food safety commitment towards a positive FSC.

The majority of participants at managerial and supervisory level also experienced time constraints to complete tasks as negatively affecting the FSC. Several participants experienced that lack of adequate time allocation to complete tasks resulted in human behaviour that compromised safe food production. Participant 13, a quality control supervisor noted that:

> Sometimes you can be requested to take a short cut to speed up production or to complete certain processes in the shortest space of time which compromises food safety.

Participant 3, a production manager, noted that:

> He (the owner) wants the work to be done like now but its lots of work and you can't finish now, he is supposed to give you time to finish and do the job properly otherwise you make mistakes.

Participant 11, also a production manager, agreed, stating that:

> Production wise you would have to push people to make products which means they would have less time to do it safely.

Many of the general workers (45%) who participated in this research shared similar experiences, describing improper behaviour due to time pressure.

"People get pressure from management and don't follow food safety" (Participant 8); "I have no chance to wash the machine, change gloves and I think it affects food safety" (Participant 9); "I do the wrong things because I need to push production because the chiller will be full" (Participant 14); "you do things in a hurry every time and end up doing the wrong things"

(Participant 15); and “its pressure to do things, I sometimes forget when I go into high risk to change clothes” (Participant 16).

The research data therefore indicate a need for top management to provide enough time to complete tasks to ensure safe food production. There is a need for detailed standard operating procedures for each task indicating time requirements to complete each activity. The time to complete each activity should be sufficient to allow proper behaviour which does not compromise safe food production.

The data suggest that there is an organisational culture in Company X of putting quantity above quality when there are time constraints. This led to inappropriate human behaviour at all three operational levels, resulting in unsafe practices and unsafe production of food. Participant 13, a quality control supervisor and Participant 3, a production manager, explained:

> They want you to do things that compromise food safety for example, doing receiving meat and production is waiting for meat, they will ask me to open the second roller door so the meat can go into production so that they can cut it and that is usually at the instruction of the owner of the company because they don’t want to wait and that compromises the food safety. When both doors are open the chances of getting foreign objects and other contaminants are higher. (Participant 13)

> You forget about your food safety, even for allergens maybe you were busy with allergens now you don’t get a chance to clean the machine properly in between products Such practices put customers a risk of consuming unsafe food containing foreign objects and allergens which might cause health complications to allergic consumers. (Participant 3)

The data also suggest that inappropriate behaviour at managerial level filtered down through to the general workers, including new employees and that carelessness towards safety practices when under time pressure has become the norm. Participant 9, a general worker with just over one year tenure, noted that:

> I don’t follow certain rules to save time, for instance when changing gloves, I wouldn’t wash my hands when it’s broken just to save time even wash the glove.

Participant 16, also a general worker with more than seven year’s tenure, noted that:

> Sometimes I must take a pallet outside and time is limited and I must change and put black boots. I don’t do that because they ask me why I took too long. There must be someone outside giving me (my boots).

Thus, the data clearly reveal that within Company X, there is an organisational culture where at times human behaviour compromises safe meat production, especially when workers are under time pressure. The collected information suggests that there is a need for a mindset change from top management to show more commitment to food safety by allocating adequate time to complete tasks through the adaption standard operating procedures for each task. Participant 13, a quality control supervisor, noted a lack of requisite leadership commitment in

this regard. She pointed out having "…addressed these issues with management and on paper they agree to do what I would have asked but practically they don't do".

Leadership commitment should not only be on paper but also shown through their behaviour. Griffith et al. (2010b:440) note that the organisational culture and management systems influence behaviour of food handlers generated by leadership actions. All three managers who participated in this research, admitted to sometimes behaving in ways that lead to unsafe meat production, citing time as a major reason for breaches of safety procedures. The evidence from the literature reviewed also points to a close link between organisational culture and human behaviour (Griffith et al., 2010b:440; Powell et al., 2011:820; Neal et al., 2012:469). In concluding this theme, while the data clearly reveal leadership commitment through a documented FSMS, there is need for top management to modify time schedules, supply all necessary food safety equipment and to offer ongoing training to facilitate closer adherence to safe food production procedures. Abidin et al. (2013:04) argue that the adequate provisioning of quality resources to enable safe food production is fundamental to creating a positive FSC.

4.6 Theme 2: Food safety behaviour

The data from the research interviews conducted at Company X show inconsistent food safety behaviour at all three levels that could potentially lead to unsafe meat production. The majority of managers and supervisors admitted to not following food safety practices all the times and such behaviour has filtered through to some general workers, creating an organisational culture of incidences of inappropriate human behaviour that could potentially lead to unsafe meat production.

The data show that managers and supervisors agreed that they did not always follow well documented food safety practices, adversely influencing the FSC. They cited various reasons for their non-compliance. Participant 11, a production manager, explained that

> Sometimes you are lazy, for example you go to high risk to fetch something, a trolley, which means I should fetch clothing but I would see that there is no one and would just go in fetch whatever I want.

Participant 1 and 3, both managers, agreed, noting that "…..one would like to but everyone makes mistakes" (Participant 1) and "I don't do the right things all the times" (Participant 3). Participant 4, a supervisor explained, "(Y)ou get used to doing things the wrong way and not realising you doing things wrongly because everyone is doing it".

Yiannas (2009:16) notes that top management needs to walk the talk to ensure a positive FSC, with managers demonstrating commitment towards food safety. There is need for change of the organisational culture within Company X, starting with managers and supervisors demonstrating commitment to food safety all the times through their behaviour. Powell et al.

(2011:820) concluded that change in organisational culture might lead directly to a change in the behaviour of the food handlers towards a culture of food safety.

The data reveal, however, that not all supervisors fail to follow food safety rules and many expressed an understanding for the need for proper behaviour to ensure safe food production. Participant 13, a quality control supervisor with a university degree noted:

> I follow food safety rules because I understand the need and how it contributes to the production of safe food. I will always follow even when no one is looking because the objective is to produce safe food. If as a quality controller don't follow food safety rules, then the production stuff won't follow because you will be the reference point to them.

These sentiments align with Griffith et al. (2010a:435) that managers influence employees without them realising it, influencing the creation of a positive FSC through changing behaviours. Participants at managerial and supervisory level expressed intent to improve behaviour and lead by example. Participant 4, a supervisor, noted:

> I sometimes do fail but at the end of the day I correct it, I need to get better. Taking short-cuts is not the answer.

Participant 3, a production manager, was of the same opinion:

> 99% you try following the rules because you (are sic) the managers and you must try to follow and be an example.

The data show that there is the need for managers and supervisors within Company X to more consistently adopt an exemplary approach towards the creation of a culture of food safety. It has become a norm within Company X for incidents of inappropriate human behaviour to occur, which may lead to unsafe meat production

Yiannis (2009:11) noted organisational culture is the way of thought, behaviour, competencies, attitudes and values of a group. The data clearly reveal a link between organisational culture, human behaviour and safe food production.. Participants at managerial levels expressed that some general workers are not following rules, concurring with some general workers who shared similar experiences. Participant 1, a quality assurance manager, noted "Some of general workers follow the rules and some don't and that's an ongoing battle". Participants 3 and 4, a manager and a supervisor respectively, agreed that "People who do not follow rules just don't care. There is no commitment from some of the workers" (Participant 3) and "the staff is not always compliant" (Participant 4).

