EDINBURGH NAPIER UNIVERSITY

THE BUSINESS SCHOOL

Investigating Regulatory Compliance:

Key Issues in the Management of Food
Safety Risk in the Fast Food Industry in
Jamaica

Roy Henry McNeil

Doctor of Business Administration

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A thesis submitted in partial fulfilment of the requirements

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Declaration of Authorship: I hereby certify the work embodied in this Dissertation Project is the result of original research and has not been submitted for a higher degree to any other University or Institution.

ABSTRACT

Food safety is a critical issue that must be implemented and monitored in all aspects of food delivery to the public. Consumers at fast food restaurants are at risk if the proper food safety measures are not applied. Understanding why safe food practices are not followed can help management identify risks and delegate resources accordingly. In the study, the researcher adopted the constructivism view, as it is believed that there is no single reality or truth and that reality is created by individuals and groups. It is also considered that people gain knowledge and understanding through the combination of their own experiences and ideas.

Fast food restaurant managers/owners are responsible for making sure employees follow safe food handling practices so as to ensure compliance with government regulations and reduce the risk of customers becoming ill from consuming unsafe food. Therefore, this study aims to investigate regulatory compliance in the fast food industry in Jamaica by focusing on the management of food safety risk as a strategy that may be used to improve compliance with national food safety regulations. It seeks to ascertain managers'/owners' perspectives on the factors contributing to noncompliance. Exploratory interviews with fifteen fast food managers/owners were conducted.

Manual analysis of interview transcripts was done (Appendix 7.5). Major thematic codes identified in this study included Operational Challenges; Staff Training; Roles of the Manager; Food Safety Inspector related Challenges. The data was visually mapped and relationships between different themes and theoretical ideas were represented. Based on the four major themes identified, thirteen related subthemes were identified.

The results indicated that Food Safety Inspectors must be clear and consistent with their actions to ensure that fast food restaurants are in compliance with national regulations. To do otherwise may result in Food Safety Inspectors being seen as barriers to compliance. The study discovered a significant lapse in the number of inspections of fast food restaurants taking place around the city, as 60% of the interviewees indicated that they have yet to be inspected. This has implications for the Fast Food Industry as to how food safety is ensured and that contaminated food may be passed on to the consumers. Future research is needed to determine the rationale behind this lapse as the safety of the public is at risk. This study also discovered communication

challenges between Food Safety Inspectors (FSIs) and managers/owners. It was clear that there is a need for FSIs to focus on the development of soft skills as poor interpersonal skills impacted compliance.

ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS

BSJ – Bureau of Standard, Jamaica

CAC – Consumer Affairs Commission

CAGR – Compound Annual Growth Rate of Standards Jamaica

CDCP – Center for Disease Control and Prevention

CFIA – Canadian Food Inspection Agency

DBA – Doctor of Business Administration

FAO – Food and Agriculture Organization

FHP – Food Handlers' Permit

FSAs – Food Safety Agencies

FSIs – Food Safety Inspectors

FFO – Fast Food Outlet

FFBOs – Fast Food Business Operators

FSPID – Food Storage and Prevention of Infestation Division

HACCP – Hazard Analysis Critical Control Points

ISO – International Organization of Standardization

JAMPRO – Jamaica Promotions Corporation

JCSS – Joint Committee of Structural Safety

KSAC – Kingston and St. Andrew Corporation

MIIC – Ministry of Industry, Investment and Commerce

NAHFSCC – National Agriculture Health and Food Safety Coordinating Committee

NRA – National Restaurant Association

PCA – Pesticide Control Authority

PIOJ – Planning Institute of Jamaica

PHD – Public Health Department

RBR – Risk-based Regulation

SMEs – Small and Medium-size Enterprises

USDA – United States Department of Agriculture

WHO – World Health Organization

STATIN – Statistical Institute of Jamaica

1 INTRODUCTION

1.1 Background

As the fast food industry in Jamaica becomes dynamic and diverse, government policies aimed at preventing contamination and foodborne illness have become important to consumers. Compliance with food safety regulations is significant as consumers become more conscious of the dangers associated with consuming contaminated food (Van Dijl et al, 2008). The Consumer Affairs Commission (CAC) of Jamaica estimated that half of every dollar spent on food is spent on food prepared away from home (CAC, 2013).

The necessity for eating meals outside the home and its popularity have resulted from a number of socio-economic changes in the lifestyle of many Jamaicans. In towns and cities, the great majority of consumers eat at fast food service establishments (Thompson, 1997).

Although about a quarter of Jamaicans eat fast food every day, they are concerned about the safety of the food (CAC, 2013). Most consumers believe that visits by health inspectors to fast-food restaurants prevent and correct risks that may arise from unsafe practices (Farman and Yapp, 2005). Research in this area generally focuses on managerial strategies to improve inspection scores (Cotterchio et al., 1998; Mathias et al., 1995), rather than on everyday behind-the-scenes operations (Dundes, 2002). There is limited data about the practices of employees who prepare food in the fast food industry (Fisher et al, 2007).

Food service establishments have increased in size, number and kind, as well as the variety of products they offer for sale. This has resulted in several changes in food-handling methods and techniques. With these changes new problems/risks in food safety have arisen. The multiple handling of food in all its phases must be carefully considered. Caduff and Bernauer, (2006) contend that there must be assurance that operations and techniques including preparation, storage and service to the consumer, are such that food is properly protected. Inappropriately trained employees, substandard products as well as non-compliance with food safety regulations

can cost fast food restaurants millions of dollars and damages to their reputations (Rogers, 2005). Marvin (2009) posits that while the food manager must focus on customer satisfaction, efforts must also be directed towards compliance with regulatory standard. Increases in the recorded incidence of food-borne illness outbreaks have been linked to the consumption of fast food in a number of countries (Henson and Heasman (1998). This has created both political and economic demands for more effective food safety controls. Consequently, government oversight of food safety has increased substantially in the last decade, including the introduction of direct and indirect regulations and controls (Henson and Caswell, 1999). In addition, private mechanisms of food safety control have developed substantially and now play an important role in the supply of higher quality and safer food (Phillips et al, 2006).

