Food Safety Competence Research: FS Pilot Project
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Dear Prof Lues

Thank you for the opportunity to collaborate.

Please don't hesitate to contact me for any clarification.

Warm regards

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1 EXECUTIVE SUMMARY

This report presents the findings of a pilot study conducted by the Centre for Applied Food Security and Biotechnology (CAFSaB) in collaboration with the Wholesale and Retail Sector Education and Training Authority (W&RSETA). The research assessed food safety competence within businesses operating in the Free State province, focusing on knowledge, attitudes, and practices (KAP) across twelve critical dimensions. Food safety remains a crucial component in safeguarding public health and maintaining operational excellence in the food supply chain. This pilot study sought to address the persistent challenge of inadequate food safety competence, while also providing a foundation for scaling this research to a national level.

The study was initiated to examine gaps in food safety compliance and to evaluate the factors influencing organisational readiness to manage food safety risks effectively. Using structured telephone interviews, the research explored regulatory compliance, food receiving, storage practices, contamination control, and leadership roles, among other dimensions. While the budgetary constraints limited data collection to telephonic methods, the standardized assessment framework ensured a robust analysis of the data obtained. The study's objectives cantered on evaluating existing competence levels, identifying barriers to effective practices, and proposing interventions for meaningful change.

The findings reveal significant disparities between franchised and independent businesses, underscoring the influence of organisational structure on food safety performance. Franchised businesses displayed consistent employee awareness, deeply ingrained compliance cultures, and highly organized management practices. They benefited from structured training programs, proactive leadership involvement, and well-documented protocols that enhanced their ability to meet food safety standards. In contrast, independent businesses faced challenges such as knowledge gaps, inconsistent practices, and resistance among staff to integrate food safety into daily operations. Although independent operators demonstrated improving attitudes toward compliance, these shifts often followed external pressures, such as inspections or incidents, rather than being embedded in their organisational culture.

A detailed examination of food receiving and storage practices highlighted the proactive stance of franchised businesses, which employed rigorous inspection routines, multi-step cold chain management, and regular audits to maintain compliance. Independent businesses, on the other hand, tended to rely on reactive measures and ad hoc practices, often exposing operational vulnerabilities. Similar trends were observed in cooking temperature control, contamination prevention, and personal hygiene, where franchised businesses consistently outperformed their independent counterparts. For example, franchised businesses implemented systematic approaches such as color-coded cleaning systems and detailed hygiene protocols, while independent businesses often depended on managerial oversight and limited training initiatives.

The study also identified gaps in allergen management, pest control, and emergency procedures, with franchised businesses demonstrating stronger frameworks and a more proactive approach to risk management. Independent businesses showed progress in recognizing these issues but lacked the systematic practices and cultural integration seen in franchised models. Leadership emerged as a critical factor influencing food safety outcomes. Franchised businesses demonstrated clear leadership commitment through structured food safety champions and weekly meetings, while independent businesses often relied on verbal enforcement, with slower progress in addressing cultural and operational barriers.

The implications of these findings are far-reaching, particularly as the study highlighted the importance of compliance support, education, collaboration, and fostering a robust food safety culture. The report concludes that achieving meaningful improvement in food safety practices will require addressing structural inequalities for independent businesses. While franchised models offer scalable best practices, independent businesses need tailored interventions, including accessible training programs, leadership engagement, and perhaps financial support for operational improvements.

Despite the constraints of this pilot study, which included a reliance on telephone interviews due to limited travel resources, the research has successfully illuminated critical areas for intervention and improvement. It has laid the groundwork for a more comprehensive national study, which will require expanded data collection methods, extended engagement periods, and deeper qualitative insights. By addressing these limitations and building on the findings of this pilot, the sector can enhance food safety competence across the wholesale and retail industries, ensuring improved public health outcomes and operational sustainability.

2 INTRODUCTION

2.1 Background and Context

Food safety is a critical component of public health, ensuring that the food consumed by the population is free from contaminants and hazards. The wholesale and retail sectors play a pivotal role in the food value chain, handling significant volumes of food products that reach consumers daily. Maintaining high food safety standards in these sectors is vital for safeguarding public health, meeting regulatory requirements, and ensuring consumer confidence.

In South Africa, challenges in food safety practices are prevalent. These challenges include limited access to training, inconsistent adherence to hygiene protocols, and gaps in monitoring and verification systems. Addressing these issues is essential for minimizing foodborne illnesses, enhancing compliance with food safety regulations, and fostering a culture of safety across the food industry (Mudau, Mpai and Kebede, 2024).

Recognizing these challenges, the Centre for Applied Food Security and Biotechnology (CAFSaB), in partnership with the Wholesale and Retail Sector Education and Training Authority (W&RSETA), has initiated a research project to assess food safety competence within the Free State's wholesale and retail sectors. This initiative seeks to identify existing gaps, propose targeted interventions, and provide actionable recommendations to elevate food safety standards.

The Free State province serves as an ideal context for this research due to its diverse mix of wholesale and retail businesses, including small independent stores and larger chain operations. These sectors employ individuals at various levels of the food value chain, making it essential to understand their knowledge, attitudes, and practices regarding food safety.

Through this research, CAFSaB and W&RSETA aim to contribute to a safer food supply chain, protect public health, and support the wholesale and retail sectors in meeting national and international food safety standards. By addressing food safety competence at the employee level, the project seeks to lay the groundwork for sustainable improvements in food safety practices and a stronger food safety culture across the sector.

2.2 Problem statement

Food safety is a critical public health concern, with unsafe food practices contributing to foodborne illnesses, economic losses, and diminished consumer trust. The wholesale and retail sectors play a pivotal role in the food value chain, acting as intermediaries between producers and consumers. Gaps in food safety competence among employees in the wholesale and retail sectors can lead to inconsistent adherence to safety standards, increased risk of contamination, and potential public health hazards.

A key challenge lies in the limited understanding and application of food safety principles by employees. Factors such as inadequate training, lack of resources, and varying levels of awareness exacerbate the issue. These gaps not only compromise regulatory compliance but also threaten the economic viability and reputation of businesses within the sector (Verywell Health, 2023; FDA, 2023).

Despite the critical importance of food safety competence, there is a paucity of comprehensive data on the current state of employee knowledge, skills, and practices in the Free State's wholesale and retail sectors. Without a clear understanding of the problem, interventions to address these gaps risk being misdirected or ineffective.

This research aims to address this issue by assessing the food safety competence of employees, identifying critical gaps, and providing targeted recommendations for improvement. By focusing on the perspectives of employer-nominated representatives, this study seeks to bridge the knowledge gap and support the development of practical, context-specific strategies to enhance food safety and safeguard public health.

2.3 Objectives of the Research

The primary objective of this research is to assess the state of food safety competence within the wholesale and retail sectors in the Free State from the perspective of employees nominated by their employers. These individuals are expected to provide an informed and balanced view of food safety practices within their organisations. Specific objectives include:

- Measure the perceived food safety competence of employees as reported by nominated individuals representing their employers.
- Determine the discrepancies between current practices and desired food safety standards based on the perceptions of these representatives.
- Provide practical recommendations to bridge the identified gaps in food safety competence.

2.4 Importance of Food Safety Competence

Food safety competence is a cornerstone of public health and economic sustainability within the food value chain. It encompasses the knowledge, skills, and practices required to ensure that food products are safe for consumption, meeting both regulatory requirements and consumer expectations. In the wholesale and retail sectors, which serve as critical intermediaries between food producers and consumers, maintaining high levels of food safety competence is essential for several reasons.

Protecting Public Health

Foodborne illnesses pose significant health risks and are often the result of preventable safety lapses during food handling, storage, and distribution. Employees with strong food safety

competence can identify and mitigate hazards such as biological contamination, chemical exposure, or improper storage conditions, thereby reducing the risk of outbreaks (University of Southern California, 2023).

Regulatory Compliance

South Africa's food industry operates under strict regulations to ensure public safety, including adherence to standards like the SANS 10330 / Hazard Analysis and Critical Control Points (HACCP) and ISO 22000 / FSSC 22000. Food safety competence ensures that employees understand and comply with these regulations, reducing the risk of legal penalties and enhancing organisational credibility (FSSC, 2023a).

Economic Impact

Poor food safety practices can lead to product recalls, damage to brand reputation, and loss of consumer trust, all of which have significant financial implications for businesses. Investing in food safety competence helps prevent such incidents, safeguarding business profitability and sustainability (World Health Organization, 2023).

Building Consumer Confidence

Consumers are increasingly demanding transparency and assurance that the food they consume is safe. Employees who demonstrate food safety competence reinforce this trust, fostering long-term customer loyalty and supporting the overall market growth (FSSC, 2023b) .

Strengthening the Food Safety Culture

Food safety competence at the individual level contributes to fostering an organisational culture that prioritizes hygiene and quality. This culture is essential for continuous improvement, enabling businesses to stay ahead in a competitive and compliance-driven environment (World Economic Forum, 2015).

By prioritizing food safety competence, the wholesale and retail sectors in the Free State can ensure safer food systems, improve public health outcomes, and establish a robust foundation for sustainable growth. This research initiative is an important step towards identifying gaps in current practices and implementing targeted interventions to enhance the competence of employees in the sector.

2.5 Food Safety Compliance Landscape

The food safety compliance landscape is built upon a foundation of comprehensive Prerequisite Programs (PRPs) that address critical operational aspects to ensure food safety and quality throughout the supply chain (International Organisation for Standardization [ISO], 2018). These PRPs, including Good Manufacturing Practices (GMPs) (World Health Organisation [WHO], 2007), Good Hygiene Practices (GHPs) (Food and Agriculture Organisation [FAO], 2022), and Sanitation Standard Operating Procedures (SSOPs) (U.S. Department of Agriculture [USDA], 1996), form essential components of food safety management systems such as HACCP (Hazard Analysis and Critical Control Points) (Codex Alimentarius Commission, 2020). Extracted from industry guidelines and globally recognized food safety frameworks, these programs highlight best practices for maintaining hygiene, sanitation, pest control, supplier evaluations, training, and traceability. By adhering to these standards, organisations ensure compliance with regulatory requirements, mitigate food

safety hazards, and maintain consumer trust. The information provided reflects a consolidation of widely adopted principles from authoritative sources in the food safety domain.

Given the comprehensive nature of the above guidelines, it made sense to use them as a primary input for assessing food safety competence within the surveyed organisations. These Prerequisite Programs (PRPs) provide a clear and structured approach to evaluating critical aspects of food safety, such as hygiene practices, sanitation procedures, pest control measures, and training effectiveness. By aligning the assessment criteria with globally recognized standards like GMPs, GHPs, and SSOPs, the survey ensured that the evaluation covered essential components necessary for effective food safety management. Additionally, the focus on traceability, supplier control, and waste management allowed for a holistic understanding of how well organisations are equipped to identify and mitigate risks throughout the supply chain. Using these guidelines, it ensured that the assessment was not only rigorous and standardized but also relevant to the operational realities and compliance expectations faced by organisations in the wholesale and retail sectors.

2.6 Food Safety Competence Assessment

The Guidelines for Assessing Nutrition-Related Knowledge, Attitudes, and Practices (Food and Agriculture Organisation of the United Nations, 2014) provide a robust and adaptable framework for evaluating critical aspects of human behaviour and operational practices related to food safety and nutrition (KAP Model). This approach was selected as the foundational framework for this survey due to its proven effectiveness in systematically examining three interconnected dimensions:

Knowledge

The KAP Mode emphasizes assessing the extent of awareness and understanding among individuals about key concepts, in this case, food safety standards, regulations, and processes. By adopting this focus, the survey ensures that respondents' foundational knowledge, which directly influences their ability to identify and mitigate risks, is measured effectively.

Attitudes

Assessing attitudes provides critical insights into how organisations value food safety, their commitment to compliance, and their cultural orientation towards maintaining high food safety standards. This component allows the survey to gauge the priority placed on food safety within different organisations, beyond mere procedural adherence.

Practices

By evaluating the actual implementation of food safety protocols and processes, the KAP Model ensures that the survey captures the practical application of knowledge and attitudes in daily operations. This alignment with real-world practices is essential for identifying gaps between intent and execution in food safety compliance.

The KAP Model offers several advantages that motivated its adoption for this study:

- The framework's integrated assessment of knowledge, attitudes, and practices allows for a comprehensive understanding of food safety competence at both individual and organisational levels.
- Its structured approach ensures consistency in data collection and analysis, which is crucial for producing reliable and actionable results.

- The framework is adaptable to various contexts, making it suitable for the diverse operational environments within the wholesale and retail sectors surveyed.
- By linking knowledge and attitudes to actual practices, the KAP Model facilitates the identification of specific areas where interventions are needed, enabling tailored recommendations for improvement.

Using the KAP Model as a guiding framework ensures that the survey effectively addresses the core objectives of assessing food safety competence. It allows the research to not only evaluate current levels of compliance and awareness but also identify behavioural and systemic factors that influence food safety practices across the surveyed organisations.

2.7 Scope of the Report

This report presents the findings of a research initiative aimed at assessing food safety competence within the wholesale and retail sectors in the Free State province. The scope of the report is designed to provide a comprehensive understanding of the current state of food safety practices, identify existing gaps, and propose targeted interventions to improve food safety in the region.

Key areas covered in the report include:

Target Population

The study focuses on employees in the wholesale and retail sectors who have been nominated by their employers to represent their organisation's perspective on food safety competence. These representatives included Business Owners, General Managers, a Human Resource Manager, a Compliance Manager, a Business Development Manager and a Health & Safety Officer.