Nyarugwe et al. (2016:80) noted that national cultures play a key role, which affects FSMS, as individuals bring values which they would have adopted from their respective cultures to an organisation. Participant 1, a quality assurance manager, with more than 10-year tenure, cited the different national cultures as the cause of inappropriate human behaviour among employees "…we have different cultures of people working in the factory". More insight on this

point was provided by Participant 15, a general worker, also with more than a 10-year tenure , who noted that " are different kind of people here, some do not even want to follow food safety rules". Data show that Company X consists of four different nationalities with different national cultures. Regardless of differing national cultures within Company X, there is a need to formulate a positive FSC through proper food safety behaviour consistently demonstrated by managers and supervisors.

Certain general workers shared experiences where inappropriate behaviour demonstrated by some managers creating a negative FSC, as managers were not held accountable for their actions. Participant 9, a general worker with less than 3 years' tenure noted that "more often they (managers) don't wash hands or wash boots. I see managers with PPE in toilets and canteen which is not allowed". Participant 14, a general worker with more than a 10-year tenure commented, "They (managers) would come in with their low risk clothes into high risk which is not allowed. I don't see them wash their hands like they should." Participant 8, also a general worker noted

> There are those who do follow food safety rules, not wearing necklaces, not carrying cell phones and wearing beard covers and then you get the group that walks out the factory with gumboots then back into the factory and nothing is said.

The data reveal the need for holding managers accountable for their actions for inappropriate food safety behaviour as they should lead by example. Participant 9 noted "I think because managers are in a management role, they think the rules don't apply to them". Participant 14 noted "For example they are on us with it but they don't comply. They are not committed, it's for the workers and not for them" and Participant 14 noted "They should lead by example". Abidin et al. (2013:03) note that leadership needs to show accountability, through taking disciplinary action against individuals who do not follow food safety rules and there is great need for consistency of treatment to ensure a positive culture. The lack of disciplinary action against managers for inappropriate behaviour had filtered through to the general workers and become an organisational culture. Participant 9, a general worker, noted "They (managers) do cut corners, they slack and we intend slack as well". There is need for disciplinary action against the managers for inappropriate behaviour to set an example to the general workers the consequences of such behaviour and positively influence the FSC.

The inconsistent food safety behaviour of the managers has adversely influenced the FSC within Company X. Participants 9, 14 and 16, all South African general workers, shared similar inappropriate behaviour that leads to unsafe meat production. "When no one is looking and I am in a rush, I won't use a thermometer to check the sausages before throwing them off" (Participant 14); "I sometimes do wrong things, I go out with white boots" (Participant 16); and "for instance when changing gloves, I wouldn't wash my hands when it's broken" (Participant 9).

FSC behaviours change from day to day. A majority of participants shared experiences of changes in behaviour towards safe meat production at a certain period within Company X, such as when the company is being audited by third parties. “Behaviour changes on the day of the audit” (Participant 4); “When the company is being audited there is more pressure to do the right thing” (Participant 13); “There is a big difference when it’s the audit day and that’s from everyone, management and the hygiene side” (Participant 3); “No one is relaxed on the audit day” (Participant 2); “There are things not being daily but have to be done on the day of the audit” (Participant 8); and “I know we being audited or see that my manager is watching my every move” (Participant 9). Jespersen et al. (2016:174) opine that organisational culture is a pattern of shared assumptions that is learned by a group. The data clearly reveal a pattern of inconsistent behaviour within Company X, which negatively influences the FSC.

Some of the participants shared the experiences between normal working days and those when the company is being audited against safety standards for compliance. Participants 3, 8 and 14, at managerial and general worker levels, commented on changed behaviour, “For example, on the day of the audit people wear beard-covers and normally half of the people don’t wash their hands properly” (Participant 3); “…such as having certain individuals wearing beard-masks and not wearing necklaces” (Participant 8); and “no boots in the canteen, everyone changes them, you make sure that everything is in place even the bin has a lid on and the high risk doors are closed” (Participant 14). A positive FSC is created by a culture of constant appropriate human behaviour at all levels within an organisation.

Participant 14, a general worker, with more than 10 years’ tenure commented:

> I always say if we practice it every day then there won’t be chaos everyone falling on the feet. However, if done properly every day it won’t be a problem because you are used to it. Day of the audit, everyone is doing what they are supposed to be doing.

Although both managers and some general workers shared experiences of inappropriate behaviour among themselves, many participants also shared their commitment towards safe food production. Participant 13, a quality control supervisor, commented “I have a strong conscience, I can’t walk away from a non-conformance”. Certain general workers practised consistently correct behaviour, noting their sense of responsibility towards customer health safety. Participant 5 noted his commitment

> …to protect the consumer. I follow to the best of my ability.

In addition, Participant 14 noted:

> …..if I go buy the product, I want a clean and healthy product, so that’s why I follow rules.”

Participants 8 and 12 concurred, noting that:

> I feel that people's lives are in my hands, because if you sell contaminated food you end killing people. So do it for the sake of customers" (Participant 8)
>
> I know the consequences which I am trying to stop using contaminated meat and preventing people eating such food." (Participant 12)

Griffith et al. (2010b:141) note that individual attempts by leaders and managers to improve food safety may be ineffective. The research data as discussed in this section are in alignment, clearly showing the need for efforts from all parties starting from top management, to practice exemplary behaviour to ensure safe meat production. Griffith et al. (2010a:435) also note that managers influence employees without them realising it, so food safety accountability rests with leaders as they have the power and influence to create a positive FSC through changing behaviours, thoughts and beliefs of individuals within a group.

4.7 Theme 3: Leadership style

The research results showed mixed experiences among participants of the prevailing leadership style and its influence on FSC within Company X. A significant number of general workers (72%) reported positive responses to the leadership style, while others were ambivalent or expressed some dissatisfaction. Managers and supervisors were all of the same opinion, that they experienced some difficulty with aspects of the leadership style that they felt was at times too autocratic. They tended to see this more negatively than general workers, who found this leadership style beneficial and helpful in enabling them to meet the food safety requirements in their day-to-day activities.

Firstly, the data revealed that 72% of the general workers, most of whom were machine operators with less than 3 years' tenure, suggested positive leadership: "the owner leads in a good manner" (Participant 2); "he is always good" (Participant 12); "he leads us well" (Participant 6); and "he is always good" (Participant 10). Furthermore, Participants 5, 14, 15 and 16, all general workers, experienced the leadership style as being "led by example" and being a "proper" leadership style.

However, 18% of the general worker participants experienced the leadership style less positively. Participant 9, with less than a three year tenure, noted, "in my opinion, with leadership I don't see any style" and Participant 8, also with less than a three year tenure, noted his response to the leadership style as "I can say it's not as good as it's supposed to be, I think its poor, the way they address the people". Although a majority of general workers expressed satisfaction with the leadership style, those who were less positive agreed that the tendency towards autocratic leadership made them feel poorly treated at times. However, there was no clear evidence that being disgruntled by what they experienced as poor treatment by leadership, had a negative effect on workers' commitment to safe food production.

By contrast, all participants at managerial and supervisory levels reported some dissatisfaction with the tendency towards autocratic leadership from top management. Participant 13, a female quality control supervisor, noted, “Its autocratic, the top management makes their decision and implements them without considering the people’s views”. Participants 1, 3, 4 and 11, all managers and supervisors, concurred to experiencing the leadership style as autocratic giving almost similar descriptions of the style. “It’s run by one man who dictates the planning of the day or the production” (Participant 1); “the owner runs the factory in his own aggressive way, it’s either his way no way” (Participant 3); “it’s dictated upon you and you must do a certain task” (Participant 4); and “every decision he makes has to be followed” (Participant 11). This leadership style resulted in managers and supervisors being resentful, particularly where this leadership style limited their autonomy to enhance processes or make decisions.