A lack of confidence in the fast food industry and perceived risks associated with allowing industry forces to play a role in the regulation of food safety are factors that limit a closer coordination of private and public resources in the control of food safety (Schlosser, 2002). Private and government interests are often distinct and an effective food safety control system from a private business perspective may not yield socially acceptable outcomes (Panisello and Quantic, 2001). Research has suggested that consumers prefer that regulatory authorities direct their efforts towards preventing the occurrence of food safety incidents as opposed to adopting a reactive approach (Wansink 2004, Van Kleef et al. 2006). There is also evidence to suggest that consumers perceive food risks to be better managed when control measures are in place to contain risks, when these measures are rigorously enforced, and when people are aware of the measures taken by regulatory institutions (Dasgupta and Roy, 2014).

As the Jamaican fast food industry becomes more multifaceted the government has observed the need for greater compliance to regulatory standards by managing risks (Cabinet Paper, 2014). This information is critical for the drafting of guidelines and polices for monitoring the industry as government seeks to fulfil its statutory responsibilities. The realities of food safety responsibilities in the fast food industry have brought about intricate interactions between government and private modes of regulation (Fearne and Garcia, 2005, Martinez, 2004) demanding 'policy space' involving public and private sector incentives and controls (Garcia, Martinez and Poole,

2004). Hence, the need to understand the incentives for private actors to implement enhanced food safety controls (Henson and Hooker, 2001 and Hobbs et al., 2002) and, in this context, explores the opportunities for greater public–private coordination in the effective and efficient regulation of food safety. Houghton (2006) argued that many of the steps in the compliance decision process are not made internally and independently by fast food businesses but are influenced by external factors. Many of them display a lack of food safety knowledge and skills. This leads to unawareness of hazards that the consumer maybe exposed to and low confidence in dealing with food safety issues (Eiser, Miles and Frewer, 2002). Without awareness of hazards, the primary motivation to improve food safety conditions will not come from within, but from personal contact with regulators (De Jonge et al, 2007). The reliance of the business on the enforcer to identify and direct compliance decisions will provide fundamental challenges within food safety legislation for businesses to adopt a more self-regulatory approach (Shepherd et al, 2006).

1.2   Purpose of the Study

The purpose of this study is to investigate food safety compliance in fast food restaurants. The researcher examined current food safety knowledge and practices of fast food restaurant managers/owners, in addition to food safety training methods and the attitudes of managers/owners toward food safety compliance. A qualitative method approach was used in the methodology of the study. The results will be utilized by government regulatory agencies to inform policy decisions geared towards improving compliance to national food safety regulations.

1.3   Aim

To investigate regulatory compliance in the fast food industry in Jamaica by focusing on the management of food safety risk as a strategy that may be used to improve compliance with national food safety regulations. The study also aims to contribute to the debate on the role that government and industry might have in providing for an effective food safety control system and provides a background for further research.

1.4   Research Objective

To ascertain how the management of food safety risk can be used to achieve regulatory compliance in the fast food industry.

1.5   Research Questions

This research study sets out to investigate regulatory compliance in the fast food industry. In order to achieve this, the following research questions will be addressed:

1. What are the factors impacting / inhibiting food safety compliance?
2. What actions do businesses take to mitigate the risk of food contamination?
3. What are managers' perspectives on government regulations for compliance?

1.6   Problem Statement

As the growing number of fast food establishments increase around Kingston City, government food safety agencies are observing the need to adjust their present regulations and guidelines specific to this sector of the foodservice industry. Of concern is the focus of food safety knowledge and the implementation of food safety practices of management and /or food handlers preparing and serving food from fast food restaurants. This sector of foodservice is more susceptible t o potential foodborne illness outbreaks due to the nature of food preparation as well as the types of food being prepared (Vanschaik a n d Tuttle, 2014).

1.7   Significance of the Study

According to the NRA (2011), convenience is a major driver in restaurant growth and fast food restaurants are certainly a convenient option by essentially making food easily available to the consumers. The emergence of gourmet food around the nation has also added to the tremendous growth of this unique type of food delivery. As the number of food restaurants continues to increase in the Kingston City, food safety concerns cannot be ignored and should be addressed. The fast food service lends itself to special

attention when considering food safety. These restaurants can serve a large number of people, which may lead to lower standards of food safety practices (Ghezzi and Ayoun, 2013). The fast food operation is quite different when compared to the restaurant setting where food is prepared and delivered in a timely manner to consumers.

The current increase in these types of restaurants around the City has also drawn attention to the inconsistency in rules and regulations impacting their operations. Since there is a lack of uniformity especially in acquiring of food safety certification and food safety implementation for fast food restaurant the reassurance that all food safety practices are in place diminishes (FSPID, 2015). The fast food sector stands to benefit from government policies aimed at protecting the sector as well as providing food safety training associated with the special needs of this type of foodservice.

1.8   Structure of the Thesis

This study is divided into six chapters and an appendix section. Chapter one provides an introduction to the fast food restaurant and the significance of researching food safety in this rising sector of foodservice. Chapter one also provides the research questions in which the study sets out to find the answer. Chapter two shows a comprehensive review of relevant literature pertaining to the significance of food safety, overview of the fast food industry, challenges faced by government regulators, and managers/owners, regulatory protocol, the legal context and risk management. Chapter three provides the research method: a qualitative method approach, consisting of explorative interviews with fast food managers/owners. Chapter four presents the results and discussions of the interviews followed by chapter five, the conclusion and recommendations. The study ends with references and appendices.

2 LITERATURE REVIEW

2.1 Introduction

Having chosen to investigate food safety compliance in the fast food industry in Jamaica, it has been seen that many theories have been proposed to explain the factors that influence compliance. Although the literature covers a wide range of such theories, this review focuses on two major themes which emerged repeatedly throughout the literature reviewed. These two themes are Risk Management and Co- regulation (i.e. government and private sector partnership). Although the literature presents these themes in a variety of contexts, this review of literature will primarily focus on their application to food safety compliance. It became apparent that these two broad themes were worthy of detailed investigation as strategies on which the fast food industry can draw to enhance food safety compliance.