Geographical Context

The research is confined to the Free State province, which represents a diverse mix of wholesale and retail businesses, ranging from small enterprises to large-scale operations.

Research Objectives

The report is structured to address the following objectives:

- Assess the current food safety knowledge, skills, and practices of employees in the target sectors.
- Identify discrepancies between existing practices and desired food safety standards.
- Develop actionable recommendations for bridging identified gaps.

Methodology

The study employs a qualitative research approach, with data collected through structured interviews and questionnaires. The purposive sampling method ensures that insights are drawn from individuals with a comprehensive understanding of food safety practices within their organisations.

Limitations

The report acknowledges certain limitations, including:

- The reliance on self-reported data, which may introduce biases.
- Geographical constraints, as the study focuses solely on the Free State province.

- Limited resources, which may impact the breadth of data collection.

Intended Audience

The report is intended for stakeholders in the wholesale and retail sectors, including industry leaders, regulatory bodies, and training institutions. It also provides valuable insights for policymakers and public health officials interested in enhancing food safety.

3 RESEARCH DESIGN AND METHODOLOGY

Having established the importance of food safety competence, the research objectives, and the scope of this study, it is essential to outline the framework underpinning this investigation. The effectiveness of this research depends on a rigorous and systematic approach to understanding the current state of food safety competence within the wholesale and retail sectors in the Free State. This section details the Research Design and Methodology, which provides the foundation for collecting, analysing, and interpreting data.

The methodology begins with a restatement of the specific research objectives, followed by an explanation of the qualitative approach adopted for this study. It then describes the selection of the target population, sampling strategy, and data collection methods, which were carefully designed to ensure comprehensive and context-specific insights. The section also outlines the analytical techniques employed, as well as the measures taken to ensure data quality and ethical compliance.

3.1 Research Objectives

The report is structured to address the following objectives:

- Assess the current food safety knowledge, skills, and practices of employees in the target sectors.
- Identify discrepancies between existing practices and desired food safety standards.
- Develop actionable recommendations for bridging identified gaps.

3.2 Research Approach

Given the limited research scope and resources, a simplified approach was employed, focusing on qualitative insights gathered through structured questionnaires administered via telephone interviews, virtual meetings and a site visit. This approach allowed for the efficient collection of detailed and context-rich data from knowledgeable representatives within the target population.

The qualitative approach emphasises open-ended questions designed to capture the nuanced perspectives of participants, allowing them to provide detailed insights into the state of food safety competence within their organisations. The use of structured questionnaires ensured that data collection remained consistent and focused while allowing flexibility for respondents to elaborate on their answers.

3.3 Target Population and Sampling Strategy

The target population for this research consisted of employees from food-handling wholesale and retail businesses in the Free State, as identified by the W&RSETA using their database. These businesses represented a cross-section of the sector, ensuring a focused and relevant

sample for the study. Within these businesses, employers nominated representatives who could provide informed and balanced perspectives on the organisation's food safety competence.

The nominated representatives were individuals expected to have a comprehensive understanding of the food safety practices and competence levels of the broader employee base within their organisations. Their roles, which typically involved oversight or direct involvement in food handling processes, equipped them with the knowledge and experience necessary to contribute meaningful insights to the research. By targeting these informed individuals, the study was able to capture accurate and context-specific data regarding food safety standards in the region.

Rationale for Purposive Sampling

Purposive sampling was employed as the primary sampling technique for this research. This non-probability sampling method involved selecting participants based on specific characteristics, knowledge, or experiences that were most relevant to the research objectives. The aim was to gather rich, in-depth data from individuals who were particularly well-informed or representative of key elements of the study's focus.

The primary reason for using purposive sampling was to ensure that the data collected came from participants with direct and relevant experience in food safety practices. These participants, by virtue of their roles, were likely to provide more accurate and meaningful insights compared to a random sample of employees who might not have been informed about food safety issues.

Given the scope and resource limitations of the project, purposive sampling allowed for a focused approach to data collection. This strategy targeted individuals who could provide the most valuable information within the constraints of time and budget. By selecting participants who were well-positioned to understand and report on the state of food safety competence across different levels of their organisations, the research was able to capture a representative perspective of the broader employee base within each organisation.

Sample size

Sample size determination for qualitative research is typically more flexible and less formula driven. Qualitative research aims to explore depth, context, and meaning rather than generalizability, which is the aim of quantitative research. The goal is to gather rich, detailed data from participants, so sample size is often smaller and determined by data saturation (the point at which no new insights are gained from additional data). For smaller, homogeneous groups like the food handling W&RSeta stakeholders, saturation could be reached at 10-15 participants. The researcher is confident in the level of saturation reached as nine out of the eleven stakeholders identified by the W&RSeta were willing and able to part in the survey.

3.4 Data Collection Methods

Questionnaire Design

Structured questionnaires were used as the primary method for data collection in this research. This design ensured that the data collected was standardized, promoting consistency across responses. The approach was instrumental in meeting the research objectives, as it facilitated the systematic and reliable collection of data on food safety competence from a representative sample.

Administration of Questionnaires

To accommodate the geographical dispersion of the target population and maximize participation, a flexible approach to administering the questionnaires was adopted. The process involved the following steps:

Initial Contact and Scheduling

The W&RSETA identified businesses through their database and informed them about the project by sending an official letter introducing the research. Following this, the researcher contacted each business by phone to explain the purpose of the study, the need for their participation, the preferred profile of the representative, and the expected time commitment. Once the representatives were identified, appointments were scheduled for interviews.

Interview Methods

A combination of methods was used to collect data to allow for flexibility and maximize participation:

Telephone Interviews: This was the primary mode of data collection, with seven participants interviewed telephonically. Each interview lasted approximately 60–90 minutes, allowing participants to elaborate on their responses while enabling the researcher to clarify questions in real-time.

Online Survey: One participant chose to complete the survey online. This option provided flexibility for respondents who preferred asynchronous participation or were unable to accommodate a scheduled interview.

In-Person Interview: One survey was conducted in person at the participant's premises. This method allowed for direct observation and more contextual understanding of the participant's responses.

This multimodal approach ensured inclusivity and adaptability, accommodating participants' varying preferences and logistical constraints.

Ethical considerations

The research adhered to strict ethical standards. All participants were fully informed about the purpose of the study, that it was voluntary, and the confidentiality of their responses before participating. Also, that data will be anonymized, and personal identifiers be removed to protect participants' privacy.

Pilot Testing

The first two participants served as subjects for piloting the questionnaire. The pilot test helped identify ambiguities in question phrasing and highlighted areas for improvement in the administration process. Feedback from this stage was incorporated to refine the questionnaire, ensuring its clarity and relevance for capturing the necessary data.

Follow-Up and Response Maximization

The intention was to collect data in a manner that encouraged maximal participation. Multiple attempts were made to reach participants at different times, ensuring their availability was accommodated. Through this proactive strategy, a total of nine participants contributed to the research, enhancing the comprehensiveness of the findings.

This flexible and participant-focused data collection strategy successfully balanced the need for high-quality data with the constraints of time and resources, ultimately supporting the objectives of the research.

Quality Assurance

To ensure the validity and reliability of the research, all processes were conducted meticulously by the researcher as the sole data collector. This hands-on approach allowed for a seamless integration of ethical and methodological rigor, ensuring that the data collected was both reliable and aligned with the study's objectives.

3.5 Data Analysis Approach

The data collected underwent rigorous processing and analysis to ensure accuracy, reliability, and alignment with the research objectives.

Paper-based questionnaires were used during the data collection phase to gather both demographic information of participants and their responses to open-ended questions. After collecting, all data were captured in Microsoft Forms, consolidating the responses into a central digital repository. This centralized approach ensured data integrity, streamlined access, and facilitated subsequent analysis.

The responses to open-ended questions were analysed using thematic analysis. This method identified recurring themes, patterns, and insights related to food safety practices and challenges. Thematic analysis provided an in-depth understanding of the participants' perspectives, enabling the researcher to highlight key areas of concern and opportunities for improvement.

The collected data was compared against established industry standards and best practices which formed the foundation of the questionnaire. This gap analysis focused on identifying discrepancies between current food safety competence levels and desired benchmarks, pinpointing areas requiring intervention and improvement.

4 ANALYSIS AND FINDINGS

4.1 Overview of Respondent Profiles

Section B of the questionnaire focused on gathering detailed information about the individuals representing their organisations in the survey. These representatives (food handling employees) were selected for their ability to provide an informed and balanced perspective on food safety practices within their workplaces. The section captures essential demographic and professional details, including job roles, tenure, educational background, primary language, and prior food safety training.

For this survey, a food handling employee is defined as any individual actively involved in the food value chain or food handling process within an organisation. This includes roles such as receiving, storage, preparation, processing, quality control, distribution, and customer service, as well as supervisory and managerial positions responsible for overseeing food safety compliance. These employees play a critical role in ensuring that food safety practices and standards are implemented effectively throughout the organisation's operations.

Job Role/Title

Although all respondents were very familiar with food safety, participants in different groups made contributions from different perspectives. Business Owners and General Managers

Figure 1 Representative Job Role / Title

were the two largest groups of respondents. Their insight brought strategic-level insights into the survey. As decision-makers, they provided valuable perspectives on the overall prioritization of food safety, the allocation of resources and leadership requirements for operational food safety practices.

Experience with food handling

The Health & Safety and Compliance Officers offered specialised insights into regulatory compliance, workplace hygiene, and the enforcement of safety protocols. Their role ensures a thorough understanding of the technical and procedural measures required to maintain food safety.

Figure 2 Representative Food Handling Experience

The HR Manager and Business Development perspectives brought an employee-centric perspective, focusing on training, onboarding, and employee engagement in food safety initiatives.

This role is critical for understanding how organisations prepare and motivate their workforce to comply with food safety standards. The majority of participants have direct experience in food handling roles ensures that the survey responses are informed by practical, hands-on knowledge. This lends credibility to the data, as participants are likely familiar with the day-to-day realities of food safety practices, challenges, and compliance.

In support of this, out of the 9 representatives surveyed, 78% (7 representatives) reported having experience throughout the entire food handling chain, and 89% (8 representatives) had more than 10 years' experience with their current employer. These figures highlight the depth of practical knowledge and long-term familiarity with organisational food safety practices among the participants.

Figure 3 Representative Main Area of Operation

Figure 4 Representative Tenure at Current Employer

Educational level and Language

The figures below provide insight into the educational levels and primary languages of the survey participants.
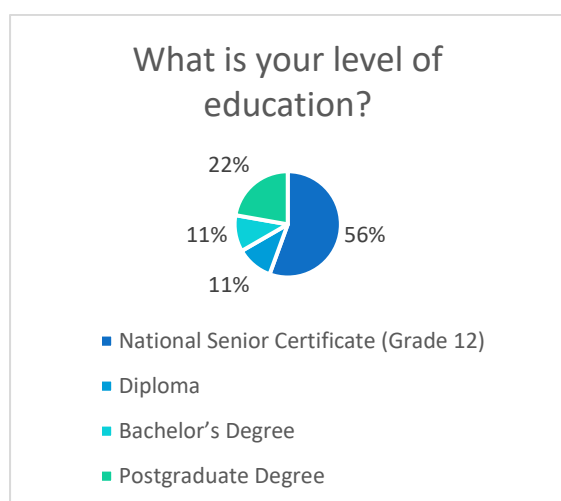
Figure 5 Representative Education Level
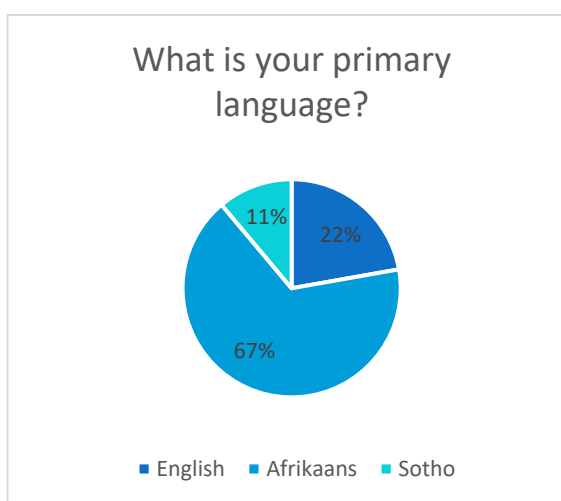
Figure 6 Representative Primary Language

17

Food safety training

Most participants (78%, or 7 out of 9) have undergone some form of food safety training. This demonstrates that a significant proportion of the representatives are equipped to provide informed perspectives on food safety standards and procedures within their organisations.

This high representation of trained individuals suggests that the data collected is informed by individuals who are familiar with industry standards, regulations, and practical food safety requirements.

Figure 7   Representative   Food   Safety Training

The participants in the survey reported exposure to various types of food safety training. Among the 9 participants 2 participants completed R638 training, focusing on compliance with hygiene regulations, and 1 participant obtained FSSC 22000 certification, an internationally recognised food safety management system. Franchised businesses in general have consultants providing compulsory training as part of franchise licensing requirements. Additionally, 1 participant reported receiving Health & Safety and First Aid training from external consultants, and 1 participant mentioned participating in in-house training programs. Notably, 2 participants indicated that they had not received any prior formal food safety training. These representatives were from independent businesses. This distribution underscores a strong foundation in food safety knowledge for the majority, while highlighting potential gaps for targeted training initiatives.