These experiences shared by managers and supervisors are aligned to literature characteristics of an autocratic leadership style (Nanjundeswaraswamy & Swamy, 2014:57; Iqbal et al., 2015:5; Khan et al., 2015:87; Khajeh, 2018:5). This style is characterised by individual control over all decisions (Khajeh, 2018:5). However, like any leadership style, the participants’ responses show that the tendency towards autocracy had both positive and negative influences on the FSC within Company X.

General workers identified a number of benefits of top management’s leadership style. In particular, they commented positively on the clear guidance and work support from the owner-manager in ensuring safe meat production. The presence of the owner on the floor benefited some general workers with less work experience and lower levels of education, in that they could rely on daily guidance by leadership. Participant 7, a general worker, stated, “When we come in, he (the owner) tells us what to start with” and Participant 6, a general worker, noted, “He tells us what to do”. Nanjundeswaraswamy and Swany (2014:58), Iqbal et al. (2015:5), Khan et al. (2015:87) and Khajeh (2018:5) all agree that dictating work methods and processes and telling others what to do, can, under the right circumstances, be positive elements of autocratic leadership.

Other participants at general worker level also agreed that the benefit of having the owner working on the shop floor with employees was that this facilitated the smooth running of daily operations by having quality control in place and assisting staff with heavy workloads. Participant 2 noted:

> He is always up and down checking if everything is okay, it gives me power, my ability to improve.

Participants 10, 5 and 9 were of the same opinion, noting that:

> He works with us as hard worker, because when I need help I can ask him. (Participant 10)
>
> He is hard working, determined and passionate about his job. (Participant 5)

> He is here, he gets the job done. (Participant 9)

Thus, the daily presence of the owner on the "shop floor", giving instructions and pushing for results, positively influenced human behaviour and safe food production through constant modelling and checking of general worker activities. Moreover, the prevailing leadership style enabled quick and effective problem solving as one person who had the requisite knowledge made most the decisions. Participant 2, a general worker, noted "When I have a problem, I go to him and solve the problem". Khan et al. (2015:88) note that authoritarian leadership is beneficial in high-volume production, which is the case within Company X where daily production volumes are high, as is typical with fast-moving consumer goods (FMCG).

Khan et al. (2015:88) further note the possible benefits of autocratic leadership in situations where the leader is the most knowledgeable member of the group, which seems to be the case within Company X. The owner has been working in the meat-processing industry since the early 1970s and Company X has been operational since the early 2000s. Participant 11, a production manager, with a low level of education, commented "everything I know now I have learnt from him (the owner), he has taught me everything". Participant 4, a supervisor, agreed that the owner's extensive knowledge and experience benefited employees, "The reality is he has the knowledge so you will be able to know that there is reason behind what he is telling you".

However, although the majority of the general workers benefited from the daily presence of the owner, some noted that his absence left a gap. General workers seemed to have become reliant on the leadership and presence of the owner, on following his instructions and decisions about anything other than basic routine tasks. Participant 9, a machine operator with less than two years' tenure commented "without him it's generally the basic routine going to normal process of your basic jobs". Yet, despite complaints from supervisors and managers that they felt excluded by the autocratic approach of the owner, there was consensus from general workers that middle management at Company X is committed and effective in supporting safe food production. Many general workers concurred that in the absence of the owner, middle management stepped into the breach very successfully.

General workers reported that middle management supported an organisational culture of safe food production in a number of ways. Firstly, managers and supervisors had a strong presence on the shop floor, both advising workers and checking on correct procedures. "They tell me what I must do and not do" (Participant 16); "they are always on the floor, seeing what is wrong and what is right" (Participant 2); "they are always there all the times, we correct discrepancies" (Participant 8); "when a supervisor is on the floor everyone does their jobs properly and production moves" (Participant 14); and "they are always there and it encourages me to do the right thing all the times" (Participant 12).

Secondly, the supportive presence of managers and supervisors motivated and encouraged general workers in their daily tasks, contributing to teamwork and a positive FSC. “they motivate us by coming to check if we are doing things right” (Participant 2); “my supervisor keeps me on my toes by checking my work all the time, it forces me to work harder” (Participant 5); “they assist, sometimes if I don’t understand they tell me what to do and they tell me on time” (Participant 10); and “they always tell me not to use meat that is old, they tell me to use fresh meat and encourage me to do the right thing” (Participant 12).

Thirdly, workers noted that middle management were able to make decisions and solve problems effectively. Participant 15 noted that:

> They check what we are doing and if something is wrong, they fix immediately. We can’t pack something the whole day and later on in the day tell us everything is wrong and ask us to repack so if they are there they can see if it’s right or wrong and if wrong it’s corrected immediately.

Participant 13 a quality control supervisor stated that:

> My superior is largely involved in identification of non-conformances and I find that his involvement in such helps to ensure the production of safe food.

Thus the leadership style at Company X, despite its shortcomings, in general enabled workers’ activities to be closely monitored and workers who fell behind to be quickly identified and corrective measures promptly implemented. This promoted behaviours that positively influenced safe production of processed meat at Company X.

The research results have indicated that most participants benefited from the clear information afforded by the leadership style influencing a positive FSC. According to Khan at el. (2015:88), autocratic leadership style is beneficial to new, untrained employees with little knowledge on how to perform tasks. The interview data concurred with Khan’s contention that one of the advantages of this style is that it led to speedy decision-making and greater productivity under a leader’s supervision.

However, the data also revealed that in some cases, the prevailing leadership style negatively impacted on staff morale. Respondents reported that low morale arose firstly, due to a lack of respect shown by both the owner and other managers and secondly, due to the lack of delegation of duties to managers. This aligned with Khajeh’s study (2018:5), which also found a link between authoritarian leadership and lowered staff morale..

Participants, mainly general workers, cited lack of respect impacting negatively on morale and subsequently performance towards safe food production. Participant 7 commented, “sometimes he (the owner) respects people and sometimes he does not”. Participant 8 noted, “they don’t treat us like humans, they scream instructions….” concurring with participant 14, a packer with more than 10 years’ tenure who noted that “at times they (sic) very unfair to people,

when it comes to treating the people about personal things, they choose sides and favour other employees". Participant 7 shared similar sentiments "Sometimes he (the owner) shouts at you which is not good and sometimes pushing you when he sees you working slowly". Participant 16 commented, "Sometimes he shouts at me and other people see it and say it's not good to speak to an old man."

The data showed that this lack of respect experienced by participants negatively impacted on their behaviour towards safe food production. Participant 14 explained, "if people treat me as a person and fair, I will go out of my way to satisfy them".

Participant 8 mentioned:

> It affects people, if you are doing something and you are not happy it will affect because you don't give 100% and you just do it. It will affect food safety because when the employees are working not happy obviously, they won't consider food safety. They won't treat the product properly not putting food safety first.

Participant 5 noted, "It affects the person receiving such treatment and become disgruntled".

Participant 8 agreed, noting that:

> …if you do it in a disrespectful manner or degrading person, they will end up giving poor performance… it will affect food safety because when employees are working not happy obviously, they won't consider food safety. They won't treat the product properly.

Participant 7 agreed, "….it might affect, sometimes when he shouts at you, you not going to work with morale, putting effort" and gave an example food safety practices are not followed due to lack of morale: "sometimes the meat falls down you just going to take it and put with other meat without washing it".

Putra and Cho (2019:40) note respect as one of the characteristics that leaders should demonstrate, as well as not talking down to employees for them to feel appreciated. If the owner and managers were to create a more respectful culture within Company X and show compassion, it would help improve staff morale and performance towards enhancing a positive FSC. Participant 3, a production manager, noted "I think if you someone (sic) and talk to them in a nice decent way without screaming at them they would listen to you, then you have more respect from their side".