As a background, the significance of food safety is reviewed with a focus on the health and economic impacts / burdens of unsafe foods, as well as a global perspective of the fast food industry and a focus on the Jamaican perspective. The inspection protocol and the legal context as it relates to the role of government are also discussed.

In order to place risk management in context, this review of literature focuses on generic risk management and the application of risk management to food safety. In addition the literature review also focuses on how government and private sector partnership (co-regulation) through a risk base approach may work to enhance compliance.

The literature review is therefore structured around these themes, with key writers, models and debates highlighted at the appropriate points and also important questions which the review of the literature have raised.

2.2 Significance of Food Safety

Safe food supplies support national economies and trade, contribute to food and nutrition security, and underpin sustainable development (Scharff, McDowell and Medeiros,

2009). Urbanization and changes in consumer habits, including travel, have increased the number of people buying and eating food prepared in public places, especially at fast food restaurants (Scharff, 2012; International Food Information Council Foundation, 2014). These changes put greater responsibility on food producers and handlers to ensure food safety (Meyer et al., 2014). Local incidents can quickly evolve into national emergencies due to the speed and range of product distribution. Serious foodborne disease outbreaks have occurred on every continent in the past decade, often amplified by globalized trade (WHO, 2013).

Unsafe food poses global health threats, endangering everyone. Improving food safety is key in achieving sustainable development goals (Kirk, Ford, Glass and Hall, 2014). Governments are encouraged to make food safety a public health priority, as it plays a pivotal role in developing policies and regulatory frameworks, establishing and implementing effective food safety systems that ensure that food producers and suppliers along the food chain operate responsibly and supply safe food to consumers (Scallan, et al., 2011 and Manning, 2015).

2.3   Impact of Food Bourne Illnesses on Health

An outbreak of foodborne disease is defined as the occurrence of two or more cases of a similar illness resulting from ingestion of a common food (Abdullahi, et al., 2016) and outbreaks are usually a nationally notifiable condition (Vally et al., 2014 and Pires, 2013). More than 200 known diseases are transmitted through food (Vally et al., 2014). The causes of foodborne illness include viruses, bacteria, parasites, toxins, metals, and prions, and the symptoms of foodborne illness range from mild gastroenteritis to life-threatening neurologic, hepatic, and renal syndromes (Vally et al., 2014). In the United States, foodborne diseases have been estimated to cause 6 million to 81 million illnesses and up to 9,000 deaths each year (CDCP, 2015). However, ongoing changes in the food supply, the identification of new foodborne diseases, and the availability of new surveillance data have resulted in the fluctuation of these figures (Painter et al., 2013). Foodborne illnesses are usually infectious or toxic in nature which may lead to long-lasting disability and perhaps death (Pires, et al., 2012). Examples of unsafe food include uncooked foods of animal origin, fruits and vegetables contaminated

with faeces, and raw shellfish containing marine bio toxins. (Scallan, et al., 2011). The Surveillance of foodborne illness is complicated by several factors. The first is underreporting. Although foodborne illnesses can be severe or even fatal, milder cases are often not detected through routine surveillance. Secondly, many pathogens transmitted through food are also spread through water or from person to person, thus obscuring the role of foodborne transmission (Torgerson, et al., 2015).

For many years foodborne diseases have been an issue. The types, severity and impacts of these illnesses have changed through the years and are still diverse across regions, countries and communities (Devleesschauwer et al., 2014). Yet there are some challenges common to all countries. Only a fraction of the people who become sick from food they have eaten seek medical care (Hall, 2013). Certain chronic diseases, such as cancer, kidney or liver failure, that result from contaminated food appear long after the ingestion of food and the causal link is never made for each case (Crump and Heyderman, 2014). This point to some of the challenges inherent in measuring the burden of foodborne diseases and the toll they take on lives and economies (Yu, et al., 2014; Kirk, Ford, Glass and Hall, 2014 and Torgerson et al., 2015).

Between 250 and 350 million cases of acute gastroenteritis are reported annually in the USA, with 25% to 30% thought to be caused by foodborne illnesses (CDCP, 2015). While bacterial causes such as *Salmonella* are widely recognized and monitored as foodborne infections, other important bacterial causes such as *Clostridium perfringens*, *Bacillus cereus*, and *Staphylococcus aureus* are less well known (Scallan, et al., 2011). While the majority of cases of foodborne diseases are of unknown cause, bacteria and viruses are the most likely causative agents (Kirk, et al., 2014). To assess the disease burden / impact in the United States, morbidity and mortality surveillance activities are done by several networks and systems with collaboration among federal agencies and health departments. Not all important causes are being equally monitored. Critical behaviours by food retailers, foodservice personnel, and consumers can reduce the risk of foodborne illness episodes (Kirk, et al., 2014).

Gkogka, et al, (2011) indicated that billions of people are at risk and millions fall ill every year; while many persons die as a result of consuming unsafe food. The importance of

food safety is that safe food saves lives; with every bite one eats, one is potentially exposed to illness from either microbiological or chemical contamination (Haagsma, Polinder, Stein and Havelaar, 2013). Figure 1 below provides a summary of the pathogens, symptoms, illnesses, hospitalization and deaths as a result of foodborne illnesses.