4.2 Overview of Business Profiles

Section C of the questionnaire focuses on gathering detailed information about the organisations represented in this study. This section aims to understand the operational, geographical, and structural context within which food safety practices are implemented. By exploring aspects such as the sector of operation, certifications held, geographical reach, product types, storage and transportation methods, and workforce composition, this section provides critical insights into the diverse environments influencing food safety standards.

Sector

The data collected in this section will enable a deeper understanding of how organisational characteristics, such as size, scope, and operational focus, impact food safety practices and compliance. This section lays the foundation for identifying gaps, challenges, and opportunities for improvement within the organisations, ensuring the recommendations align with their unique operational contexts.

Figure 8 Sector of Business Operations

Out of the 9 organisations represented in the survey, 6 (67%) primarily operate in the retail sector, while 3 (33%) operate in the wholesale and retail sector. This indicates a strong representation of retail-focused businesses, which are directly involved in consumer-facing food safety practices. The inclusion of wholesale and retail organisations provides complementary insights into upstream food safety measures, ensuring a broader perspective across the food supply chain.

Certifications

Participants were asked about the certifications their organisations hold, with the following options provided: Certificate of Acceptability (COA), SANS 10330, HACCP, ISO 22000, FSSC 22000, Global GAP, Organic, and ISO 9001. All 9 participants indicated that their organisations hold a Certificate of Acceptability, which is the minimum legal requirement for food-handling organisations in South Africa.

Figure 9 Certifications the Business Holds

This indicates baseline compliance with local hygiene and safety standards, as mandated by R638 and other relevant regulations.

SANS 10049:2019, R638, and R908: One organisation adheres to stricter industry-specific standards, including HACCP (Hazard Analysis and Critical Control Points) for ready-to-eat processed meats.

Franchise and Audit Standards: Multiple organisations referenced standards like Franchise-imposed Food Safety & Health Checks and Audits, performed by external consultants, reflecting the role of franchise-specific and independent auditing processes.

FSSC-related Certifications: One organisation mentioned ZA Exporting and FSA standards, which are linked to FSSC 22000, indicating international compliance for food safety and export readiness.

Geographical Reach

Out of the 9 organisations surveyed, 1 organisation (11%) operates at a local level (within a single town or city), while 2 organisations (22%) have a regional reach (within a province). Additionally, 3 organisations (33%) operate at a national level, and another 3 organisations (33%) have an international reach. This distribution indicates a strong representation of organisations with broader geographical operations, which likely impacts the complexity and scope of their food safety practices, especially for national and international businesses that must comply with diverse regulations and standards.
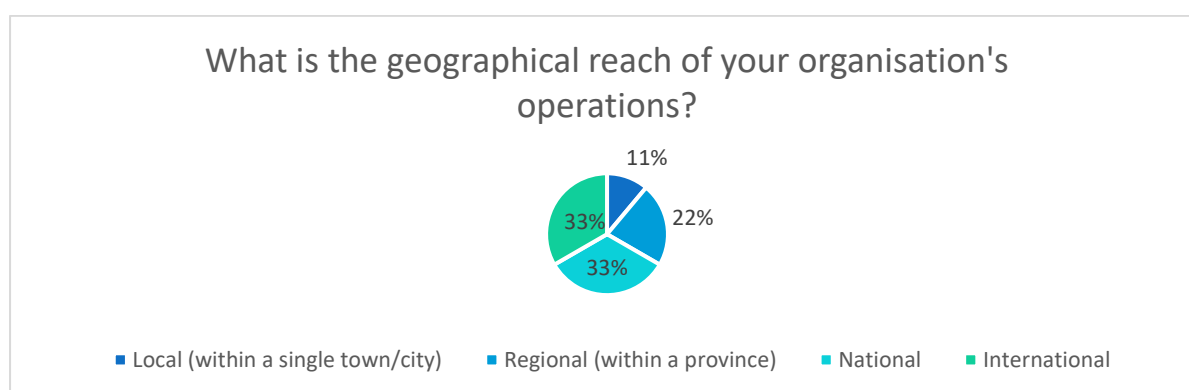
Figure 10   Geographical Reach of Business

District
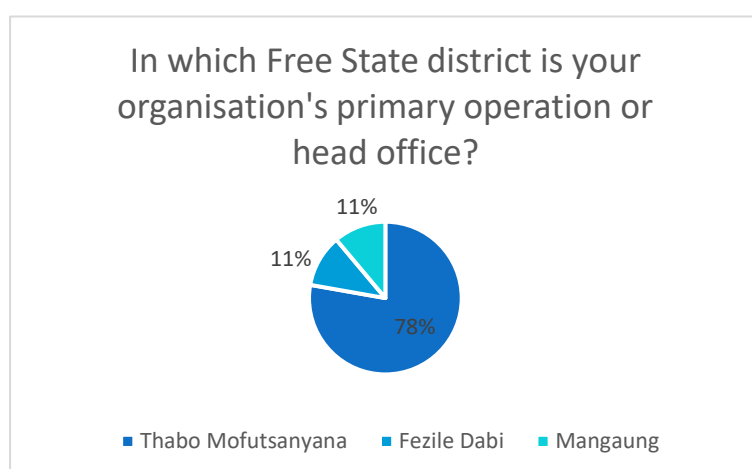
Out of the 9 organisations, 78% (7 organisations) are based in Thabo Mofutsanyana, while 11% (1 organisation each) operate in Fezile Dabi and Mangaung.

Figure 11   Head Office District

City/Town

Out of the 9 organisations, 33% (3 organisations) are based in Harrismith, 22% (2 organisations) in Bethlehem, and 11% (1 organisation each) in Clocolan, QwaQwa, Sasolburg, and Bloemfontein, indicating a concentration in Harrismith and Bethlehem.
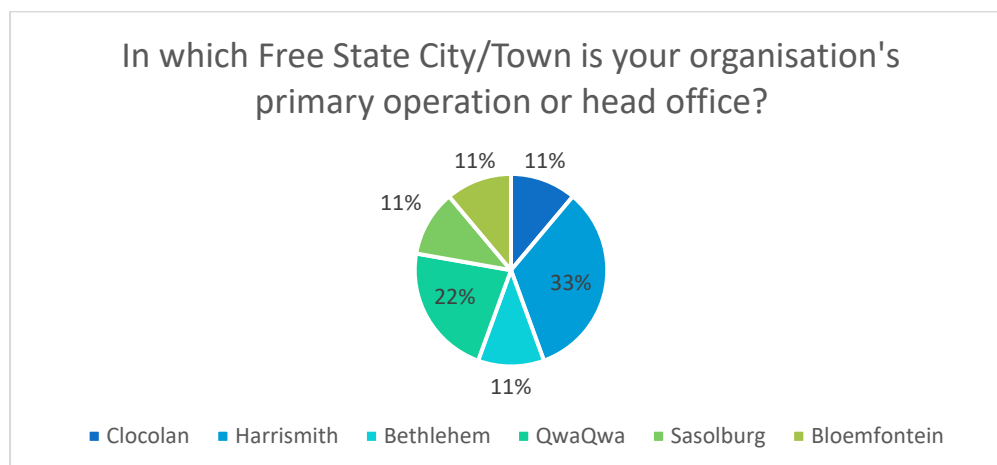
Figure 12   Head Office City/Town

Food Type

Participants were also asked about the type of food they deal with. The full list of options regarding the types of food handled by the organisation included the following: Fruits and vegetables, Baked goods, Dairy products, Meat and Poultry, Seafood, Frozen foods, Packaged foods, Beverages and Ready-to-eat meals.

The figure below categorizes the responses into broader groups. 33% (3 organisations) handle a full spectrum of food products, including alcohol and ready-to-eat meals. These organisations likely face the most comprehensive food safety challenges due to the diversity of food types. 56% (5 organisations) manage a full spectrum excluding alcohol, indicating a wide variety of products while not dealing with the complexities associated with alcohol handling. 11% (1 organisation) handle a full spectrum excluding alcohol and ready-to-eat meals.

This consolidated data indicates that the majority of organisations surveyed handle diverse food products, with alcohol and ready-to-eat meals excluded in some cases due to operational or regulatory considerations.

Figure 13   Food Type Handled by Business

Frequency

The figure below indicates that 100% of the organisations surveyed receive or distribute food on a daily basis. This highlights the dynamic and fast-paced nature of their operations, requiring robust food safety practices to manage frequent handling, storage, and distribution effectively. Daily operations also suggest the critical importance of consistent monitoring and adherence to food safety standards to ensure product quality and compliance.
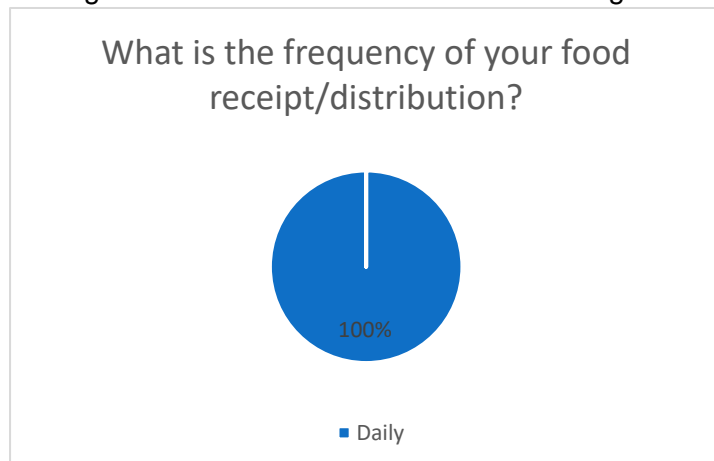
Figure 14   Frequency of Food Receipt/Distribution

Transportation
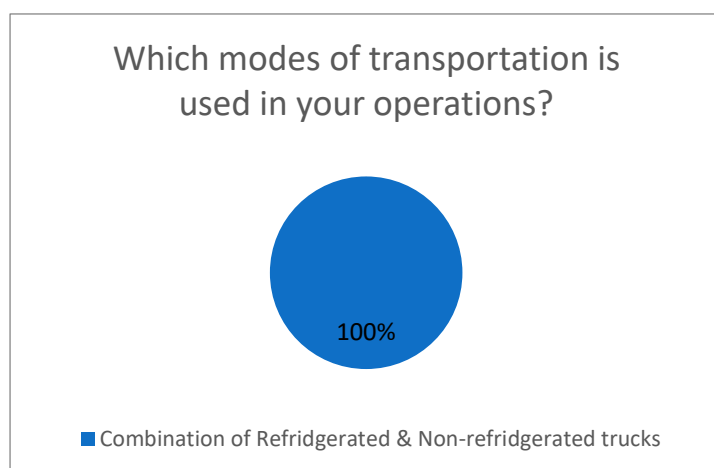
100% of the organisations use a combination of refrigerated and non-refrigerated trucks in their operations. This indicates a need for versatile transportation systems to handle different types of food products, requiring careful coordination to maintain appropriate temperature controls for perishable items while efficiently transporting non-perishable goods.

Figure 15   Business Modes of Transportation

Storage

As per the figure below, 100% of the organisations use a combination of refrigeration, freezing, and ambient temperature storage in their operations. This reflects the diverse range of food products handled, requiring different storage conditions to maintain food safety and quality standards for perishable and non-perishable items.
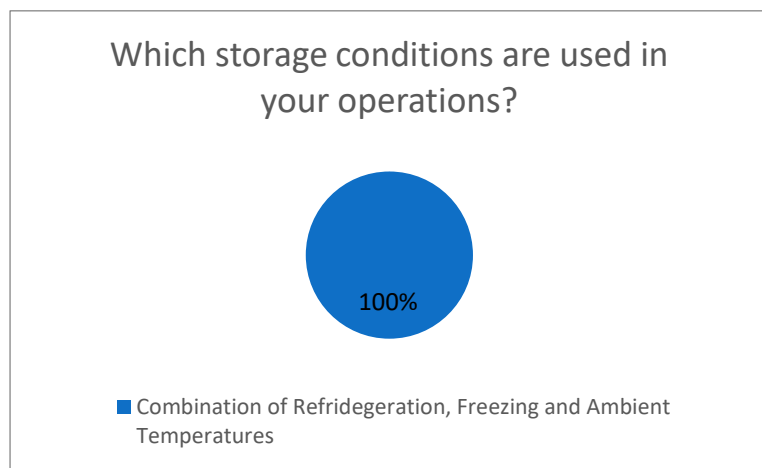
Figure 16   Business Storage Conditions

Number of Employees

Out of the 9 organisations surveyed, 4 organisations (44%) employ more than 100 people, 3 organisations (33%) employ 51-100 people, and 2 organisations (22%) employ less than 50 people. This distribution highlights a mix of differently sized organisations, with differing scales of operation and associated food safety management requirements.
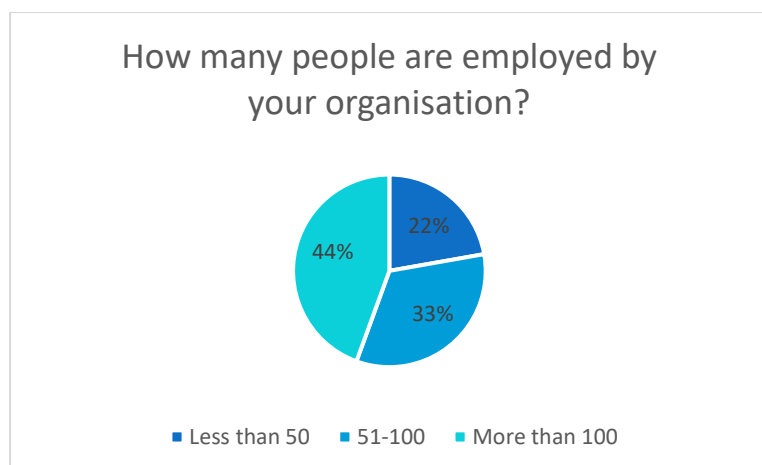
Figure 17   Business Employee Numbers

Franchised or Independently Managed

The data shows that 67% of the surveyed businesses are part of a franchise system, while 33% are independently owned and operated. This split reflects a predominance of franchised businesses in the sample.