Managers and supervisors who expressed feeling resentful towards the authoritarian tone of leadership, cited in particular that is interfered with their focus on due processes and how they could make decisions. The research data reveal that the lack of delegation affected how managers exercised their authority and responsibilities. Autocratic leadership is characterised by the leader overriding decisions and not accepting input from members. Participant 11, a production manager, with more than 10 years' tenure, although previously acknowledging to have gained knowledge from the owner, explained:

> It's just now and then when I have a problem with the way he does things because he wants to be everywhere which is what I don't understand because he has us to do the things and report to him, we should be reporting the wrong things to him not him pointing out things.

Participant 4, a supervisor, concurred with concerns of decisions being overridden "...but it's not that you have a say because either it can be overridden or not taken into account". Similar sentiments were shared by Participant 13, a quality control supervisor, "it affects me because that then means in certain instances there is very little room for me to say my thoughts on the particular changes". Participant 1, also a manager, noted, "it affects me greatly as I don't really know the production plan of the day which makes it very difficult to fall inline". Participant 11, a production manager, highlighted the leadership style as negatively influencing safe food production, "when he (the owner) takes someone from the department and puts a new person that individual doesn't have the correct on (sic) how to make the products. It affects food safety".

So while an autocratic leadership style can be beneficial if used in an appropriate manner, a more consultative leadership style with the management team through effective delegation, would improve their morale and enable more creative ideas and solutions to problems by allowing employee-input. It would also encourage general workers to be more independent and not always rely on the presence of the owner or middle management for advice, checking up, or making quick decisions. Khan et al. (2015:88) argue that consultative leadership motivates employees and allows employees themselves to establish goals. Having a more independent, self-reliant work ethic among general workers would positively affect their work behaviour and their contribution to safe food production.

4.8 Theme 4: Communication style

The communication style was the fourth theme to emerge from the analysis of the research data. Communication plays a crucial role in creating a positive FSC through promoting understanding (Griffith et al., 2017:735), stimulating motivation (Spaho, 2011:392) and influencing behaviour (Yiannas, 2009:50).

Participants had mixed perceptions of the effectiveness of communication among the different seniority levels in the company. A significant number of general workers (45%) experienced lack of effective communication between themselves and both middle management and leadership, citing failure of leadership to show willingness to listen to the general workforce as one of the reasons for poor communication.

> There is no communication with the leaders because they don't want to listen to us. (Participant 15)

Other comments from general workers referring more generally to their experiences of ineffective communication, noted that “it’s extremely poor, there is no communication” (Participant 8); and “there a lack of communication in this place” (Participant 9).

Managers and supervisors also noted lack of effective communication between themselves and leadership as negatively impacting their work performance. All managers agreed with the general workers, noting that “communication is definitely lacking” (Participant 1); “between me and my boss there isn’t much communication” (Participant 3); and “there is lack of communication in the organisation” (Participant 11). Griffith et al. (2010a:427) note the operation of an organisation as highly dependent on communication, either formal or informal, as it strongly influences organisational behaviour. The many references to poor verbal communication may seem at variance with the positive experiences recorded earlier in the chapter where general workers felt that management was present on the shop floor and was consistently willing to explain, instruct and step in to solve problems. However, as also stated earlier in the chapter under section 4.5, a significant cohort of workers at all levels expressed dissatisfaction with incidences of authoritarian leadership and disrespectful verbal interaction. One may conclude then that where the communication was instructional and related to practical tasks happening at the time, most workers experienced the communication positively. However, there seemed to be less satisfactory interpersonal communication between leadership and workers beyond the immediate tasks at hand. Participant 13, a quality control supervisor, noted, “management is not very communicative”. Several general workers were of the same opinion, noting that “I would say there is no communication, if it’s there, it’s very weak” (Participant 12) and “...there is no communication” (Participant 16).

The research data also indicate that a communication breakdown with leadership and management often occurred when there were differences of opinion on certain matters, where workers wanted to offer suggestions and ideas or when there was time pressure. Workers reported feeling badly treated and excluded from full participation. The communication between middle and top management was recorded as particularly poor, with one general worker, Participant 9, observing “I don’t see any communication between the leadership and general workers”.

The data showed how poor communication adversely impacted on human behaviours, performances and correct understanding of best practices in ensuring safe meat production. Participants 3 and 11, both managers, explained that the lack of communication between them and the owner resulted in confusion regarding tasks to be completed.

> Communication between me and my boss negatively affects my work because when he (the owner) doesn’t tell you properly how do you expect me to do the work. The communication is not detailed. (Participant 3)

> He (the owner) just expects you to do things without communication. (Participant 11)

This style of authoritarian communication was also reported as filtering down the line, negatively impacting on communication between managers and general workers. Participant 9, a new employee, noted:

> They don't explain properly. It affects me in the sense that there are certain things I am not sure about and scared to ask because I would get a long lecture, because they assume I should know it by now. You end following others whether right or wrong.

Participant 12, a general worker with more than 10 years' experience, shared similar experiences:

> Like I said you would you want to ask something but you wouldn't get access to management, maybe your rights were not respected and you try and come back to the management, you can't just engage with them.

These experiences highlight the need for detailed standard operating procedures for tasks. These should be accessible to all employees for reference in cases of doubt. Additionally, these standard operating procedures should be translated to improve accessibility to all employees. The data revealed that 25% of general workers were foreign nationals and 31% were Black South Africans, where English is not the mother tongue.

Another common complaint about communication was that instructions were not always clear or consistent, or that managers would change their minds about something and then not communicate that effectively. Changes were not communicated effectively, resulting in misunderstandings and conflict.

Participant 14, a general worker, noted that:

> He gives mixed instructions and there is that conflict between you and the supervisor and the manager".

Participant 9, a general worker, concurred, noting that:

> It causes a lot of confusion, because in the work environment one would say one thing and another leader would come and ask you to do something else.

Participant 13, a supervisor mentioned that:

> …sometimes you can find out that this person has changed something, because they don't communicate it creates problems and sometimes, they are not practical.

Participant 3, a production manager, noted, "The communication is not detailed.'

The GFSI (2018:20) opines that consistent and clear communication with all staff members enables better understanding of the organisation's food safety practices and overall approach to a positive FSC.

Participants also commented that management commonly made use of written forms of communication disseminated via notice boards and paper notes. Participant 12, a general worker, commented that as “that’s the only type of communication that we have been using up to this point, there isn’t any other form of communication”.

Some workers found this form of communication effective and useful. Participant 14, a general worker, noted that:

> You would come in and there is a piece of paper with sausages the manager would want to be completed for the order and you just follow.

Participant 10, also a general worker, agreed:

> They give me a paper or write on the board, every morning they write our tasks on the board.

However, some concerns were noted with written forms of communication negatively impacting on safe food production in cases where employees with low levels of education struggled to read written instructions. Participant 11, a production manager, pointed out that

> It does affect because some people don’t know how to read, something you can’t blame them for but not being their fault.

Making use of more inclusive forms of communication to accommodate all employees, Participant 13, a supervisor, commented that:

> I feel that there are some issues that require the top management to actually address verbally, this would show the top management’s commitment to food safety and when employees see the top management being involved.

Participant 11, a production manager, recommended daily meetings between managers and employees:

> To make communication more effective the managers should have meeting in the morning with their workers and be effective.