Figure 1. Estimated frequency of food borne illness in the United States. (CDCP, 2015).
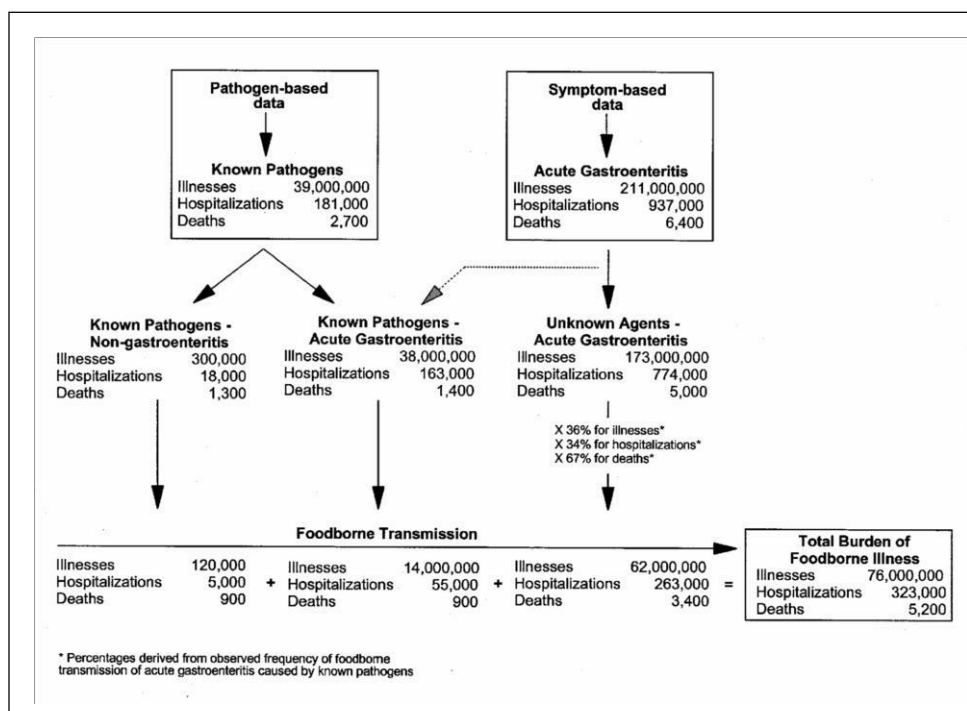
In the USA alone, it is estimated that more than nine million cases of food borne illnesses occur annually with resultant deaths from such illnesses being attributed to the consumption of poultry which is a major food served in the fast food restaurants (Painter et al., 2013). According to the Center for Disease Control and Prevention (CDCP), some of the microorganisms most often involved include *Salmonella*, *E. coli*, *Clostridium perfringens*, *Listeria* and *Campylobacter* with an average of 3,000 deaths in the USA being reported (Painter et al., 2013).

It is estimated that each year in the UK, around a million people suffer from foodborne illness, 20,000 people receive hospital treatment and 500 deaths, costing nearly £1.5 billion (United Kingdom Department for Environment, Food and Rural Affairs, 2014).

Although the majority of cases are mild, they are unpleasant and uncomfortable, resulting in absences from school or the workplace and place a significant demand on health care services. Occasionally cases can lead to serious or long-term conditions, or even death. The WHO estimates that worldwide foodborne illnesses kill about 2.2 million people annually, therefore foodborne diseases are serious and is a global problem (Hall, 2013; Thomas et al, 2013). Table 1 below provides data on foodborne outbreaks and associated number of illnesses, by location of food preparation according to the 2010 CDCP Report.

Table 1: Reported foodborne outbreaks in the USA and number of outbreak associated illnesses, by location of food preparation.

	No. Outbreaks		No. Illnesses	
Location of Food Preparation	**Total**	**%**	**Total**	**%**
Restaurant	485	65	4780	44
Sit-down dining	59	8	521	5
Fast-food	394	53	3916	36
Other or unknown type	25	3	258	2
Multiple Types	7	1	85	1

Source: CDCP, 2010.

Ministry of Health in Jamaica reported that in 2012 there were 175 cases of food borne illness resulting in 11 deaths. Twenty-five percent of all cases of food borne illness contracted within Jamaica is suspected to arise from food contaminated with pathogenic bacteria and viruses, while the other 75% is suspected to be caused from chemical contaminants, parasites and environmental factors (PCA, Jamaica, 2014). However, the exact causes of illnesses that are food-related have not been fully investigated in Jamaica (Fletcher, et al, 2013).

2.4 Economic Impact of Food Safety Outbreaks on Food Businesses

The potential impact of food safety outbreaks on a food business or a company can be

significant. A single event of a foodborne disease outbreak can bring significant economic losses (Hussain, 2013). The estimated economic cost of food safety incidents to the U.S. economy is around $77 billion which comes from notifying consumers, removing food from shelves, and paying damages as a result of lawsuits (Hussain, 2013 and Ribera et al., 2012). Fast food restaurants have experienced economic loses in sales as a result of closures due to breaches in food safety laws. The Major contributing factors to this have been deficiencies in food preparation and monitoring processes such as non-compliance with good food handling practices, failure to maintain restaurant and equipment in a sanitary condition as well as noncompliance with their own standard operating procedures (Campbell, Johnson, Scarlett and Thompson, 2015).

In 2013, two cases of food contamination in the USA emphasized concerns about the effects of unsafe food supply (Ahmed, 2013). Both cases were linked to the fast food industry. The first originated in a salad mix, while the second was linked to a concentrated whey product. It was estimated that the value of the company dropped by $60 million and there was a short-term trade disruption with potentially longer term impacts (Ahmed, 2013). One customer who received a food safety alert, sought approximately US$270 million in compensation to cover the costs associated with the product recall as a result of the botulism scare (Pires, 2013). The impact of the scare on small food companies was much more severe causing the companies to either suffer badly or close down due to lack of sales (Potter, Murray, Lawson and Graham, 2014). The overall economic impact of foodborne disease can be devastating for small and medium-size enterprises (SMEs) and it is therefore important for small operators to understand the need to have a risk assessment plan with strategies to handle such incidents (Ford, Kirk, Glass, and Hall, 2014).

Narain, (2013) indicated that over a six month period India had 3000 food recalls of which 50% of these recalls were foods from fast food restaurants. This large number of recalls indicates how often foods leave the restaurants with a potential to cause serious food borne illnesses. Food recalls therefore, are the method by which fast food industry and government regulators attempt to improve food safety by removing products from distributor inventories, store shelves and fast food outlets (Potter, Murray, Lawson, and Graham, 2014). The major reasons behind food products recall are recorded

as contamination, adulteration and compromised product (McGrath, 2010). Most of these recalls are precautionary and incur huge costs to fast food restaurants operating expenses. However, recall events are important for the restaurant to maintain and regain consumer confidence. Moreover, recalls are essential tools to allow government agencies to remove potentially harmful products from the market rapidly and efficiently in order to protect consumers and general public health (European Food Safety Authority and European Centre for Disease Prevention and Control, 2010).