While this question was not originally part of the demographic analysis, it became evident during data collection that franchise affiliation significantly influenced food safety competence. Franchised businesses benefited from structured systems, standardized training, and rigorous oversight tied to brand reputation. Independent businesses, in contrast, relied more on internal management practices, which often led to inconsistencies in food safety knowledge, attitudes, and practices. This distinction emerged as a critical factor driving variations in food safety competence across the surveyed entities.
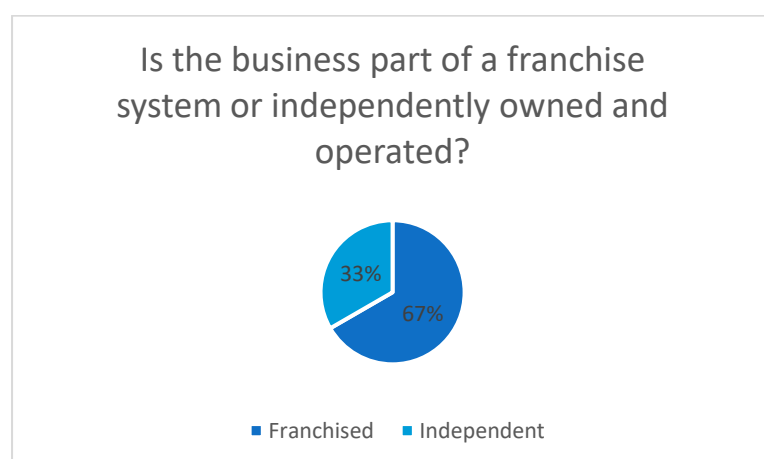
Figure 18   *Franchised or Independent Business*

4.3 Analysis of Knowledge, Attitudes, and Practices

The survey was designed by integrating elements of Prerequisite Programs (PRPs) as the foundational dimensions to evaluate food safety competence, while employing the Knowledge, Attitudes, and Practices (KAP) model as the assessment framework. This dual approach ensured a comprehensive and structured evaluation of food safety practices within organisations, addressing both technical requirements and behavioural aspects.

Survey Dimensions Based on PRPs

The 12 dimensions of the survey were aligned with core PRPs that form the backbone of effective food safety management systems. These dimensions included:

- Regulatory Compliance

Focused on participants' awareness and adherence to local food safety regulations (e.g., R638, HACCP, and other standards).

- Food Receiving

Examined procedures for inspecting food products upon receipt, supplier compliance, and criteria for acceptance/rejection.

- Food Storage

Assessed the storage practices for perishable and non-perishable foods, including temperature control, FIFO (First In, First Out) system adherence, and expiry date management.

- Food Preparation and Cooking

Evaluated awareness of safe cooking temperatures and methods, as well as organisational processes for ensuring proper cooking practices.

- Contamination Control

Focused on cleaning and sanitizing procedures, segregation of raw and cooked food, and cross-contamination prevention strategies.

- Personal Hygiene

Assessed participants' knowledge of personal hygiene practices (e.g., handwashing and use of PPE) and how organisations enforce these practices.

- Allergen Management

Evaluated participants' knowledge of handling allergens and preventing cross-contact, as well as organisational commitment to allergen communication and labelling.

- Pest Control

Examined the understanding and implementation of pest control measures to ensure food safety and hygiene.

- Emergency Procedures

Focused on preparedness for incidents such as foodborne illness outbreaks, power failures, or food recalls.

- Leadership and Food Safety Culture

Assessed the role of organisational leadership in promoting food safety practices and fostering a culture of compliance and accountability.

Assessment Using the KAP Model

Each of the 12 dimensions was assessed for Knowledge, Attitudes, and Practices to provide a holistic understanding of food safety competence:

Knowledge

Focused on participants' awareness and understanding of food safety principles within each dimension. For example, questions under regulatory compliance assessed whether employees knew the relevant regulations their organisations must follow.

Attitude

Measured how seriously organisations and individuals value the principles of food safety within each dimension. For example, under food storage, respondents were asked how important they considered proper temperature control for ensuring food safety.

Practices

Investigated the actual implementation of food safety protocols and adherence to standards. For instance, in the contamination control dimension, questions explored how consistently cleaning and sanitizing practices were performed.

Survey Design and Execution

The survey employed a structured questionnaire with three questions per dimension, each targeting a specific aspect of the KAP framework:

- A Knowledge question assessed the respondent's awareness.
- An Attitude question gauged the perceived importance of the dimension.
- A Practice question investigated the implementation of related food safety measures.

By systematically applying the KAP model to all dimensions, the survey provided a multidimensional analysis of food safety competence. This approach ensured the identification of not only gaps in knowledge but also discrepancies between attitudes and actual practices, offering actionable insights for improving food safety performance across organisations.

The next step involves a comprehensive analysis of the collected data. This analysis aims to identify trends, strengths, and gaps across the surveyed organisations.

Each dimension was assessed for how well participants understood the concepts, valued their importance, and implemented them in daily operations. The analysis not only evaluates organisational competence but also sheds light on systemic and cultural factors that influence food safety behaviours. By interpreting the findings from each dimension, this section aims to provide actionable insights to improve food safety standards and practices across the wholesale and retail sectors.

Crosstabulation of data

When analysing the survey data and comparing feedback across each of the demographic variables (captured in Section C of the questionnaire), no clear or distinguishable patterns emerged, except for the "Franchised" versus "Independently Managed" distinction.

The demographic questions included variables such as the sector of operation, geographical reach, location of operation, types of food handled, frequency of food receipt/distribution, modes of transportation, and storage conditions.

Despite cross-tabulating feedback for each of these variables against responses in key dimensions of food safety knowledge, attitudes, and practices, no meaningful differences or trends were observed. For example:

- Businesses operating in wholesale versus retail sectors provided similar feedback regarding food safety knowledge and practices.
- Geographical differences, such as district or town of operation, did not correlate with any significant variation in food safety competence.
- Operational size, transport modes, and storage conditions also showed no discernible impact on how food safety practices were managed or perceived.

In contrast, the distinction between franchised and independently managed businesses emerged as the most prominent driver of variation in food safety competence, with franchised businesses consistently demonstrating stronger knowledge, more structured practices, and higher commitment to food safety protocols. This highlights the overriding importance of franchise systems' structured frameworks in shaping food safety performance, rather than other demographic or operational factors.

Although not the intention of the study, it soon emerged that franchised and independent businesses approached food safety distinctly different. To thoroughly explore these contrasts, each dimension assessed in the survey will be discussed in detail. Comparisons will be drawn to highlight the differences. This approach will therefore also provide a comprehensive understanding of the differences in food safety management across the two business models. Of the nine participating organisations, three were independent businesses, providing valuable insights into how smaller, less structured operations manage food safety compared to their franchised counterparts.

4.3.1 Dimension 1: Regulatory Compliance

Interview questions for this dimension were designed to assess:

- Awareness and understanding of Food Safety Regulations & Standards
- Compliance with Food Safety Regulations & Standards
- Food Safety Risk
- Food Safety Training
- Food Safety Record-keeping

At the conclusion of the interview segment on the Regulatory Compliance dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Regulatory Compliance: Knowledge,
- Regulatory Compliance: Attitude, and
- Regulatory Compliance: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	4,0	Knowledge	3,3
Franchised businesses consistently demonstrated a strong understanding of food safety regulations, with no significant gaps in employee awareness. Knowledge was integrated into job requirements, ensuring compliance and fostering a solid foundation in food safety practices. While staff generally had a good understanding of food safety risks, some franchised businesses highlighted the need to improve alignment between knowledge and behaviour, particularly among junior employees where dedication and awareness could be strengthened. Management played a pivotal role in maintaining knowledge levels through structured communication and regular updates. Food safety training was deeply embedded in organisational processes, with all new hires undergoing mandatory training and routine assessments ensuring knowledge retention. Record-keeping knowledge was also a strong point in franchised businesses, viewed as an integral part of daily operations. This was supported by comprehensive training, regular audits, and structured practices to reinforce compliance and accuracy.		While there was general awareness of food safety regulations among independent businesses, gaps in employee discipline and understanding were evident. For instance, one respondent noted, "Staff have to be continuously reminded about food safety compliance practices," while another acknowledged "lots of room for improvement," underscoring ongoing challenges in ensuring comprehensive knowledge. Although management demonstrated a solid understanding of food safety, embedding compliance into the broader organisational culture remained a work in progress. Businesses were aware of food safety risks but faced difficulties with consistent implementation and addressing employee attitudes. As one respondent explained, employees often displayed a "lack of care" or failed to fully appreciate the consequences of non-compliance. Knowledge levels varied significantly across independent businesses. While some employees lacked awareness of food safety standards, others were informed but did not fully grasp the rationale behind key practices. Record-keeping knowledge also reflected this inconsistency; in some cases, it was limited to fulfilling audit requirements rather than being effectively integrated into daily operations. Knowledge dissemination often relied on in-house efforts led by management, which lacked the structure and comprehensiveness seen in franchised counterparts.	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Attitude	4,0	Attitude	3,3
Compliance was universally regarded as a top priority, with some respondents explicitly referring to it as the "No. 1 priority after customer service training" and linking it to their brand promise and reputational risk. This high level of importance was reinforced by tangible consequences, such as reduced incentives or the financial burden of re-audit. Franchised businesses emphasized the cultural integration of food safety priorities, highlighting the need for employees to understand the "why" and implications of non-compliance. Senior management played a key role in driving this commitment, often treating compliance as an executive-level priority. While senior staff demonstrated strong dedication, junior staff required ongoing engagement to fully grasp the importance of managing risks. Food safety training was consistently positioned as a critical organisational priority, second only to customer service training. Leadership, including executive committees, underscored its importance by embedding training into strategic goals and ensuring it was a mandatory minimum requirement for all employees. Record-keeping was also a key focus for franchised businesses, regarded as essential for mitigating both health risks and reputational damage. Leadership actively prioritized record-keeping as a compliance and operational tool, ensuring it was fully integrated into processes to maintain audit readiness and uphold organisational standards.		The importance of compliance was highlighted, particularly in response to incidents such as government inspections or risk assessments, which often acted as catalysts for change. Independent businesses recognized the need for food safety training, often driven by external pressures or identified risks. While compliance was generally considered important, enforcing rules, especially around PPE protocols and hygiene discipline, presented ongoing challenges. Gaps in prioritizing compliance were evident, with staff frequently perceiving food safety measures as additional work. Ignorance among employees and a lack of engagement hindered efforts to foster a compliance-driven culture. Management-led initiatives were focused on improving junior staff training, with some businesses demonstrating strong commitment while others were still in the process of embedding food safety as a priority. Record-keeping was frequently viewed as a burdensome task rather than an integral part of food safety. Staff attitudes varied, ranging from indifference to seeing record-keeping as a means of avoiding job-related consequences. This lack of ownership limited the development of a robust record-keeping culture.	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Practices	4,5	Practices	3,3
Training was a cornerstone of ensuring compliance, with structured e-learning modules, micro-learning sessions, and regular audits driving continuous improvement and guiding training needs. Many franchised businesses used checklists to monitor compliance, with managerial oversight and structured routines playing a key role in ensuring daily adherence. One organisation incentivized employee engagement by offering rewards for completing online training, while internal promotions reinforced adherence to established training pathways. Systematic training practices were further enhanced through formalized structures like the "Academy of Excellence" at one participant and learning management systems (e.g., Moodle), which tracked employee progress and compliance. Bi-annual supplier-led training sessions and performance evaluations ensured that underperforming employees were re-trained promptly, with detailed records meticulously maintained. Franchised businesses integrated food safety regulations into their operational culture, supported by regular audits and structured training. Record-keeping practices were equally systematic, including FIFO (First In, First Out) food rotation, swift handling of returned products, and detailed documentation embedded into daily schedules. These processes were consistently		Independent businesses often demonstrated reactive compliance efforts, with incidents such as audits or risk assessments triggering corrective actions. These reports were then used to drive improvements, highlighting the need for more proactive systems. Practices included the development of checklists and issuing strict instructions or disciplinary actions, but these measures lacked the systematic integration seen in franchised businesses. Training practices in independent businesses were less formalized and structured compared to their franchised counterparts. Common methods included annual refresher training, supplier-led sessions, and management-driven in-house initiatives. However, one business demonstrated a more proactive approach by implementing monthly training sessions for three employees per department, suggesting a gradual move toward more consistent practices. Record-keeping in independent businesses also relied heavily on reactive measures, such as audits, to enforce compliance. While these efforts helped maintain some level of oversight, integration of record-keeping into daily operations remained inconsistent. Instances of incomplete or superficial documentation further underscored the challenges in embedding proactive and systematic compliance practices.	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
verified through audits, with retraining implemented as needed. While top-down communication was identified as an area for improvement, the overall compliance framework demonstrated robustness and consistency across franchised operations.			