Spaho (2011:390) notes that effective communication is required for both human relations and the success of a business. Effective communication is ensured by a two-way communication and efforts from both the sender and receiver are crucial (Akilandeswari et al., 2015:154). This implies that the receiver must send feedback to the sender for the two-way process to be complete. The data showed that participants experienced a lack of feedback regarding performance between the owner and managers, as well between managers and general workers and that this negatively influenced the FSC.

Participant 11, a production manager, noted that:

> There is no feedback, because they don't communicate if I am doing well or not. There are no targets and there is no feedback.

Participants 4 and 13, both supervisors, were of the same opinion, "There is no feedback if we are doing well or not" (Participant 4) and "I don't get feedback on my performance except on the day I want to resign" (Participant 13).

The lack of a two-way communication between the owner and management resulted in managers not being able to provide feedback to the general workers. Participant 11, a manager, noted that:

> There are no targets and there is feedback, I can't even tell my workers if targets are met because as a manager I also don't know.

Of the general workers interviewed, 25% commented on not getting feedback from managers. "I don't get any feedback on my performance" (Participant 12); "they don't give us feedback if we are doing right" (Participant 15); "I don't get feedback from my manager" (Participant 16); and "I don't get feedback. I would assume they would talk to me" (Participant 5).

Ball et al. (2010:82) consider the lack of feedback as one of the factors affecting the implementation of FSMS towards creating a positive FSC. Participant 4, a supervisor, explained that "it can lead you being despondent if you feel like you have not achieved anything, we don't get much feedback on what you have achieved".

There is thus a need for the leadership to engage in a two-way communication by providing feedback to managers. Provision should also be made for workers to feel comfortable with engaging in bottom-up communication where necessary to facilitate information sharing that would facilitate safe meat production. Effective communication allows the transfers of food safety messages, creating a positive FSC (Ball et al., 2010:82).

4.9 Theme 5: Training

The research data revealed that 90% of participants at all levels agreed that food safety messages were transferred via training sessions that were conducted at least once per year. The participants experienced this form of information transfer as enhancing their food safety knowledge and positively influencing the FSC within Company X. The food safety knowledge gained during the training sessions positively influenced behaviour change. This concurs with findings by Husain et al. (2016:796), noting that training improves food safety knowledge and behaviour amongst food handlers. Participant 1, a quality assurance manager, commented that the training is

> Scheduled on a yearly basis covering different aspects, on hygiene, good manufacturing practices (GMPs), fire training, first aid training.

Participants 3 and 11, both managers, agreed, noting that training was provided on “everything from the hygiene, allergens, personal hygiene and cleaning” (Participant 3) and “food safety and GMPs are covered, glass breakage policy” (Participant 11). Participant 13, a quality control supervisor, commented that “a lot is covered, GMPs, allergens and foreign objects.”

General workers noted that training was explicit about the practical, day-to-day rules and behaviours that impacted on safe food production. Most of these rules focused on good hygiene practices:

> It’s about contamination of food, like we are working with raw food and cooked food, we can’t mix the two on the same table. We must follow rules if you do this product you must clean before the next product. (Participant 15)
>
> Cleaning, chemicals used to clean, safety hazards, food handling. (Participant 14)
>
> Food safety procedures, prevention of food contamination, personal hygiene, storage practices, temperatures. (Participant 12)
>
> The main topic was the foreign objects coming into the factory. Hand washing, wearing mop caps.(Participant 16)
>
> Following the rules, cleanliness, when you come from outside you must wash your hands before you enter the factory. (Participant 2)
>
> Simple GMPs like your gloves shouldn’t be lying around, no red crates on the floor, or properly cleaning, the method and process” (Participant 5). “GMPs, HACCP, your hygiene. (Participant 8)
>
> …basic hygiene, on you and entering the factory. (Participant 9)

Other comments indicating employee understanding of food safety requirements that ensure safe food production included:

> It’s about contamination of food, like we are working with raw food and cooked food, we can’t mix the two on the same table. We must follow rules if you do this product you must clean before the next product. (Participant 15)
>
> Cleaning, chemicals used to clean, safety hazards, food handling. (Participant 14)
>
> Food safety procedures, prevention of food contamination, personal hygiene, storage practices, temperatures. (Participant 12)

General workers explained how they experienced the training which was conducted at least once per year benefited the employees. They noted that the training acted as constant reminder of good hygiene behaviour.

> It reminds me of things that I might have forgotten or taken for granted and things I might have forgotten. It helps me to keep on my toes. (Participant 8)
>
> It influences me to an extent that it’s just the small steps that we don’t follow which take seconds to do, so it made me think. (Participant 9)

> …like I said its awareness, things you don't normally take into consideration, you not going to be ignorant once you know. (Participant 14)

Some participants, who were general workers with secondary educational qualifications, noted that the training also made them more aware of the impact of non-compliance and influenced behavioural changes towards safe production of food. They commented that:

> I did not know effects of hand washing. It has made me [sic] more vigilant on what I am doing and what I am not doing. (Participant 9)

> For example you normally don't wash your hands and when you come to the training and they explain to you what could happen by you not washing your hands you became more aware and follow the rules… it makes us to be more wise. (Participant 14)

The training was not only beneficial to the general workers but also to supervisors. Participant 13, a quality control supervisor, concurred that her food safety knowledge was broadened by training, she commented that:

> I will give you an example with the allergen training. Almost everyone now knows about allergens. That shows you the influence of such. Now when they handle allergens, they handle them in a different manner due to training. "

Participant 4, also a supervisor, noted that:

> The training has been beneficial, I wasn't aware of the *Listeria* and *E.coli* if it wasn't because of the training. I knew about it but didn't know about the implications and the temperatures and times it grows per minute or per hour.

Participants agreed that training contributed towards maintaining a positive FSC in the selected company. Participant 12, a general worker with a more than 10 years' tenure noted that:

> I think it becomes a culture and the behaviour of employees changes because they would know what is right and what is wrong.

The training helped the employees with day-to-day practical hygiene behaviours. "It makes us improve our behaviour, it improved my personal hygiene here in the factory." (Participant 2); "It's helping people change. They are helping people change the behaviour." (Participant 12); and "As we do that training you can see where you can improve and do properly. (Participant 15).

The training at Company X has empowered the employees with safe food production knowledge and has not only influenced behaviour change in the workplace but also at home. Participant 2, a general worker noted:

> Even at home you know what is right and what is wrong, you can even tell your child don't do this, it's not right, go wash your hands when you come from the toilet, you must not sneeze in your hands.

The knowledge gained through the training has created a culture where participants noted that they corrected other's behaviour. Participant 16, a general worker, commented, "It influences me because I can tell other employees when they make wrong things, because you must do it regularly."

The data show that although the food safety training was conducted at Company X, Participant 14, felt the need for training on other aspects such as employees' health:

> They are doing everything for food safety but this is a company which is very cold and they bring in the nurse for the health of the people but they have never given us training on TB, a lot of people have left here because of TB and they have never trained on that. We need awareness on that and how it affects the company.

Of the general workers, 81% agreed that the way in which training was conducted was helpful and supported a positive FSC. Participant 4 noted that:

> The visual training has been useful. It was very nice when you sit in the boardroom and you see a photo on a projector and people understand, whereas if you give them some documents they wouldn't grasp it, whereas if they see pictures they would understand much better.

Although training was conducted using visuals for better understanding, Participant 3, a production manager, recommended the need for all training to be done on the shop floor for better understanding of the employees:

> Training should be done on the floor than sitting in the boardroom and seeing pictures. What is taught in the boardroom is not being done on the floor, because I think they get bored and sleep and don't listen during the training. It's they sit here and their minds are somewhere else.