The economic burden of food borne illness in Jamaica was estimated at J$173,000.00 per case on average, which equates to an aggregate annual cost of J$ 2.6 billion (Ministry of Health, 2013). The total impact of food borne illness, in fact, is composed of health-related costs and loss of productivity. Scharff, (2012) indicates that, additionally societal and business costs may be considered as lawsuits, insurance costs, outbreak investigations, laboratory and analytical costs and food waste from recalls and regulatory action account for significant losses that are attributable to food borne illness. The cost to the company responsible for propagating a food borne illness is often too crippling for survival, particularly for small businesses (Gibb et al., 2015). Table 2., emphasizes the economic importance of food safety for the companies using some examples of outbreaks.

Table 2: World examples of some expensive food outbreaks/recalls

Year	Contamination/Product	Estimated Economic Loss	Country
2013	*Clostridium botulinum*/whey	$110 million	New Zealand
2009	*Salmonella*/Peanut products	$70 million	USA
2008	*Salmonella*/Tomatoes	$250 million	USA
2008	Mad cow disease/Meat	$117 million	USA

Source: Hussain, and Dawson (2013).

The economic cost associated with unsafe food highlights the need for fast food industry

to increase the safety of foods so as to avoid unexpected food safety scares. The economic implications of an outbreak are very serious and may cause the closure of restaurants and long lasting damage to the fast food industry (Belaya, Hansen and Pinior, 2012). On top of the damages to reputation caused by an outbreak, the financial costs incurred by fast food restaurants from food-borne illness outbreaks can be very high. According to a study done by Ohio State University Consumer Science Department, (2013) the economic impact of food borne illnesses is $US 51 billion, while the impact of the top five food-borne pathogens found in fast food restaurants is estimated at $6.9 billion annually. To improve public health and for businesses to leverage the profitability that food safety can provide, businesses need to view food safety and preventive technologies not from the viewpoint of an innovation, but rather from a quality improvement or process (Vally et al, 2014).

It is important therefore to ensure that food production, including handling, storage and delivery is in compliance with the laws and regulations of the industry (Lee, Hwang and Mustapha, 2014). To do otherwise may impact public health as well as the profitability of the business (Garcia Martinez, Caswell and Henson, 2007). Fast food outlets that lack proper food storage and handling practices run the risk of being closed by government regulators resulting in the loss of revenue (Bureau of Standards, Annual Report, 2013).

2.5   Overview of the Fast Food Industry

This section of the literature review focuses on providing a summary of the global perspective, followed by a focus on the Jamaican perspective in the fast food industry. This section also seeks to highlight some of the challenges, inspection protocol and the legal context of the industry in Jamaica.

2.5.1   Global Perspective

The culture of fast food (i.e. foods which are generally prepared and served quickly with minimal table service) has spread worldwide (Aronica, 2014). The convenience, palatability and generally inexpensive cost, coupled with effective marketing, have engrained western fast food eating habits into many cultures. Over the decades, the

menu choices have evolved as fast food chains attempt to attract new customers, ethnic food chains entered the market and customer preferences have changed (Charlebois and Hielm. 2014). The global fast food market is mainly driven by modern lifestyle, changing food habits and increasing disposable income. Rapid growth of population and increasing urbanization are major growth drivers (Fransesco, 2013). Strong economic growth, rising income level, increasing tourism and business travel resulted in growing demand for fast food worldwide (Wilkinson, 2013).

Globalization has triggered growing consumer demand for a wider variety of fast foods, resulting in an increasingly complex and longer global food chain. Fast food restaurants are found in almost all nations of the globe and the industry continues to show substantial growth, grossing almost US$600 billion with an expected growth of 2.5% over the next few years (Sena, 2017). With over 200,000 fast food restaurants employing over 4 million people (Sena, 2017), the industry in the United States – the world's largest fast food market - grew from US$159.2 billion in 2002 to US$198.9 billion in 2013 (Euro monitor International, 2014).

However, volatile economy, increasing health awareness and increasing obese population is expected to limit the growth of this market (Lamuka, 2014). In spite of these obstacles, the industry has experienced steady and growing demand from emerging economies. The industry's attempts to respond to changes in consumer preferences have also supported revenue growth. Over the five years to 2016, revenue has grown at an annualized rate of 2.3% to US$602.8 billion, which includes a 2.7% increase in 2016 (Sena, 2017). Global fast food restaurants will benefit as the global economy improves and consumers continue to spend on small luxuries, such as eating out (NRA, 2011).

The global fast food market was valued at over US$ 600 billion in 2016, it is expected to reach above US$ 690.80 billion in 2022 and is anticipated to grow at a Compound Annual Growth Rate (CAGR) of slightly above 4.2% between 2018 and 2022 (Sena, 2017). Globalization and urbanization had heavily impacted on the intake routine of consumers and fascinated them towards fast food. The US leads the global fast food market, accounting for 52.4% of the market's overall value (Euro monitor International, 2014).

In the USA, Americans spent approximately US$ 604.2 billion in 2011 on purchasing food from retail food service operations (NRA, 2011). The US Department of Agriculture (USDA) has estimated that about half of every dollar Americans spent is on food prepared away from home (USDA, 2010). Foods consumed at fast food restaurants are an important control point for outbreaks of foodborne disease. Because of this, it is important that those working in fast food restaurants are prepared with the knowledge and instilled with the attitudes to practice safe food handling. (Chapman et al., 2010; CDCP, 2010 and Gormley et al., 2011).

Europe is the second largest market for fast food. Hectic lifestyle pushes people to prefer quickly accessible food such as pocket sandwiches and burgers among others. In Europe, fast food chains offer local twists on American classics which facilitate the fast food market growth in this region (NRA, 2011). On the flip side, there has been apparent swing of fast food towards the healthy and natural foods, this may impact the growth of the fast food market in the coming years (NRA, 2011). Some of the restaurants in Europe had included healthy fast foods such as salad with dressings and baked fries among others which may provide the fast food market with plentiful prospectus in the near future.

Asia Pacific is expected to see an increase in the demand for fast food (The Economic Times, 2010). Growing numbers of fast food vendors due to surging demand for western and local fast food stimulate the growth of the market in this region. Asian fast food is gaining huge fame across the globe owing to intense flavors and bold taste (The Economic Times, 2010). Rising dual and discretional income predominantly in India and China is likely to fuel the growth of fast food market (Jairath and Purohit, 2013). Increasing inclination towards western fast food brands, especially in India, is anticipated to the growth of fast food market in this region. The young population is food savvy and adventurous for tasting new products, therefore, the demand for diverse fast food is rising (Government of India, 2010).