Table 1   Regulatory Compliance – Comparison between Franchised & Independent Business

4.3.2 Dimension 2: Food Receiving

Interview questions for this dimension were designed to assess:

- Food Receiving Procedure/Inspection
- Supplier Compliance
- Acceptance/Rejection Criteria

At the conclusion of the interview segment on the Food Receiving dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Food Receiving: Knowledge,
- Food Receiving: Attitude, and
- Food Receiving: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	4,8	Knowledge	3,0
Franchised businesses demonstrated a robust and comprehensive understanding of food receiving procedures, supplier compliance, and acceptance/rejection criteria. Employees were well-versed in the intricacies of cold chain management, including the steps for delivery notification, seal integrity checks, serial number validation, and temperature monitoring. Structured training programs, such as the use of a "receiving Bible," ensured that all employees, regardless of level, adhered to		Independent businesses reported substantial gaps in employee knowledge regarding food receiving procedures and supplier compliance standards. Employees lacked familiarity with critical processes, such as proper cold chain management and detailed inspection protocols. In many cases, their knowledge was limited to basic checks like identifying broken packaging or reviewing expiry dates. These gaps highlighted an urgent need for structured training programs to improve employee competence and awareness.	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
standardized practices. Additionally, training focused on routine updates, with employees inducted into processes during onboarding and continuously trained through workshops and e-learning platforms. This continuous emphasis on education created a knowledgeable workforce with minimal gaps in understanding.			
Attitude	4,8	Attitude	3,7
Franchised businesses placed significant importance on food receiving processes, often connecting these practices directly to their operational success. The critical nature of these activities was underscored by statements like "an hour's delay in this process equals one day in shelf-life loss," reflecting the strategic importance of minimizing inefficiencies. Supplier compliance and acceptance/rejection criteria were viewed with equal seriousness, with organisations linking these processes to brand integrity and customer satisfaction. The emphasis on these practices was further evident in the commitment to ensure faultless operations through audits and supplier questionnaires.		Independent businesses acknowledged the importance of food safety and compliance in food receiving processes, particularly for high-risk items like meat. However, their attitudes often reflected a transitional stage, where compliance was recognized as important but had not yet been fully embedded into organisational culture. Statements such as "Now very serious, but not yet structured" illustrated that while there was a growing focus on compliance, a lack of systematic alignment limited its effectiveness. Additionally, employees often viewed compliance as burdensome, further reflecting cultural challenges in prioritizing these processes.	
Practices	4,7	Practices	3,0
Franchised businesses exhibited advanced, structured practices for food receiving, which were rigorously implemented and consistently monitored. Multi-step cold chain management protocols included checks such as delivery notification, serial number and seal verification, temperature logs, and prioritization of sensitive products.		Independent businesses relied on reactive and ad hoc practices for food receiving. For instance, they developed checklists and enforced rules only after compliance issues were identified. While some businesses implemented supplier document requirements, such as Letters of Acceptance (LOA), these practices lacked the systematic integration observed in franchised businesses.	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Faulty deliveries, including those with broken cold chains or delayed arrivals, were promptly rejected. Practices were reinforced through comprehensive documentation, disciplinary measures for non-compliance, and employee accountability. Additional practices such as supplier surveys, action plans derived from audits, and training focused on best practices further cemented the effectiveness of their approach.		Additionally, minimal guidance and training for employees resulted in inconsistent application of procedures. Practices like rejecting faulty deliveries were present but were reactive rather than preventive, highlighting the need for more structured protocols and ongoing process improvement.	

Table 2   Food Receiving – Comparison between Franchised & Independent Business

4.3.3 Dimension 3: Food Storage

Interview questions for this dimension were designed to assess:

- Storage of Perishable Foods
- First in first out Management
- Food Expiry Date Management

At the conclusion of the interview segment on the Food Storage dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Food Storage: Knowledge,
- Food Storage: Attitude, and
- Food Storage: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	4,8	Knowledge	3,3
Franchised businesses displayed strong knowledge of food storage principles, particularly for perishable foods. Employees were well-versed in safe storage methods, including refrigeration and freezing protocols. The FIFO system was consistently understood and emphasized as a core operational standard. Similarly, staff demonstrated clear knowledge of managing food expiry dates, including proper labelling and disposal practices.		Independent businesses reported varying levels of knowledge. While some employees understood basic food storage principles, significant gaps were noted. For example, knowledge of the FIFO system was inconsistent, with staff often overlooking its importance. Similarly, awareness of proper methods for managing food expiry dates was limited, with some businesses lacking formal procedures.	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Attitude	4,8	Attitude	3,7
Food storage practices were highly prioritized in franchised businesses. The attitude toward proper perishable food storage was described as "critical" due to its direct impact on food quality and safety. Strict adherence to the FIFO system was highlighted as vital for operational efficiency and product safety. Managing expiry dates was regarded as an organisational priority, with frequent monitoring to ensure compliance.		The attitude toward food storage in independent businesses was less consistent compared to franchised businesses. While management often emphasized its importance, staff attitudes were less aligned, with some viewing food storage practices as an administrative burden rather than a critical safety measure. This attitude was especially evident in their inconsistent application of the FIFO system and lax handling of expiry dates.	
Practices	4,7	Practices	3,7
Franchised businesses implemented highly structured practices. For perishable foods, they used systematic refrigeration and cold chain management processes, reinforced by daily temperature checks and audit protocols. The FIFO system was embedded in daily workflows, supported by training and regular audits to ensure compliance. Practices for managing food expiry dates included robust labelling systems and structured removal processes, preventing expired goods from reaching consumers.		Independent businesses employed less structured practices. For perishable foods, temperature monitoring was sporadic, and cold chain management lacked consistency. The FIFO system was implemented irregularly, with limited oversight to ensure adherence. Managing food expiry dates was often reactive, with expired items being identified during routine inspections rather than through proactive monitoring.	

Table 3 Food Storage – Comparison between Franchised & Independent Business

4.3.4 Dimension 4: Cooking Temperature Control

Interview questions for this dimension were designed to assess:

- Temperature Control during Cooking

At the conclusion of the interview segment on the Cooking Temperature Control dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Cooking Temperature Control: Knowledge,
- Cooking Temperature Control: Attitude, and
- Cooking Temperature Control: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	5,0	Knowledge	2,7
Franchised businesses displayed consistent knowledge of cooking temperature control, with employees trained to use thermometers and monitor temperatures. Senior staff often led these efforts, ensuring team compliance. Specific systems, such as the Express Master Probes System, were implemented to streamline and standardize processes.		Knowledge levels in independent businesses varied significantly. While some experienced cooks relied on practical knowledge, they often lacked formal training in food safety temperatures. One business explicitly noted a lack of awareness regarding cooking temperature control, reflecting a significant gap in foundational knowledge.	
Attitude	5,0	Attitude	3,3
The attitude toward cooking temperature control in franchised businesses was uniformly high. Most businesses regarded it as a critical or very important aspect of food safety, reflecting their focus on compliance and operational excellence. This priority was reinforced through training and leadership oversight.		Attitudes in independent businesses were inconsistent. In some cases, temperature control was not seen as a priority, and the absence of structured systems reinforced this perception.	
Practices	5,0	Practices	2,0
Franchised businesses implemented systematic practices to monitor and control cooking temperatures. Common practices included using thermometers, monitoring temperatures twice daily, and maintaining records for audits. Senior staff frequently conducted random checks, while adjustments to fridge and freezer temperatures were restricted to trained personnel. In cases where cooking was minimal (e.g.,		Practices in independent businesses were reactive rather than proactive. There were significant gaps in practice, with no systems in place to ensure safe cooking temperatures.	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
reheating pies and buns), procedures were simplified but still closely monitored.			

Table 4 Cooking Temperature Control – Comparison between Franchised & Independent Business

4.3.5 Dimension 5: Contamination

Interview questions for this dimension were designed to assess:

- Cleaning and Sanitizing Procedures
- Handling Raw versus Cooked Food

At the conclusion of the interview segment on the Contamination dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Contamination: Knowledge,
- Contamination: Attitude, and
- Contamination: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	4,8	Knowledge	3,3
Franchised businesses demonstrated comprehensive knowledge of contamination prevention measures. Employees were well-versed in cleaning and sanitizing protocols, supported by structured training and supplier-led sessions. The importance of raw versus cooked food separation was also strongly emphasized, with employees trained in the risks and necessary precautions.		Independent businesses displayed inconsistent knowledge levels. While some businesses implemented basic practices, others acknowledged significant gaps in understanding, especially before incidents prompted corrective actions. Employees often lacked training on the importance of cleaning, sanitizing, and separation protocols.	
Attitude	4,2	Attitude	4,0
A strong culture of compliance was driven, with cleaning and sanitizing considered critically important. Non-compliance led to immediate disciplinary action, and separation of raw and cooked food was viewed as essential for maintaining food safety standards. Management commitment and zero-tolerance policies reinforced this attitude.		The importance of contamination prevention gained traction after risk assessments or incidents, but challenges in fostering a compliance-driven culture persisted. Staff attitudes often reflected resistance or a lack of appreciation for the critical nature of these measures.	
Practices	4,7	Practices	4,7
Franchised businesses implemented color-coded systems for cleaning equipment and food types, "clean as you go" policies,		Practices were less structured and relied heavily on management oversight. Cleaning schedules were implemented, but enforcement was	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
and structured checklists monitored by managers. Preparation and cooking areas were separated, and Standard Operating Procedures (SOPs) ensured consistent implementation. Routine audits and continuous training further supported these practices.		inconsistent, and the use of checklists was not always sustained. Raw and cooked products were sometimes separated in cold rooms, but the broader implementation of separation protocols lacked the rigor observed in franchised businesses.	

Table 5 Contamination – Comparison between Franchised & Independent Business

4.3.6 Dimension 6: Personal Hygiene

Interview questions for this dimension were designed to assess:

- Employee Clean and Tidiness

At the conclusion of the interview segment on the Personal Hygiene dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Contamination: Knowledge,
- Contamination: Attitude, and
- Contamination: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	5,0	Knowledge	4,0
Franchised businesses demonstrated a strong understanding of the importance of personal hygiene among employees. Staff were well-informed about the need for clean clothing, proper grooming, and frequent handwashing. However, some businesses reported that consistent adherence required regular reminders.		Independent businesses displayed mixed levels of knowledge regarding personal hygiene. While some employees were trained in proper handwashing techniques and hygiene practices, others lacked the necessary understanding, often requiring management intervention to ensure compliance.	
Attitude	4,0	Attitude	4,0
There was a high level of commitment to personal hygiene, with many businesses emphasizing its critical importance. Instances of staff being sent home for non-compliance highlight the seriousness of the approach. Attitudes were reinforced through internal procedures and proactive management oversight.		The importance of personal hygiene became a priority after incidents or risk assessments highlighted deficiencies. However, attitudes among employees were often compliance-driven rather than intrinsically motivated, reflecting a gap in embedding hygiene into the organisational culture.	
Practices	5,0	Practices	4,7

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Practices were generally structured, including start-of-shift protocols where clothing and PPE were inspected, handwashing facilities were made readily available, and supervisors monitored adherence. In some cases, internal competitions and SOPs reinforced the importance of hygiene, ensuring compliance beyond checklists.		Practices included the issuance of PPE and internal education sessions. However, these were largely reliant on managerial enforcement, with consistent adherence dependent on active monitoring. Some businesses implemented regular training schedules, while others struggled to sustain consistent behaviour without management oversight.	

Table 6 Personal Hygiene – Comparison between Franchised & Independent Business

4.3.7 Dimension 7: Allergens

Interview questions for this dimension were designed to assess:

- Allergen Communication

At the conclusion of the interview segment on the Allergen dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Contamination: Knowledge,
- Contamination: Attitude, and
- Contamination: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	3,7	Knowledge	2,3
Franchised businesses demonstrated a basic understanding of allergen communication, with common allergens such as nuts and shellfish being well-recognized. However, gaps were noted in more nuanced areas, such as gluten and lactose intolerance, which have become more prominent concerns over time. While senior staff often had better knowledge, this was less consistent among lower-level employees.		Independent businesses revealed significant knowledge gaps in allergen communication, with some employees lacking awareness of even the most common allergens. While some efforts, such as displaying posters on allergens, were noted, these were largely reactive and insufficient to address the gaps comprehensively.	
Attitude	4,3	Attitude	3,3
Allergen management was taken very seriously across franchised businesses, emphasizing the importance of preventing cross-contact and ensuring customer safety. Despite this seriousness, allergen management was not		Allergen management was not initially prioritized in independent businesses but gained attention following risk assessments and audit findings. However, this focus remained inconsistent, and allergen communication was rarely treated	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
always prioritized in training programs.		as a critical issue within the organisation.	
Practices	4,3	Practices	2,7
Practices varied but generally included avoiding high-risk allergens in food service, labelling food items with allergen information, and training food preparation staff. For one participant, monthly assessments and retraining ensured adherence where necessary. Standard Operating Procedures (SOPs) and labelling audits were also implemented to maintain compliance.		Practices in independent businesses were minimal, often relying on managerial oversight to guide employees. In some cases, there was no established focus on allergens, and the absence of training left employees ill-equipped to manage allergen-related risks effectively.	