Safe food production behaviour knowledge can be further enhanced if practical training is done on the shop floor more frequently rather than waiting for the annual training. This would ensure consistent human behaviour towards safe food production positively influencing the FSC.

FSC is a subcomponent of the organisational culture focusing on food safety, which the research results reveal to be positively influenced by training of employees. While training was beneficial in many ways, as previously noted earlier in this chapter under section 4.5, there were some areas where more training was required, focusing on the complex sections of the FSMS.

4.10 Theme 6: Teamwork

The literature reviewed identified leadership, communication and commitment as important elements in the establishment of a positive FSC (Griffith et al., 2010b:447; Spaho, 2011:392; Neal et al., 2012:471; Griffith et al., 2017:729). From the research data analysis, teamwork emerged as another important element affecting the FSC at Company X.

A significant majority of general workers (72%) noted that there was teamwork in the company, commenting that “we are working too well together” (Participant 5); “we work together” (Participant 6); and “we work as a team” (Participant 8).

Participants at general worker level commented that the prevailing culture of teamwork created a sense of belonging among employees and positively influenced employee behaviour as regards safe production of meat. Participant 2 noted that feeling supported in this family-like environment “gives me the power my ability to improve the work.” Other participants noted, “we like a family” (Participant 10) and “in my opinion it motivates” (Participant 5).

Some general workers noted that the owner fostered teamwork. Participants 6, 7 and 10, general workers who were machine operators, noted that working with the owner on the shop floor helped build good teamwork, good working relationships and better understanding. “He (the owner) tells us to work together as partners” (Participant 6); “…encourages teamwork among co-workers, we work very well” (Participant 7); and “he helps me even when my supervisor is not there” (Participant 10). These comments align with Neal et al. (2012:469), who states that teamwork among employees with the same attitudes and beliefs towards a practice enhances chances of conformity to standards.

Another benefit of teamwork in Company X was that it facilitated a smooth flow of safe food production operations. Participant 14 noted “We are like a good, lubricated machine, working well together” with Participant 5 similarly noting that “we are like a well lubricated machine”.

This smooth flow of operations was further facilitated by teamwork where co-operation created opportunities for employees to assist one another. “If someone is not working well, we have to help each other and fix the problem” (Participant 8); “We help each other with work” (Participant 6); and “when I need help they do help me” (Participant 10).

Teamwork within Company X was also reported in the research data as enabling better understanding and conflict resolution amongst employees, thus positively influencing safe food production behaviours. Participant 5, stated, “Sometimes we do have fall outs but, we discuss it and talk it out”. Participant 15 agreed, “we argue at times but at the end of the day we know we are working and understand each other as individuals”. Participant 8 mentioned:

> …we understand each other and we treat each other with respect, when we work as team if I miss something, they can tell me ABC has gone wrong, just pay attention.

However, some participants at managerial level noted that there was at times a lack of teamwork among themselves. Participants at this level cited stress, home circumstances and personality differences among individuals as significant factors impacting on teamwork and positive food safety behaviours. Participant 11, a production manager, commented that:

> There is no teamwork. For example, I go to the next manager, depending on his mood he will decide if he will do it or not. Once there is no teamwork it affects the production of food. When you come from home and bring your stress and take it out at work it will affect the end product... We can fix it at the end of the day. He is a person.

Participant 13, a quality control supervisor, expressed the impact of personality differences affecting teamwork as:

> I will give you an example, you have a bad relationship with that person but you need to give and instruction but the two of you don't talk it's difficult to approach them and give them an instruction regarding food safety and good hygiene practices.

The data thus revealed that a culture of positive teamwork and good work relationships among general workers and general worker and top management, contributed to a positive FSC. This was because teamwork made workers feel supported and motivated and enabled them to share, learn from and assist each other.

However, teamwork among managers was reported as being negatively affected by factors such as stress and personal differences. Several incidences were cited where this negatively impacted on safe food production. From the comments on training reported earlier in the chapter, it seems clear that there is effective training on both the regulations and the practical aspects of FSC. However, there were no comments about experiences of training on interpersonal communication or conflict resolution, or on support for health and emotional well-being. There may, therefore, be benefits to Company X in considering additional training and support to improve teamwork among managers.

4.11 Summary

The findings from the research interviews conducted at Company X showed that leadership at Company X was committed to a positive FSC through a documented FSMS and provision of resources towards the realisation of safe food. There was a general awareness among all respondents of the existence of the FSMS, however, some general workers did not fully understand the contents of the documentation, which was available in English only. The majority of the general workers sampled did not have a post-secondary education and 27% were foreign nationals, whose mother tongue was not English. This made it difficult for them to fully understand the requirements for safe food production as documented in the FSMS. The lack of knowledge and understanding of all the rules at Company X was a stumbling block to the full implementation of the FSMS, negatively affecting the FSC.

Although provision of most physical resources were made available within Company X, the absence of crucial resources such as thermometers, pallets, crates and trolleys were noted as impediments to safe food production. Participants experienced time pressure to complete tasks, which resulted in inappropriate human behaviour that compromised safe food

production and negatively impacted on the FSC. A lack of leadership commitment to making money available for resources was also highlighted as a contributing factor to shortages.

The results also suggested an organisational culture of putting quantity above quality and food safety. Three managers who participated in this research admitted to sometimes behaving in a way that led to unsafe meat production, citing time as the major reason for breaches of safety procedures. The participants mentioned that a lack of disciplinary action against managers for inappropriate behaviour had filtered through to the general workers and become a culture that potentially could lead to unsafe meat production and adversely affect the FSC.

The study further revealed inconsistent behaviour as prevalent within Company X, where a majority of participants shared experiences of changes in behaviour towards safe meat production at certain periods, such as during external audits. Although managers and some general workers shared experiences of some inappropriate behaviour among themselves, other participants shared their commitment towards safe food production, citing an understanding for the need for consistent proper behaviour to produce safe food.

The findings revealed a leadership style which, to a greater extent, positively influenced the FSC within Company X. A majority of the general workers experienced the leadership style of managers and supervisors as autocratic, which they deemed beneficial and helpful in knowing exactly what was required of them, enabling them to meet the food safety requirements. This was facilitated by the daily presence of the owner on the shop floor, who gave clear guidance and assisted staff with heavy workloads, thereby creating a positive FSC. This enabled quick problem solving as one person made most of the decisions. However, this also resulted in managers and supervisors being resentful, as they were unable to enhance processes or make decisions. Participants noted that the absence of the owner on occasions left a gap, as some workers seemed to have become reliant on the leadership and presence of the owner. Yet, despite complaints from supervisors and managers that they felt excluded by the autocratic approach of the owner, there was consensus from general workers that middle management at Company X supported an organisational culture of safe food production.

Some participants, mostly general workers, experienced the autocratic leadership style as having a negative impact on staff morale due to lack of respect from the owner and managers. Participants felt poorly treated at times due to disrespectful verbal interaction within Company X. The majority of the research participants mentioned a lack of effective communication at all levels. Participants cited failure of leadership to show willingness to listen to the general workforce and to provide effective feedback. Participants highlighted that communication breakdown with leadership and management often occurred when there were differences of opinion on certain matters and where workers wanted to offer suggestions and ideas. Participants experienced a lack of feedback regarding performance between the owner and

managers, as well between managers and general workers and that this negatively affected the FSC.