2.5.2 Jamaica's Perspective

The fast food industry in Jamaica consists of multiple types of food businesses (quick service restaurants, small fast food restaurants, takeaways and mobile vendors) that provide food for the population (Kamal and Wilcox, 2014). The sector plays a tremendous role in the overall development of the country by providing large employment opportunities. It is one of the major industries in Jamaica having a huge impact on its economy. According to the Ministry of Commerce, (2015) the industry has a value of J$300 million.

The Jamaica fast food market is mainly driven by the rise in urbanization and the need for inexpensive and faster options for meals. Moreover, reluctance for cooking on a daily basis has led to high demand for fast food which is likely to bloom the fast food market in the coming years (CAC, 2015). It is also driven by the languid population who expects their meals to be delivered at their doorstep. Also, appetizing fast food with desired flavours may positively influence the fast food market. However, rising health awareness among the consumers may impede the growth of the fast food industry in the foreseeable future (Batt et al., 2014). Even so, the rise in trend of online ordering and app-based companies offering delivery services could open up more opportunities in the future (Dike, 2012). Moreover, easily accessible healthy fast food may provide huge options to the health conscious populace boosting the fast food market growth in Jamaica (Restaurants of Jamaica, 2014).

Based on the type, the Jamaica fast food market can be segmented as chicken, burger/sandwich, salads and pizza. Burger/sandwich held the largest slice of the pie owing to the wide range of product line such as hamburgers, chicken burgers, cheeseburgers, vege-burgers and jerked fish burgers (Restaurant of Jamaica, 2014). The consumption of fast food is increasing in popularity among Jamaicans because of the taste, low price and convenience (CAC, 2013).

The customer base for fast food restaurants includes the entire population; however Jamaicans between the ages of 12 and 30 years old averages the greatest frequency of patronage in fast food establishments (CAC, 2013). The fast food industry in Jamaica continues to offer the customer the value-for- money that is desired. Thirty six percent

(36%) of franchisors, owners and operators have reported that there is an increase in the demand for value (CAC, 2013).

In recent times, the fast food industry has had to contend with claims that its food is, as standard, unhealthy, full of calories and lacking in the essential vitamins and minerals required for day to day life (French, 2014). Fast food franchises have responded to this by expanding their menus and adding new, healthier offerings and removing or changing some of the unhealthy ingredients found in their products (French, 2014). This move is reflected in the recent evolution of the fast food industry offering green juices, salads, minimally processed foods such as fresh cuts, fruit juices instead of sodas.

Many restaurants in the fast food industry have incorporated a much larger health food section to cater for the health conscious customers and a larger non-meat section to cater for vegans, vegetarians and other dietary requirement choices (Ministry of Commerce, 2015). Some fast food outlets in Jamaica have recognized this consumer trend towards healthier eating and in response they have moved away from their staple fried chicken and are now offering baked, jerked or grilled chicken served with roasted breadfruit or baked yam instead of French fries (Restaurants of Jamaica, 2014).

The fast food industry has experienced continuous growth over the previous 3 years and is forecasted to continue to grow by approximately 4% each year (STATIN, 2015). The trends that will affect the fast food industry in the future is that consumers will desire more safe and healthier options and to know that the company they are buying from are environmentally responsible and are taking actions to decrease their negative impact on the environment (STATIN, 2015).

Jamaica has a thriving fast food industry with several local chains as well as several US chains in the market place (STATIN, 2016). The US based fast food restaurants have significantly different resources than those of Jamaican origin in terms of their financial, expertise and staffing capabilities (STATIN, 2015). These issues affect the performance of the fast food restaurants in terms of compliance with regulations and have generated substantial ongoing debate about designing regulatory and enforcement strategies that optimize compliance levels (National Food Safety Coordinating Committee, 2015).

Jamaica has a relatively small number of independent restaurants that provide fast food take out as compared to fast food chain establishments. At these fast food restaurants, all types of cuisines are available and they mainly use local food products. However, they also procure imported food and beverage products from the importer/distributor channel. These fast food restaurants do not import products directly from suppliers due to their small size (PIOJ Annual Report, 2015).

Fast food service outlets present in Jamaica include several US franchises such as T.G.I Friday's, Burger King, Kentucky Fried Chicken, Domino's Pizza, Pizza Hut, Wendy's and Subway. Some of Jamaican fast food chains include Juice Patties, Tastee Limited, Grill/Jerk Shops, and Island Grill. The fast food restaurants are the fastest growing segment of the restaurant sub-sector. Most U.S. franchises have modified their menu to meet Jamaican consumers' taste preferences. The amount of U.S products used by the fast food franchises varies between 20-50 % (GAIN, 2016). The main local products used by fast food franchises include: beef, chicken, fruit juices, vegetables, eggs and pork products, while the main imported products are potatoes, French fries, vegetable oils, ketchup, sauces, bakery products, chicken fillet and cheeses. High duties and questionable application of sanitary/phytosanitary regulations have made it more favourable for local products to be used in the restaurant sub-sector. Table 3 provides a breakdown of the distribution of fast food restaurants in Jamaica.

Table 3: Fast Food Restaurant Profiles (2015)

Name of Restaurant	Type	Locations	Number of Outlet
Burger King	Fast Food	Country wide	26
Kentucky Fried Chicken	Fast Food	Country wide	37
Domino's Pizza	Fast Food	Country wide	11
Pizza Hut	Fast Food	Country wide	7
Wendy's	Fast Food	Kingston, Montego	4
Subway	Fast Food	Kingston	2
Grill/Jerk Shops	Fast Food	Country Wide	41
Sweet Wood	Fast Food	Kingston	1
Scotches	Fast Food	Kingston, Montego Bay	2
Popeye's – Louisiana Kitchen	Fast Food	Kingston, St. Catherine	3
Island Grill	Fast Food	Country Wide	18
Rib Kage	Steak	Kingston	2
Norma's	Family	Kingston	2
TGIF Friday's	Chain Type	Kingston	61
Juici Patties	Fast Food	Country wide	61
Tastee Limited	Fast Food	Country wide	32

Source: GAIN Report, 2016.