Table 7 Allergens – Comparison between Franchised & Independent Business

4.3.8 Dimension 8: Pest Control

Interview questions for this dimension were designed to assess:

- Pest Control Measures

At the conclusion of the interview segment on the Pest Control dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Contamination: Knowledge,
- Contamination: Attitude, and
- Contamination: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	4,7	Knowledge	3,0
Franchised businesses demonstrated consistent knowledge of pest control measures. Employees were generally aware of the importance of pest control, although direct involvement was often minimal, as this function was typically outsourced to specialized service providers such as Rentokil, EcoLab, or Steiner. One business trained specific "Pest Scouts" to enhance internal awareness and monitoring.		Independent businesses displayed variability in knowledge, with one respondent indicating a significant gap in employee awareness of pest control measures. While some businesses showed basic understanding, knowledge dissemination was largely dependent on external pest control service providers rather than internal training.	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Attitude	4,7	Attitude	5,0
Pest control was regarded as very important by all franchised businesses. The importance of maintaining strict pest control measures was linked to overall food safety compliance and brand reputation.		Independent businesses showed a mixed attitude toward pest control. Following incidents or risk assessments in one case, pest control was reprioritized, with some adopting a zero-tolerance stance.	
Practices	5,0	Practices	5,0
Pest control practices in franchised businesses were systematic and heavily outsourced to professional service providers. These practices included strict housekeeping protocols, chemical management, and the use of bait stations. Monitoring and verification were integrated into manager and control room checklists, ensuring compliance. External service providers conducted routine checks, and additional measures, such as cleaning schedules, complemented pest control strategies.		Pest control in independent businesses was typically subcontracted to external service providers, with minimal employee involvement. Measures included monthly services by pest control companies, the installation of fly catchers, and general housekeeping. However, the practices were often driven by management and external contractors rather than a fully integrated internal system.	

Table 8 Pest Control – Comparison between Franchised & Independent Business

4.3.9 Dimension 9: Shelf Readiness

Interview questions for this dimension were designed to assess:

- Shelf Readiness Standards

At the conclusion of the interview segment on the Shelf Readiness dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Contamination: Knowledge,
- Contamination: Attitude, and
- Contamination: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	4,3	Knowledge	4,0
Franchised businesses demonstrated a generally high level of knowledge regarding shelf readiness standards. Employees were well-informed about the requirements for inspecting incoming products, with some		Independent businesses showed significant variability in knowledge levels. One business reported a "big gap" in employee understanding of shelf readiness standards, while others indicated some level of awareness but lacked	

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
businesses emphasizing expiry date management and quality assurance protocols. However, one business acknowledged a gap, stating they had identified the need but were still in the process of implementing structured practices.		comprehensive training. Knowledge dissemination was largely informal and dependent on management oversight.	
Attitude	4,7	Attitude	4,7
Attitudes were consistently very committed, with shelf readiness viewed as an integral part of the operational culture. Management teams emphasized its importance, linking it to quality and customer satisfaction. In some cases, this was described as a "mindset" or a reflection of organisational pride.		Attitudes toward shelf readiness were generally positive, with businesses expressing a strong commitment to maintaining cleanliness and product presentation. For instance, one business emphasized the importance of neat and clean displays, while another highlighted employee pride in their work.	
Practices	4,7	Practices	4,3
Practices in franchised businesses were structured and management driven. Quality assurance sweeps were conducted daily by management staff, and expiry date controls were emphasized. Some businesses had dedicated systems or personnel for maintaining shelf readiness, ensuring adherence to strict conditions and criteria. In cases where gaps were identified, policies and documentation were being developed to address these needs.		Practices in independent businesses were inconsistent and less formalized compared to franchised counterparts. Some businesses relied on basic checklists for bakery and butchery sections, while others focused on general cleanliness and neat displays. Labelling and ingredient transparency were also mentioned as part of shelf readiness efforts. However, these practices were often reactive rather than integrated into a structured system.	

Table 9 Shelf Readiness – Comparison between Franchised & Independent Business

4.3.10   Dimension 10: Customer Interaction

Interview questions for this dimension were designed to assess:

- Handling Complaints
- Customer Education

At the conclusion of the interview segment on the Customer Interaction dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Contamination: Knowledge,
- Contamination: Attitude, and
- Contamination: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	4,7	Knowledge	3,3
Employees in franchised businesses demonstrated a strong understanding of procedures for handling complaints and providing customer education. All participants confirmed that staff were well-informed about escalation protocols for complaints. However, there were minor areas for improvement identified in complaint handling processes.		Knowledge among independent businesses varied significantly, with some acknowledging significant gaps in both complaint handling and customer education. One participant noted, "Nothing formal in place – staff just have to inform the manager," indicating a lack of structured processes.	
Attitude	5,0	Attitude	4,0
Franchised businesses regarded handling customer complaints and education as very serious, emphasizing its importance to customer satisfaction and brand reputation. While customer education was often viewed as less critical due to informative labelling, businesses remained committed to supporting customer inquiries when they arose.		While independent businesses recognized the importance of addressing complaints, there was a clear understanding that improvements were necessary. Customer education, however, was often not a major focus, with limited emphasis on empowering employees to guide customers effectively regarding food safety.	
Practices	5,0	Practices	2,7
Practices included immediate escalation of complaints to management, food item removal until safety concerns were addressed, and offering compensation or product exchanges as needed. For customer education, practices were centred around informative labelling, product training, and responding to inquiries about allergens or dietary requirements. One business also employed digital tools such as WhatsApp lines or social media monitoring to engage with customers.		Practices in independent businesses were reactive, relying heavily on management to address customer complaints. One business had a questionnaire for handling complaints, while others lacked any structured approach. For customer education, efforts were largely limited to advising customers verbally or relying on product labelling for pre-packaged items.	

Table 10 Customer Interaction – Comparison between Franchised & Independent Business

4.3.11 Dimension 11: Emergency Procedures

Interview questions for this dimension were designed to assess:

- Food Safety Incidents
- Food Traceability

At the conclusion of the interview segment on the Emergency Procedures dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Contamination: Knowledge,
- Contamination: Attitude, and
- Contamination: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	4,5	Knowledge	3,0
Franchised businesses exhibited a strong understanding of emergency procedures related to food safety incidents and traceability. Employees were well-informed about protocols for managing incidents, supported by training and clear operational guidelines.		Independent businesses showed significant variability in knowledge. Some were aware of emergency procedures and implemented basic recall processes, while others lacked knowledge of traceability or clear emergency protocols.	
Attitude	5,0	Attitude	3,3
The importance of emergency procedures was highly prioritized, with consistent emphasis on the critical nature of responding to incidents to protect customers, brand reputation, and operational integrity.		There was a general acknowledgment of the importance of emergency procedures, especially after incidents highlighted vulnerabilities. However, traceability was often deprioritized, reflecting a gap in understanding its critical role in food safety.	
Practices	5,0	Practices	3,0
Practices included immediate escalation of food safety incidents to management, engaging specialists for technical support (e.g., electricians or plumbers), and isolating affected products. Comprehensive traceability systems ensured products were tracked by batch, linked to specific dates, times, and employees. Mock recalls were used as a training tool, reinforcing employee preparedness for real incidents.		Practices were largely reactive. Some businesses relied on Health & Safety Officers to manage incidents, while others developed basic recall procedures to isolate and track affected products. Traceability practices were minimal, often limited to pre-packaged goods from suppliers, with little focus on food service food tracking.	

Table 11   Emergency Procedures – Comparison between Franchised & Independent Business

4.3.12 Dimension 12: Leadership

Interview questions for this dimension were designed to assess:

- The Role of Leaders
- The Role of Employees
- Barriers to Food Safety

At the conclusion of the interview segment on the Leadership dimension, participants were asked to provide three separate ratings on a 5-point scale, with 5 representing the highest score. These ratings assessed their organisation's performance in:

- Contamination: Knowledge,
- Contamination: Attitude, and
- Contamination: Practice.

The average ratings provided by participants are summarized in the table below.

Franchised Businesses	Ave Rating (n=6)	Independent Businesses	Ave Rating (n=3)
Knowledge	5,0	Knowledge	3,7
Leaders in franchised businesses demonstrated a clear understanding of their role in driving food safety practices. Leadership consistently emphasized setting an example ("walk the talk") and embedding food safety into the organisational culture.		Independent businesses showed a growing understanding of the role of leadership in food safety, driven by recent challenges such as foodborne illnesses and government scrutiny. However, leadership behaviour was more verbal than actionable in many cases.	
Attitude	5,0	Attitude	4,3
Leadership commitment was high, often tied to a value-driven culture where food safety was framed as essential to customer satisfaction and business reputation.		Leaders expressed strong commitment, especially after food safety incidents, recognizing the need for cultural change and disciplined practices.	
Practices	4,8	Practices	3,7
Practices included visible leadership through floor walks, weekly food safety meetings, and assigning food safety champions to drive initiatives. In most cases, leadership actively supported internal training and staff development, fostering accountability at all levels. Barriers such as staff education gaps and inconsistent mid-level management buy-in were addressed through consistent leadership, training, and a strong organisational value system.		Practices were less structured, often relying on verbal reinforcement and regular meetings to address food safety issues. Barriers included a lack of staff education, poor discipline, and limited integration of food safety values into daily operations. Efforts to overcome these barriers focused on sourcing knowledgeable staff and increasing training initiatives, though progress in embedding a food safety culture remained slow.	

Table 12   Leadership – Comparison between Franchised & Independent Business

Ratings Summary

The table below provides a composite view of the dimension ratings indicated in Tables 1 – 12. The table below summarizes the average ratings across the survey dimensions of food safety competence, reflecting differences in organisational approaches and their overall impact on food safety management.

Survey Dimension	Competence	Franchised Business	Independent Business	Difference
Regulatory Compliance	Knowledge	4,0	3,3	0,7
	Attitude	4,0	3,3	0,7
	Practice	4,5	3,3	1,2
Food Receiving	Knowledge	4,8	3,0	1,8
	Attitude	4,8	3,7	1,2
	Practice	4,7	3,0	1,7
Food Storage	Knowledge	4,8	3,3	1,5
	Attitude	4,8	3,7	1,2
	Practice	4,7	3,7	1,0
Cooking Temperature Control	Knowledge	5,0	2,7	2,3
	Attitude	5,0	3,3	1,7
	Practice	5,0	2,0	3,0
Contamination	Knowledge	4,8	3,3	1,5
	Attitude	4,2	4,0	0,2
	Practice	4,7	4,7	0,0
Personal Hygiene	Knowledge	5,0	4,0	1,0
	Attitude	4,0	4,0	0,0
	Practice	5,0	4,7	0,3
Allergens	Knowledge	3,7	2,3	1,3
	Attitude	4,3	3,3	1,0
	Practice	4,3	2,7	1,7
Pest Control	Knowledge	4,7	3,0	1,7
	Attitude	4,7	5,0	-0,3
	Practice	5,0	5,0	0,0
Shelf Readiness	Knowledge	4,3	4,0	0,3
	Attitude	4,7	4,7	0,0
	Practice	4,7	4,3	0,3
Customer Interaction	Knowledge	4,7	3,3	1,3
	Attitude	5,0	4,0	1,0
	Practice	5,0	2,7	2,3
Emergency Procedures	Knowledge	4,5	3,0	1,5
	Attitude	5,0	3,3	1,7
	Practice	5,0	3,0	2,0
Leadership	Knowledge	5,0	3,7	1,3
	Attitude	5,0	4,3	0,7
	Practice	4,8	3,7	1,2

Table 13   Composite view of Dimension Ratings

4.4 Food Safety Culture Change

This section explores the perceived effectiveness of various interventions aimed at enhancing food safety performance within organisations.

Respondents were asked to evaluate the effectiveness of specific interventions in fostering a stronger food safety culture and enhancing compliance within their own organisation. The interventions ranged from traditional methods, such as classroom training and practical demonstrations, to innovative approaches like team-building activities, food safety ambassadors, and motivational communication strategies. Additionally, the role of leadership visibility, employee recognition, and adequate resources, such as sufficient PPE, were also assessed.

To quantify these perceptions, respondents were asked to rate the effectiveness of each intervention on a 5-point Likert scale, ranging from "Very Ineffective" to "Very Effective." The responses were then averaged across the nine participating organisations to provide a consolidated view of which interventions were deemed most impactful. This analysis provides key insights into the preferred strategies for fostering a robust food safety culture and improving performance across different organisational contexts.

The figure below illustrates the average perceived effectiveness of various interventions aimed at improving food safety performance within organisations, as rated on a 5-point scale. Among the interventions, leadership visibility and involvement received the highest effectiveness rating, closely followed by food safety practicals and demonstrations, and employee recognition programs. These results emphasize the importance of active leadership, hands-on training, and acknowledgment of employee contributions in fostering a strong food safety culture.

Conversely, or at least relative to the above, interventions like team building and social events were rated the least effective, suggesting they may not directly contribute to food safety improvements. Other methods, such as food safety messaging and branding and financial incentives, scored moderately, highlighting their potential but less significant impact compared to leadership-driven and practical approaches.