The study revealed little satisfactory interpersonal communication between leadership and workers beyond the immediate tasks at hand. However, food safety messages were communicated via training sessions. Almost all participants said that this training enhanced their food safety knowledge, influenced behaviour change and positively affected the FSC within Company X. This created a culture where employees corrected each other's behaviour and encouraged teamwork. Lastly, participants mentioned that the prevailing culture of teamwork fostered by the owner created a sense of belonging among employees, enabled better understanding and conflict resolution amongst employees, which positively influenced the FSC. However, some managerial level participants highlighted that there was at times a lack of teamwork among themselves.

The findings clearly suggest links between organisational culture, human behaviour and safe food production. Experiences shared by the participants of the leadership, communication and commitment at Company X, positively influenced the FSC to some extent. However, some of the experiences shared by participants lead to unsafe meat production.

The following chapter provides concluding remarks on the findings of this study and proposes recommendations regarding amendments to policies and human behaviour that may help to eliminate unsafe food production at Company X. Suggestions are also made for possible future studies originating from gaps or related areas of interest from the study findings.

CHAPTER 5
CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The research findings indicate a link between organisational culture, human behaviour and safe food production. Experiences shared by the participants showed both positive and negative influences of leadership, communication and commitment on the FSC within Company X. The chapter begins by concluding the major findings and proposing recommendations on policies and human behaviour based on the findings of this study, which may help to eliminate unsafe meat production at Company X. The chapter describes the limitations of the study and offers suggestions for future research.

5.2 Conclusion on major findngs

The first research objective of this study was to establish the need for a comprehensive FSC at food-processing organisations and extensive relevant literature was reviewed on the topic. on the need for a comprehensive FSC at food processing organisations. It is evident from the numerous national and international FDOs that food-processing organisations need to have a comprehensive FSC, not only to prevent sickness and deaths but also to avert negative economic implications, brand damage and legal action. Ongoing investigations into FDOs and associated deaths have attributed the breakdowns in FSMS's to improper human behaviour or lack of a comprehensive FSC. This study concludes that there is a dire need for a comprehensive FSC at food processing organisations to ensure consistently safe food production.

The second objective for this research was to identify the links between organisational culture, human behaviour and safe food production. This research reveals the presence of a detailed FSMS within Company X. However, the research findings also reveal that the FSMS was not fully implemented due to the organisational culture of putting quantity above quality and food safety, which led to inappropriate human behaviour and consequently, unsafe food production. These findings align with the study by Wisniewska and Zamojska (2015:197), noting that food safety hazards are also dependent on human factor-risks and cannot be prevented by FSMS alone. This highlights the links between organisational culture, human behaviour and safe food production. Food safety hazard prevention relies on appropriate human behaviour and a positive FSC. This study concludes that organisational culture and human behaviour play a key role in safe food production.

The third objective of this research was to describe employee experiences of how leadership, communication and commitment influence the FSC at Company X. This study observed that some elements of leadership, communication and commitment that could positively influence the FSC were not fully practised at Company X.

This research concludes that effective leadership is evident in the provision of the requisite FSMS documentation. However, this was only available in English, which made it difficult for the majority of employees to understand. Moreover, the research findings reveal that employees from all educational backgrounds found the FSMS documentation to be complex and sometimes difficult to understand. Respondents noted that although regular and effective training was provided to improve employee knowledge and understanding of the FSMS, gaps still existed and training needs to be ongoing.

This study identified an autocratic leadership style, which to a great extent positively influenced the FSC within Company X. Positive outcomes noted by general workers in particular include giving of clear instructions and quick decision-making by the owner/manager. However, this leadership style also sometimes resulted in managers and supervisors being resentful as they were not always given autonomy to enhance processes or make decisions, which negatively impacted on safe food production. In addition, this style of leadership negatively affected staff morale, which at times reduced commitment to carrying out certain routines to ensure a positive FSC.

Another factor that emerged from this research that at times negatively affected safe food production was poor communication flow between the various levels in the organisation. Participants reported that they did receive clear instructions and relevant documentation and that workers on the same level mostly communicated well with each other. This enhanced co-operative working relationships and allowed employees to help and correct each other concerning safe food production behaviours. However, tensions within management led to unresolved conflict and a general atmosphere of tension. Employees were sometimes reluctant to ask for advice or felt resentful of being shouted at, especially when working under extreme time pressure. Respondents reported that these were significant and common factors in creating a culture of taking short-cuts that compromised safe food production. Lack of regular and effective feedback from management and leadership was also reported as an impediment to safe food production.

This research also concludes that there were instances of lack of leadership commitment, which negatively impacted on safe food production. Absence of critical resources were noted by participants as undermining a positive FSC at Company X and that interventions and improvements were necessary. These resources included time, money and physical resource shortages. Furthermore, this research revealed lack of commitment to safe food practices in some employees within Company X. There was inconsistent adherence to safety measures by managers, which filtered through to general workers. In addition, at times managers were inconsistent in instituting disciplinary action for inappropriate behaviours. This lack of exemplary leadership and consistent commitment to food safety behaviours had become a culture that potentially led to unsafe food production and adversely influenced the FSC.

However, there were also reports from many participants that they took food safety seriously as they felt a responsibility to the community or took pride in their work. They reported that despite lapses, they felt there was a general commitment from all organisational levels to safe food production.

Despite the communication problems and commitment concerns as shared by participants, many of them reported that they worked well together as a team and some even felt that their colleagues were like family. Participants reported that this teamwork enabled them to support, assist and correct each other, improving their food safety behaviours. Equally importantly, employees reported positively on training events and support from management and leadership in explaining and modelling correct behaviours. Participants reported that this supported a positive FSC.

The study thus concludes, as shared by participants at Company X, that despite many positive food safety features at Company X, some practices led to unsafe meat production and that this needed improvement. This study therefore proposes a number of changes to mitigate the risks associated with some policies and inappropriate behaviours that lead to unsafe meat production. These recommendations align with the WHO's (2019), sustainable development goal number 3, which is to end preventable deaths of newborns and children under 5 years of age by 2030, by producing safe food along the food supply chain through a positive FSC within organisations.

5.3 Recommendations based on the findings of this study

The aim of this study was to describe employee experiences of the FSC at Company X to assist the company to reduce the risks associated with policies and behaviours that lead to unsafe meat production. The following recommendations emanate from the employee experiences as reported and discussed in the study findings in Chapter 4. Company X should take into consideration the following recommendations, which propose changes to the prevailing FSC, to establish a comprehensive FSC at the food processing organisation. These recommendations address the fourth objective for this research, which was to propose amendments to policies and human behaviour that will help to eliminate unsafe food production at Company X.

- The ISO 22000 manual and standard operating procedures (SOPs) should be translated into various languages to enhance accessibility to staff whose mother tongue is not English, which will afford them a better understanding of safe food production requirements.
- Detailed standard operating procedures (SOPs) should be developed for each task, indicating the time requirements to complete each activity to ensure that all tasks carried out by employees are performed without time pressure that might compromise safe food production (de Boeck et al., 2016:79; Griffith et al., 2017:738).