According to STATIN, (2010), Jamaicans spend 9.4% of their disposable income per week on food. Furthermore, the average Jamaican spends 25% of their grocery bill on purchasing fast foods (CAC, 2013). In 2013, J$ 102.9 million was spent of food away from home (STATIN, 2013). In all, the fast food industry is the largest subsector in the food business (Ministry of Finance, 2014). The fast food industry has contributed to the GDP growth of Jamaica and made life more convenient for its citizens. Jamaica's total consumer food service sector generated an estimated JA$680 million in 2015 sales, 5% higher than 2014, with fast food chain establishments contributing 40% (STATIN, 2015).

The main concern with regard to fast food is the problem of food contamination (Raoul et

al., 2014). The common causes of food contamination are employees not washing hands properly, providing undercooked meats, cooked food coming in contact with raw food and improper storage and handling (Ministry of Health, 2015). Arendt and Sneed, (2008); Robert et al., (2008) suggested that this could be as a result of workers in fast food establishments being persons with only secondary level education; majority of these employees have not received formal food safety training prior to employment, as a result they have difficulties following food safety protocols. Fletcher et al., 2013 indicated that even trained employees deviate from proper food safety protocol, particularly when under pressure from a lack of time or resources, or staffing shortages. Moreover, it is very important for them to have a clear understanding of the interaction of food safety knowledge and practices of food-handlers in reducing foodborne outbreaks (Aluko, Ojeremi, Olaleke, and Ajidagba, 2014). Furthermore, there is little or no information available on the level of food safety knowledge, attitude, and practice regarding compliance with food safety laws among the fast food workers in Jamaica (Fletcher et al., 2013). Therefore, these could hinder the development of appropriate disease prevention and public health intervention strategies.

2.5.2.1 Food Safety Violations by Fast Food Restaurants in Jamaica

Food safety violations continue to be a public health challenge in Jamaica. While the full extents of health code violations in fast food restaurants in Jamaica remain unknown, a 12-month investigation of fast-food violations in 2013–2014 found a range of 45 to 126 critical violations for every 100 inspections. Although not all violations resulted in illness, this investigation uncovered cases of a malfunctioning equipment / machines contaminated with staphylococcal enterotoxin that was deemed responsible for causing illness in about 120 customers (FSPID, 2015).

Over the period of 2013-2014 twenty two (22) fast food restaurants nationwide were ordered closed and 15 were detained due to violations of food safety regulations in Jamaica (FSPID, 2014). On average 80 metric tons of food corresponding to class 1 recalls (highest risk level), valuing J$ 5.1 million are destroyed each year (FSPID, 2013). According to FSPID in 2014-2015 FSIs served 1,746 statutory notices on fast food restaurants for breaches of the regulations due to rodent infestation resulting in these

restaurants being given 14 days to rodent proof their establishments or face the risk of prosecution (FSPID, 2015).

In 2013 public concern peaked about rat infestation issues in sections of the commercial district of New Kingston where several fast food restaurants are located. In April of 2013, survey findings revealed at a meeting of the Kingston and St. Andrew Corporation (KSAC) that rodents were overrunning some sections of the Corporate Area putting fast food restaurants at risk. Of the 120 locations surveyed, 82 % were found to be infested with stored product pests. Thirty-seven of these locations had moderate infestation, nine were light and two were very heavy which were attributed to the lack of an integrated pest management programme and poor waste disposal from the fast food restaurants (Chief Public Health Inspector for Kingston and St. Andrew, 2013).

In 2015 several fast food restaurants where given citations for the absence of an integrated pest management programme as well as for the use of pesticides that were not registered for use in restaurants (PCA, 2015). In 2014 twenty five thousands (25,000) cases of expired pastries valued at J$1.1 million were condemned and destroyed from 13 fast food restaurants across Jamaica (FSPID, 2014).   Also according to surveillance data, 5 fast food restaurants in Western Jamaica were ordered closed as a result of poor food storage practices and unsanitary conditions (FSPID, 2014).

2.5.2.2 Food Poisoning Cases in Jamaica

Food poisoning refers to illness arising from eating contaminated food (Shim and You, 2015).   Every year several persons of all ages in Jamaica suffer from bouts of vomiting and diarrhoea caused by food poisoning.   In 2016, the Ministry of Health recorded 1200 cases of food poisoning island-wide.

There have been several reported incidents of food poisoning in Jamaica; most of these reported incidents involved deaths or illnesses requiring hospitalization (Ministry of Health, 2011). During the period 2008 – 2013, there were 493 cases of reported food poisoning resulting in 37 deaths in Jamaica (Ministry of Health, 2013). The estimated cost of hospital care for food poisoning per year is $J6.5 Million (Ministry of

Health, 2016)   Many Jamaicans are reluctant to seek medical intervention for non-critical illnesses associated with the consumption of food, therefore food poisoning in Jamaica is underreported (Ministry of Health, 2015). Food poisoning outbreaks have occurred in schools and colleges with approximately 25 incidents reported annually in Jamaica (Ministry of Education, 2015). In 2010 food poisoning resulted in the death of a tourist. The deceased and the 11 persons with whom he was visiting the island had consumed fish and potato salad contaminated with saltpetre mistakenly believed to be table salt from a Fast Food Restaurant. Ten other persons were hospitalized from this incident (Ministry of Health, 2010). Also in 2015, three visitors to the island were diagnosed with Salmonella food poisoning after vacationing in Jamaica (Lennon, 2016).

The Ministry of Health in 2012 reported that a food poisoning incident occurred at a Chinese restaurant, twenty persons became ill after consuming fried rice. In 2014, a four-year-old child died after reportedly eating food from a fast food restaurant in Jamaica. Several relatives of the child also became ill (Gleaner, Four Year Old Dies From Food Poisoning, 2014). The health food drink, Advent Edge Carb Control, was implicated in the death of three persons in October 2005, in addition 35 persons who drank the product were hospitalized (Gleaner, 2005).