This analysis underscores the critical role of leadership and structured, practical training in driving food safety improvements, while also pointing to areas where additional efforts might yield less impactful results.
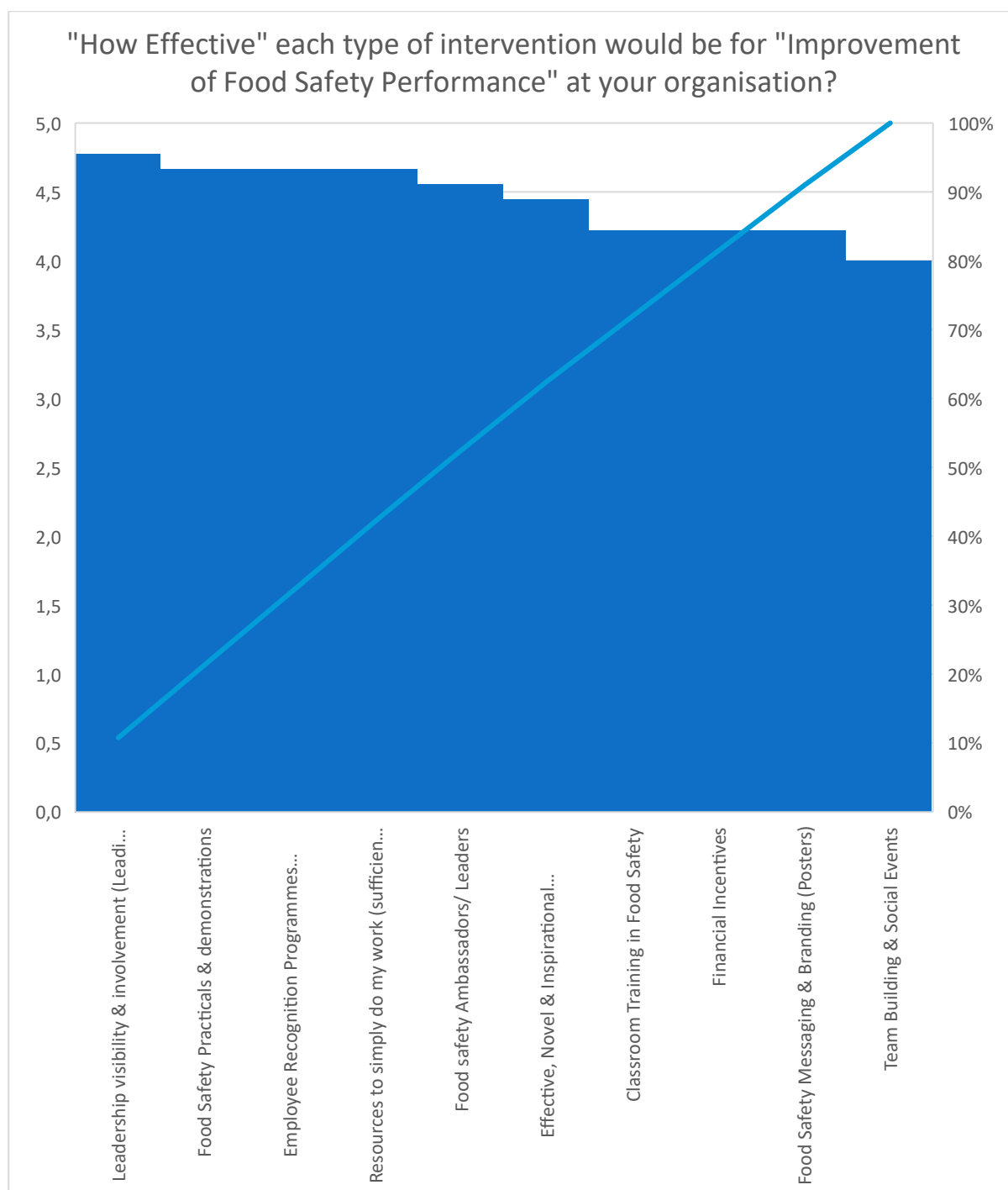
Figure 19   Food Safety Intervention Effectiveness

4.5 Advice to the W&RSETA

The final question in the survey invited participants to provide open-ended feedback, specifically offering advice to the W&RSETA on prioritizing future training or interventions to enhance food safety performance.

This question aimed to capture unstructured, qualitative insights directly from respondents, allowing them to highlight key challenges, needs, or innovative ideas based on their unique experiences. By posing this question, the survey sought to uncover practical recommendations that might not have been addressed in the structured dimensions, ensuring the W&RSETA's initiatives align with the sector's real-world demands and opportunities for improvement.

The responses to the open-ended question reveal a range of recommendations aimed at guiding the W&RSETA's focus for future food safety training and interventions.

Franchised Businesses

Several respondents emphasized the need for more information on specialized topics, such as allergen management and food safety culture, indicating gaps in current knowledge areas.

There was a call for innovative and engaging training methods, such as making food safety "fun" and interactive, reflecting a need to enhance employee engagement.

Respondents highlighted the importance of in-house SETA-supported initiatives tailored to their specific needs, including foundational training on topics like the "danger zone" for bacterial growth and professional workplace conduct.

Concerns about existing SETA support were raised, with some pointing out the lack of training that combines basic food technology with health and safety.

They also emphasized the importance of addressing food safety culture to build organisational capacity.

Independent Businesses

Respondents recommended the development of SETA-accredited training programs that cater to both technical and cultural aspects of food safety, suggesting a focus on impactful, short-term programs (maximum five days).

They also advocated for food safety workshops targeted at non-working individuals before placement, aiming to enhance the employability of candidates with prior knowledge, thereby reducing the burden of internal training.

There was a consistent emphasis on creating food safety training programs accessible to all organisational levels, ensuring widespread competency.

These insights underline a strong demand for tailored, engaging, and accessible training initiatives, along with a desire for greater SETA involvement in addressing both foundational and advanced food safety challenges.

5 DISCUSSION

5.1 Interpretation of Findings

Regulatory Compliance

Franchised businesses exhibited consistent employee awareness and a job-specific understanding of food safety regulations, supported by management-driven updates and structured communication. In contrast, independent businesses reported inconsistent staff understanding, challenges with self-discipline, and knowledge gaps, often struggling to translate awareness into consistent behaviour and appreciation of consequences.

Both franchised and independent businesses recognized the importance of compliance; however, franchised businesses demonstrated a deeply ingrained culture of compliance, driven by brand reputation, structured policies, and financial incentives or penalties. In contrast, independent businesses often improved their attitudes toward compliance following external pressures or incidents but faced challenges in fully embedding it into their organisational culture. While franchised businesses emphasized risk management with strong leadership commitment, independent businesses struggled with staff resistance, where food safety was often perceived as an added burden.

Franchised businesses demonstrated highly organized and proactive management practices, utilizing multi-tiered training systems, structured audits, and detailed daily checklists for monitoring and control. In contrast, independent businesses relied on reactive measures, such as annual training and post-risk-assessment checklists, but lacked the consistency and comprehensive systems of their franchised counterparts. While franchised models incorporated investigative training and continuous oversight, independent businesses primarily depended on management oversight and periodic training.

Food Receiving

Franchised businesses significantly outperformed independent businesses across all dimensions of the food receiving process. Franchised businesses ensured consistent and comprehensive knowledge dissemination through structured training programs, detailed SOPs, and employee onboarding processes. Independent businesses, by contrast, struggled with knowledge gaps, particularly regarding cold chain management and inspection protocols. Employee awareness in independent businesses was often limited to basic checks, such as packaging and expiry dates, with no in-depth understanding of broader compliance requirements.

Franchised businesses exhibited a deeply ingrained cultural commitment to compliance, emphasizing its criticality to operational efficiency and brand reputation. Their proactive stance was evident in their no-tolerance policies for supplier non-compliance and their systematic approach to quality control. Independent businesses, while recognizing the importance of compliance, were still in the process of embedding these priorities into their organisational culture. Attitudes toward compliance were improving, but there was often resistance among staff, who viewed compliance as an added burden rather than a core responsibility.

Franchised businesses implemented highly proactive and detailed protocols for food receiving, including multi-step cold chain management, rigorous inspection routines, and the use of structured documentation. These practices were supported by regular audits, disciplinary measures, and continuous training to ensure compliance. Independent businesses, on the other hand, relied heavily on reactive practices. Checklists and oversight

mechanisms were often developed in response to incidents rather than as preventive measures. Furthermore, the lack of comprehensive training and guidance resulted in inconsistent application of food receiving protocols.

Food Storage

Franchised businesses demonstrated consistently high knowledge of food storage principles across all areas, reflecting their structured training and protocols. Independent businesses, by contrast, showed gaps in knowledge, particularly in the application of the FIFO system and the management of food expiry dates.

Attitudes in franchised businesses were uniformly strong, with food storage seen as a critical priority at all levels of the organisation. In independent businesses, attitudes varied, with management recognizing the importance but struggling to instil the same level of commitment among employees.

Franchised businesses had highly structured and proactive practices for all three areas, supported by robust training, checklists, and audits. Independent businesses, however, relied more on ad hoc practices and lacked the systematic approach observed in franchised businesses. For example, cold chain management, FIFO adherence, and expiry date monitoring were often inconsistent, exposing gaps in their operational frameworks.

Cooking Temperature Control

Franchised businesses demonstrated a higher level of knowledge, supported by structured training programs and specific systems like the Express Master Probes System. Independent businesses, on the other hand, showed gaps in knowledge, relying heavily on individual experience rather than formal training.

Franchised businesses consistently prioritized cooking temperature control, emphasizing its importance in maintaining food safety and compliance. Independent businesses often lacked this emphasis, with some failing to recognize its significance as a critical safety measure.

Franchised businesses exhibited proactive and structured practices, including regular monitoring, the use of thermometers, and restricted access to temperature adjustments. Independent businesses, however, demonstrated no comprehensive control and monitoring systems.

Contamination

Franchised businesses demonstrated a higher level of knowledge, reinforced through formal training and SOPs. Independent businesses showed variability, with some relying on reactive measures to address knowledge gaps.

While both types of businesses recognized the importance of contamination prevention, franchised businesses exhibited stronger cultural integration of these measures. Independent businesses often viewed compliance as an added burden, with attitudes only improving after incidents or risk assessments.

Franchised businesses implemented robust and structured practices, including color-coded systems, SOPs, and routine monitoring. Independent businesses relied on basic measures like cleaning schedules and cold room separation, but these practices were often inconsistently enforced and lacked the proactive systems observed in franchised businesses.

Personal Hygiene

Franchised businesses exhibited stronger and more consistent knowledge of personal hygiene, reinforced through structured onboarding and continuous reminders. Independent businesses showed variability, with knowledge levels dependent on reactive measures or managerial initiatives.

Franchised businesses, in most cases, demonstrated a deeply embedded commitment to personal hygiene, supported by proactive measures like staff competitions and arrival procedures. Independent businesses, while acknowledging the importance, often had attitudes driven by compliance requirements rather than cultural integration.

Franchised businesses implemented systematic practices, such as start-of-shift inspections, departmental monitoring, and SOPs, creating a robust framework for maintaining hygiene. Independent businesses, while making progress, relied heavily on management-driven interventions and lacked the proactive, structured systems observed in franchised businesses.

Allergens

Franchised businesses demonstrated a stronger foundation in allergen knowledge, albeit with room for improvement in covering emerging allergen concerns. Independent businesses, by contrast, exhibited significant gaps, with a lack of training contributing to inconsistent awareness among staff.

Franchised businesses consistently treated allergen management as very important, embedding it into their food safety culture. Independent businesses, however, only began prioritizing allergens after external audits or incidents, reflecting a reactive rather than proactive approach.

Franchised businesses implemented structured practices such as food labelling, staff training, and monthly assessments. Independent businesses relied heavily on management interventions but lacked systematic approaches to managing allergen risks. In most cases, there was little to no organisational focus on allergens.

Pest Control

Franchised businesses had a more systematic approach to pest control knowledge, supported by structured processes and, in one case, dedicated roles such as "Pest Scouts." Independent businesses relied heavily on external service providers, leading to variability in staff awareness and knowledge gaps.

Both business models recognized the importance of pest control, though franchised businesses consistently treated it as a critical element of food safety culture. Independent businesses, on the other hand, often elevated pest control to a priority only after incidents or risk assessments highlighted its necessity.

Franchised businesses exhibited proactive practices, leveraging both internal protocols and external service providers. In contrast, independent businesses relied primarily on external contractors, with less emphasis on integrating pest control into daily operations. While housekeeping was a common practice, it lacked the structured and verified approach seen in franchised operations.

Shelf Readiness

Franchised businesses exhibited a more systematic approach to shelf readiness knowledge, supported by structured training and management oversight. Independent businesses, on the other hand, showed significant gaps in knowledge, with some relying on informal practices to fill the void.

Both franchised and independent businesses demonstrated a strong commitment to shelf readiness. However, franchised businesses appeared to embed this commitment into their culture and operational systems, while independent businesses relied more on individual employee pride and management intervention.

Franchised businesses implemented proactive, structured practices for maintaining shelf readiness, such as daily quality assurance sweeps and dedicated personnel. In contrast, independent businesses employed more ad hoc practices, focusing on cleanliness and labelling but lacking the comprehensive systems seen in franchised operations.

Customer Education

Franchised businesses exhibited comprehensive knowledge of complaint handling and customer education processes, underpinned by structured training and clear protocols. Independent businesses, on the other hand, revealed notable gaps, with minimal formal training and ad hoc processes.

Both franchised and independent businesses valued the importance of handling customer complaints, though franchised businesses demonstrated a higher degree of commitment. Customer education, while important, was more of a secondary priority for both groups, although franchised businesses showed greater effort in proactive engagement.

Franchised businesses implemented proactive and structured practices, including management escalation, product removal, and digital communication channels. Independent businesses relied on management intervention and informal approaches, with limited integration of formal processes or systems to enhance customer interaction.

Emergency Procedures

Franchised businesses demonstrated a far more comprehensive understanding of emergency procedures and traceability compared to independent businesses, where knowledge gaps were prevalent.

Both franchised and independent businesses recognized the importance of emergency procedures, but franchised businesses consistently showed greater organisational commitment to implementing and maintaining these practices.