- Where appropriate, top management should adopt a more consultative leadership style with the management team through effective delegation, to improve their morale and enable more creative ideas and solutions to problems by allowing employee input (Khan et al., 2015:88).
- A mindset change should be made by top management to show more commitment to food safety by provisioning of all the resources required to ensure safe food production. These include allocating adequate time to complete tasks and money to buy crucial equipment (Griffith et al., 2017:737; GFSI, 2018:12).
- Leadership should show accountability to ensure food safety behaviours at all levels within the organisation through taking disciplinary action against individuals who do not follow food safety rules (Abidin et al., 2013:03).
- Leadership should continuously engage in two-way communication by providing feedback to managers and also for workers to feel comfortable with engaging in bottom-up communication where necessary to facilitate information-sharing that would facilitate safe food production and better understanding (Abidin et al., 2013:03; Akilandeswari et al., 2015:154; GFSI, 2018:20).
- There should be a change of the organisational culture, starting with managers and supervisors, who should always demonstrate consistent commitment to food safety at all times through positive modelling of correct food safety behaviours (Griffith et al., 2017:736).
- There should be ongoing training of the ISO 22000 documents and standard operating procedures on the shop floor in various languages to facilitate closer adherence to safe food production procedures so that the knowledge is translated into practice and changes in behaviour (Griffith et al., 2012:468; Neal et al., 2012:468).

5.4 Limitations of the study

The major limitations of this study are**:**

- The owner, who plays a crucial role in creating the FSC by providing direction and resources, limited the study findings as he was not available at the time the study was conducted.
- The study was conducted in English, which possibly limited the understanding of questions and responses of participants whose mother tongue was not English.

5.5 Recommendations for future studies

Research is undertaken to investigate problems with the aim of developing new insights and understanding of the phenomena (the influence of leadership, communication and commitment on FSC). This allows the researcher to explain and share outcomes of the inquiry, thereby increasing knowledge. However, barriers and limitations may be present in the process of research.

This case study at Company X consisted of 16 participants. Dworkin, (2012:1320) suggests a sample size of at least 5 to 50 participants as adequate in qualitative research. FSC is unique to each organisation (Griffith et al., 2017:729) and as the data gathered was limited to one

organisation, this places constraints on the generalisability of the results of this study. Nevertheless, the case study approach allowed the researcher to gain detailed, specific information and insight regarding the FSC at Company X to make recommendations to improve the company's internal FSC. It is suggested that future studies should increase the number of research subjects to gain insight into how gender and owners of organisations influence FSC within organisations.

Furthermore, it is proposed that future studies should be conducted in the mother tongue of participants in multicultural organisations. It is also suggested that future studies could address how the Covid-19 pandemic influenced the FSC of manufacturing organisations. A study conducted post- the Covid-19 pandemic could return different findings.

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APPENDICES

APPENDIX A: CPUT ETHICAL CLEARANCE

Cape Peninsula University of Technology

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Symphony Road Bellville 7535

Office of the Chairperson Research Ethics Committee	Faculty: BUSINESS AND MANAGEMENT SCIENCES

At a meeting of the Research Ethics Committee on 15 August 2017, Ethics Approval was granted to Garikai Gono (210213965) for research activities Related to the MTech/DTech: Mtech Business Administration at the Cape Peninsula University of Technology

Title of dissertation/thesis/project:	THE EFFECTS OF FOOD SAFETY CULTURE ON THE PRODUCTION OF FOOD IN A PRIVATE LABEL MEAT PROCESSOR IN CAPE TOWN Lead Researcher/Supervisor: Dr SB Ngcamu

Comments:

Decision: APPROVED

	15 August 2017
Signed: Chairperson: Research Ethics Committee	Date

Clearance Certificate No | 2017FBREC470

APPENDIX B: INTERVIEW SCHEDULE

Opening

Introductions

Purpose: The purpose of this interview is to gather information on the way you see the culture of food safety. With your permission all your responses will be recorded. I would like to assure you that your responses will be treated with confidentiality and anonymity. The purpose of this interview is to identify elements of food safety culture and employee behaviour and how these affect the production of food.

Motivation: I hope to use this information to help the company improve food safety culture and increase the production of safe food. Findings will be published in a journal article. I would like to assure you again that no names will be used.

Duration:

Section 1 - Background:

1. What is your nationality?

S. African Black	S. African Coloured	S. African White	German	Zimbabwean	Namibian	Other Specify
01	02	03	04	05	06	07

2. What is your age range?

20-30 years	31-40 years	41-50 years	> 50 years
01	02	03	04

3. What is your level of education?

None	Primary	Secondary	College Certificate	University Diploma	University Degree
01	02	03	04	05	06

4. How long have you worked for the company?

<1 year	1-3 years	4-6 years	7-10 years	> 10 years
01	02	03	04	05

5. What is the level of your position within the company?

Managerial	Supervisory	General
01	02	03

6. What are your daily duties or activities?

……

……

Section 2: Leadership

2.1 Leadership: Style

1. What is the leadership style or approach within this organisation?

……

……

2. What are the leadership traits or qualities that are prevalent or mostly relevant in this organisation?

……

……

3. How does the leadership style/ approach or traits/ qualities affect you doing your work?

……

……

4. How does the leadership style/ approach or traits/ qualities affect the safe production of food?

……

……

2.2 Leadership: Documentation

1. What is your understanding of the food safety management system used within the organisation?

……

……..

2. How does the food safety management system influence safe production of food?

……

……

3. What do you know about the food safety policy of the organisation?

……

……

4. How does the food safety policy influence employees towards producing safe food?

……

……

Section 3: Communication

3.1 Communication Systems

1. How would you describe the type/way of communication within the organisation (with management and among employees)?

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……

2. How does the type of communication affect how you perform your duties?

   ……

   ……

3. Describe how your daily tasks are communicated to you by your manager/supervisor?

   ……

   ……

4. How does the type/way of communication influence the safe production of food?

   ……

   ……

5. How does management give you feedback when you raise questions/concerns regarding food safety?

   ……

   ……

3.2 Communication: Training

1. How are food safety messages transferred among management, supervisory staff and co-workers within the organisation?

   ……

   ……

2. How many times do you attend food safety training and what aspects related to food safety are covered in these training interventions?

   ……

   ……

3. What other aspects of training do you think should be covered to improve food safety?

   ……

   ……

4. How do the training sessions influence your behaviour towards the safe production of food?

   ……

   ……..

Section 3: Commitment

3.1 Commitment: Management

1. What resources has management made available to you for implementation of food safety?

   ……

   ……

2. How do you describe the visibility of managers/ supervisors on the floor during production?

……

……

3. How do you describe your manager/ supervisor's commitment towards safe production of food?

……

……

4. What does your manager do to encourage you to ensure safe production of food?

……

……

5. How does it influence you in ensuring safe production of food?

……

……

3.2 Commitment: Individual

1. What are the reasons why you follow or do not follow food safety rules?

……

……

2. Do you always do the right thing, even when nobody is looking?

……

……

3. What is expected of you as employees when it comes to food safety within the organisation?

……

……

4. To what extent do your decisions, actions and behaviours change when the organisation is being audited, controlled or supervised by leadership?

……

……

5. How does your work mates' behaviour affect your work towards the safe production of food?

……

……..

Closing

Thank respondents and assure them of confidentiality and anonymity.

APPENDIX C: GRAMMARIAN CERTIFICATE

22 Krag Street

Napier

7270

Overberg

Western Cape

13th October 2020

LANGUAGE & TECHNICAL EDITING

Cheryl M. Thomson

EMPLOYEE EXPERIENCES OF HOW LEADERSHIP, COMMUNICATION AND COMMITMENT INFLUENCE FOOD SAFETY CULTURE AT A CAPE TOWN MEAT PROCESSOR

Supervisor: Ms Sonya Stephenson

Co-supervisor: Prof J P Spencer

This is to confirm that I, Cheryl Thomson, executed the language and technical editing of the above-titled Master's dissertation of GARIKAI GONO, at the CAPE PENINSULA UNIVERSITY OF TECHNOLOGY in preparation for submission of this dissertation for assessment.

Yours faithfully

CHERYL M. THOMSON

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