Franchised businesses utilized proactive measures, including detailed protocols, mock recalls, and robust traceability systems, ensuring preparedness and effective incident management. In contrast, independent businesses relied more on ad hoc practices, such as escalating to Health & Safety Officers or basic recall processes, revealing a lack of systematic approaches.

Leadership

Franchised businesses consistently outperformed independent ones in leadership knowledge, emphasizing proactive and structured approaches to food safety. Independent businesses showed some progress but were largely reactive, with knowledge driven by external pressures.

Both types of businesses displayed strong leadership commitment to food safety. However, franchised businesses demonstrated a more ingrained value system, while independent businesses were still building this commitment into their operational culture.

Franchised businesses implemented systematic practices such as leadership-led training, food safety champions, and weekly meetings, making food safety a way of work. Independent businesses relied more on verbal enforcement and ad hoc practices, with slower progress in overcoming barriers such as staff discipline and cultural integration.

5.2 Implications & Recommendations for Food Safety Competence in the Sector

The findings reveal significant disparities in food safety practices, knowledge, attitudes, and implementation between franchised and independent businesses. These differences have profound implications for food safety across the sector and indicate the need for targeted interventions to bridge gaps and improve overall standards.

The findings highlight four key themes essential for advancing food safety in the sector: Education, Compliance Support, Collaboration, and Food Safety Culture. Responding to the challenge through these themes can assist with elevating competence levels of independent businesses while ensuring higher food safety standards across the board.

Theme 1 Education

Education is a cornerstone for building knowledge, skills, and awareness across all levels of the sector, ensuring consistent food safety practices.

Comprehensive Training Programs

Develop standardized training programs that cover essential topics in line with the 12 dimensions of this survey questionnaire, which originated from the Prerequisite Programs (PRPs) as source.

Leveraging Digital Platforms

Promote e-learning platforms to make training more accessible and cost-effective, especially for smaller businesses. Encourage the adoption of digital tracking systems to monitor employee progress and ensure knowledge retention.

Leadership Development

Provide targeted leadership training programs for franchised and independent businesses, focusing on building food safety leadership and engaging employees. Emphasize the role of leadership in driving compliance and fostering a culture of accountability and safety.

Public and Customer Education

Raise public awareness of food safety practices to complement business-led customer education. Equip businesses with resources to guide customers on proper food storage, preparation, and allergen awareness.

Theme 2 Compliance Support

Providing structured tools and systems is essential to help businesses, especially independent ones, embed food safety compliance into their operations.

Standardized Protocols and Resources (SOPs)

Develop Standardized Protocols and Resources (SOPs) for critical areas like food receiving, storage, contamination prevention, and emergency preparedness, ensuring these are user-friendly and accessible to all businesses. Offer checklists, templates, and practical guides tailored for independent businesses to simplify compliance processes and reduce perceived burdens.

Strengthened Traceability and Incident Management

Support independent businesses in implementing traceability systems by providing cost-effective tools and training. Offer regular drills and resources for emergency preparedness, including incident escalation protocols and recall processes.

Theme 3 Collaboration

Cross-sector collaboration can bridge the gap between franchised and independent businesses, fostering a unified approach to food safety.

Knowledge and Resource Sharing

Establish a platform for sharing best practices, resources, and training programs between franchised and independent businesses. Facilitate mentorship programs where franchised businesses can guide independent operators in adopting structured food safety practices.

Cross-Sector Partnerships

Partner with government bodies, industry associations, and academic institutions to develop common tools, training modules, and compliance frameworks that benefit all stakeholders. Engage external service providers to offer subsidized pest control, traceability tools, and compliance audits for smaller operators.

Policy Advocacy

Advocate for targeted policies to support independent businesses, including financial subsidies, reduced administrative burdens, and easier access to training resources. Align policy interventions with the unique needs of smaller operators to ensure equitable support.

Theme 4 Food Safety Culture

Building a strong food safety culture is vital for embedding food safety practices into daily operations and overcoming attitudinal barriers.

Embedding Values and Leadership Commitment

Foster leadership-driven food safety cultures where leaders model desired behaviours and prioritize food safety as a core value. Middle management need to be trained to champion food safety initiatives, ensuring consistent messaging and practices across all levels of the organisation.

Driving Food Safety Culture

Create capacity to perform a Food Safety Culture Assessments. This assessment will provide insights into existing strengths, gaps, and areas requiring immediate attention, creating a baseline to measure progress over time.

Based on the findings of the Food Safety Culture Assessment, organisations should design tailored responses to address identified gaps and build on existing strengths. For instance, where gaps in employee engagement or knowledge are observed, organisations can introduce incentive programs, such as recognition or rewards, to celebrate and encourage outstanding food safety practices. This approach not only fosters a sense of ownership but also reinforces positive behaviours.

Driving and managing change should then focus on implementing the following initiatives to shift the organisation toward a proactive and sustainable food safety culture:

- Develop engaging, participatory training programs that connect employees to the "why" behind food safety, deepening their understanding of its importance for public health and organisational success.
- Transition from reactive compliance measures to embedding food safety into daily routines. This involves streamlining processes to make food safety a natural part of everyday operations, supported by clear Standard Operating Procedures (SOPs) and hands-on management involvement.
- Conduct consistent audits and use feedback mechanisms to identify areas needing improvement. Pair these efforts with retraining opportunities for employees where necessary, ensuring that food safety remains a visible and evolving priority.
- Develop communication initiatives that consistently reinforce food safety values and expectations. Clear, frequent messaging across the organisation will create alignment and embed food safety as a shared organisational goal.

By combining the initial assessment with targeted responses and well-designed initiatives, organisations can effectively drive and manage the cultural shift needed to prioritize and sustain food safety practices at every level. This comprehensive approach ensures that food safety becomes a cornerstone of the organisation's operational and cultural identity.

6 CONCLUSION

6.1 Summary of Key Findings

The research highlighted significant disparities between franchised and independent businesses in terms of food safety knowledge, attitudes, and practices. Key findings included:

Franchised businesses exhibited consistent awareness and integration of compliance into operational culture, driven by structured systems and leadership involvement. Independent businesses struggled with inconsistent understanding, reactive approaches, and challenges in embedding compliance into organisational practices.

Across all survey dimensions, such as food receiving, storage, temperature control, contamination prevention, allergens, pest control, and emergency procedures, franchised businesses consistently demonstrated stronger knowledge, proactive practices, and cultural integration. Independent businesses, by contrast, relied heavily on reactive measures, lacked comprehensive systems, and often viewed food safety as an added burden.

Leadership commitment in franchised businesses was evident through initiatives like food safety champions, structured communication, and integration of safety into value systems. Independent businesses acknowledged the importance of leadership but struggled with cultural buy-in and staff discipline. Barriers such as lack of education, resistance, and operational constraints were more pronounced in independent models.

Franchised businesses displayed greater success in fostering a food safety culture, utilizing incentives, structured training, and internal branding to drive engagement. Independent businesses faced challenges in building such a culture, with training often limited to managerial oversight and external audits.

Independent businesses identified the need for more tailored, practical, and accessible training programs.

6.2 Overall Significance of the Research

This study underscores the critical role of structured systems, leadership, and cultural integration in achieving food safety compliance. It highlights the strengths of franchised business models in embedding food safety into their operations and culture, offering a blueprint for improvement within the independent sector. The research also reveals that while independent businesses are making progress, their reliance on reactive measures and the lack of comprehensive systems pose significant risks to food safety performance.

The findings emphasize the need for tailored interventions to address specific challenges, particularly in independent businesses. These include standardized training programs, incentives to foster a culture of safety, and collaboration between businesses and industry bodies like W&RSETA. Furthermore, the research highlights the importance of food safety culture assessments as a diagnostic tool to identify gaps and guide targeted initiatives.

6.3 Limitations of the Research

As a pilot study focused on food safety practices within the Free State's wholesale and retail sector, this research provided foundational insights but also highlighted several limitations that should be addressed as the scope expands to a national level. The findings, while meaningful,

offer an initial framework for understanding food safety challenges and opportunities, serving as a steppingstone for broader research efforts.

Regional Scope

This study was geographically limited to the Free State, providing a localized perspective. While this was beneficial for an in-depth pilot analysis, the findings may not fully reflect the diversity of challenges and practices across South Africa's nine provinces, where regional variations in infrastructure, resources, and regulatory enforcement could influence outcomes.

Sample Size and Representation

The research included nine participants, balancing input from both franchised and independent businesses. While this sample size was appropriate for a pilot, its relatively small scale limits the ability to generalize findings across the entire sector nationally.

Franchised vs. Independent Focus

The study inadvertently revealed a critical distinction between franchised and independent businesses as the primary variable influencing food safety practices. However, other demographic variables, such as urban versus rural location or business turnover, were not sufficiently explored, leaving gaps that should be addressed in national research.

Survey Design

The questionnaire focused on 12 dimensions derived from the Prerequisite Programs (PRPs), which provided a solid foundation for the study. However, the reliance on self-reported data introduces a potential bias, as actual practices may differ from reported behaviours. The survey would benefit from incorporating questions that allow for deeper exploration of regional or operational challenges.

Limited Observation and Validation

This study primarily relied on participant feedback rather than direct observation. While this was appropriate for a pilot, future research should include on-site evaluations to validate self-reported practices and provide richer insights.

Budgetary Constraints

Linked to the limited observation, the budgetary constraints also limited data collection to telephone interviews due to the inability to cover travel, accommodation, and associated research time costs involved in traveling to various locations. While telephone interviews offered valuable insights, they lacked the depth, contextual understanding, and relationship-building opportunities that in-person engagements could have provided. For a national study, it will be essential to secure sufficient funding to cover travel, accommodation, and the additional research time required for on-site visits. This investment will enable richer data collection and a more comprehensive understanding of food safety practices across diverse settings, ensuring the study's findings are robust and actionable.

Focus on Food Safety Culture

While the study addressed food safety culture as a critical theme, it did not deeply explore systemic barriers to cultural integration, such as leadership styles, employee turnover, or resistance to change. A national study could expand into these areas to provide a more nuanced understanding.

Despite its limitations, this pilot study has been instrumental in laying the groundwork for a national research scope. It identified key dimensions of food safety that are relevant across different types of businesses and highlighted the importance of franchised versus independent dynamics as a critical area of focus. Furthermore, it validated the survey design and methodology, ensuring its applicability on a larger scale.

Future national research should:

- Expand Geographical Representation to include businesses across all nine provinces to capture regional variations.
- Increase Sample Size by engaging a broader pool of participants to improve the representativeness of findings.
- Incorporate Observational Methods to combine self-reported data with direct observations for greater accuracy.
- Explore systemic cultural barriers, leadership dynamics, and regional infrastructure challenges in more detail.

By building on the insights and methodology established in this pilot study, national research can provide a comprehensive, evidence-based framework for improving food safety across South Africa's wholesale and retail sectors.

6.4 The Informal Trader Challenge

Informal traders are integral to reaching underserved markets and ensuring food accessibility. However, they are also the least likely to have structured food safety systems, training programs, or regulatory oversight.

The findings from this study, particularly for independent businesses, offer a compelling basis for extrapolation to the informal sector. Independent businesses often lack the structured systems, training, and cultural integration seen in franchised models, leading to notable deficiencies in food safety competence. Informal traders operate under even greater constraints, including limited access to training, financial resources, and regulatory compliance infrastructure. This suggests that food safety competence among informal traders is likely in a dire state.

Extrapolating Independent Business Findings to Informal Traders

Independent businesses in this study struggled with consistent implementation of food safety practices due to gaps in knowledge dissemination, weak cultural integration, and reactive rather than proactive systems. These same challenges are amplified in the informal sector, where:

- Informal traders will probably lack formal education or training in food safety principles. If independent businesses, which have access to some level of formal resources, scored lower in knowledge-related dimensions, it is logical to expect even greater knowledge deficits in the informal sector.
- Food safety is frequently viewed as an added burden rather than a critical responsibility in independent businesses. This mindset is likely even more entrenched in informal settings, where financial survival often takes precedence over food safety investments.
- The lack of structured systems, such as cold chain management, standardized procedures, and traceability protocols, severely hampers independent businesses.

These systems are virtually absent in the informal sector, making it even more challenging to ensure compliance.

Implications for Informal Traders and SMMEs

Given the significant role informal traders play in food distribution, particularly to low-income consumers, addressing food safety in this segment is critical for public health. The findings for independent businesses should serve as a baseline for understanding the likely state of food safety competence among informal traders. Initiatives aimed at improving food safety competence must explicitly target this group, emphasizing accessible and affordable training, basic compliance tools, and community-level awareness campaigns.

By including informal traders in future research and interventions, the W&RSETA and similar stakeholders can ensure a more inclusive approach to improving food safety competence across the food value chain, ultimately safeguarding consumer health and supporting economic growth in this vital sector.

6.5 Final Thoughts

This research provides a comprehensive overview of food safety practices in the wholesale and retail sector, revealing both strengths and areas for improvement. The disparities between franchised and independent businesses underscore the need for a differentiated approach to training and support. Franchised businesses serve as a benchmark for operational excellence and cultural integration, while independent businesses offer insights into the challenges of limited resources and reactive practices.

Moving forward, fostering collaboration between stakeholders, leveraging innovative training methodologies, and embedding food safety into daily routines will be critical for driving sector-wide improvements. By addressing barriers, investing in education, and reinforcing leadership roles, the sector can create a robust food safety framework that benefits businesses, employees, and consumers alike.

7 APPENDICES

Appendix A   Survey Questionnaire

Appendix B   Research Data File (MS Excel)

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