There are several foods that Jamaicans consume regularly which may contain poisonous substances. These include ackee, nutmeg, mushrooms, shellfish and cassava. Ackee, for example, is a food item used in pastry in the fast food industry as well as it is served as a source of protein with salt fish. However it contains high levels of chemical toxin, if the fruit is harvested before maturity (Ministry of Health, 2015). The Jamaica Gleaner reported between the years 2010-2014, 35 cases of ackee poisoning occurred. Again, in May 2016, two cases of ackee poisoning were reported (Ministry of Heath, 2015).

Food poisoning continues to be a public health concern in Jamaica even though the number of reported cases is relatively low. Government's efforts in safeguarding food safety, heightened awareness of food poisoning are some of the approaches in addressing the issue. The fast food industry and the public are advised by way of public education to adopt and adhere to food safety practices to avoid the occurrence of food poisoning outbreaks (Ministry of Health, 2016). Government food safety agencies continue to

develop and implement capacity-building activities, including tools and methods, to assists in conducting laboratory and epidemiological investigations of food poisoning.

2.5.2.3 Challenges Faced by Government Regulatory Agencies in the Fast Food Industry in Jamaica

From the overview of the main agencies involved in regulating food safety in the fast food fndustry in Jamaica, it is evident that food safety is not just about inspecting foods, but takes into consideration a number of other areas, hence the need for various stakeholders.

2.5.2.3.1 Overlaps / Duplication in Premises Inspection

The matter of overlaps in premises inspections is a major challenge (National Food Safety Policy Report, 2013). This overlap is between the Ministry of Industry, Investment and Commerce, Bureau of Standards and the Ministry of Health. This often results in poor use of already scarce resources and excessive inspections that negatively affect production time for fast food restaurants as sometimes as many as three inspections are conducted for the same purpose. This also creates confusion as to which agency has the final authority for compliance. The overlap in inspections and legislation by these agencies creates bureaucracy that can work against food safety compliance, as players in the industry blame government officers for conflicting instructions (Auditor General Report, 2014). Representatives from the various ministries find it difficult to negotiate or come to an agreement as to the role each should play, as well as how various laws and regulations should be revised (Cabinet Paper No. 57, 2014). This plays a major hindrance to achieving a more structured food inspection system that is urgently needed to address the duplication of functions across ministries and to promote greater levels of compliance.

2.5.2.3.2 Interpretation / Application of Regulations and Inspection Actions

Enforcers of regulations may experience problems when interpreting and applying the law (FSPID, 2013). This maybe as a result of the way in which the laws or regulations have been written; resulting in varying interpretations (Birol et al., 2015). In law the Food Safety Acts refers to general provisions but do not provide details for implementation. As a result, this can complicate enforcement practices. National regulations adopt multiple and sometimes conflicting regulatory styles. Whereas the Food Safety Act focuses upon evidence based prosecution, hazards analysis critical control points (HACCP) principles are found in food hygiene regulation. Although both are inspection focused, they may require the enforcement agency to operate in different ways. HACCP may require the inspectors to adopt a role as educator rather than enforcer but where training fails the fall back remains formal enforcement with its attendant risks. Further, FSIs may rely heavily on guidance (which may or may not have legal force) to simplify their actions. The guidance itself may be seen by some enforcers as highly prescriptive and limiting (Brandsen et al., 2006). Not all enforcers may believe that informal strategies such as the provision of advice and guidance are more effective than bringing formal proceedings (including prosecutions) (Charlebois, 2011).

There are variation in the ways in which FSIs interpret/implement regulations and these differences may be accounted for by a variety of factors. Some variation, for example, is inherent in the legal framework. Differences in the size and location of the local authority may also lead to variations in enforcement approach. (Birol et al., 2015). Differences in the severity of the regulatory problems encountered are reflected in enforcement approach. Olsen and Borit, (2013) found that the more urbanized the local authority, the more stringent the enforcement strategy seems to be, and this can send mixed signals to the fast food industry.

2.5.2.3.3 Professional Conduct of Food Safety Inspectors

A crucial factor to enforcement style is the nature of the relationship between FSIs and the fast food industry. The degree to which officers are integrated into the locality they

serve affects not only their personal inclination to adopt either informal or formal techniques but also influences officers' assumptions about the population they control (Birol et al., 2015). Officers working in smaller environments typically assume that they are dealing with good, respectable people who are in need of education and advice; however this can create unethical practices (Charlebois and MacKay, 2010).

The character of the enforcement activity rests upon officers' intuitive assessments regarding the nature of breaches and their potential impact, and perceptions of the FSIs response (including any past dealings), in addition to empirical data (Tebbutt, 2007). Formal action including the service of a statutory notice may ensue only where the incident is seen as a significant contravention of the legislation or a lack of trust or confidence in the operator's willingness to respond to informal action, or where there is the potential for a serious threat to public health or standards are poor with little demonstrable awareness of the statutory requirements (Jones et al, 2008).

FSIs themselves have been criticised for being a source of inconsistency, particularly regarding their levels of expertise – as aspects of their remit have become increasingly technical, the saying that they are "Jacks of all trade and master of none" has become ever apparent. FSIs not only inspect food production but also dispose of contaminated food and conduct training and disinfestation activities (Charlebois, Sterling, Haratifar and Naing, 2014). These issues are especially relevant in the context of enforced self-regulation, risk based regulation and better regulation (Chen et al., 2015).

2.5.2.4 Main Issues / Challenges in the Fast Food Industry in Jamaica
The fast food industry is an extremely competitive industry where businesses are competing to develop similar or alternative products for consumers. Businesses also feel the pressure from government regulators, consumers and competitors to provide safe and high quality food. While competition is a challenge in the industry, the following are other issues that present a challenge.

2.5.2.4.1 Government Regulations

Motivations for compliance with regulation on the part of fast food restaurants may be many and complex (Julien, 2010). Fast food restaurants often times are ignorant of the regulations associated with their activities (Houghton, Van Kleef, Rowe, and Frewer, 2006) as well as the effects of non-compliance (Loosemore and Adonakis, 2007).

Numerous laws and regulations govern the fast food industry in Jamaica. These relate to the production, processing, storing, retail, packaging and labelling of fast food products. The General Food Law Regulations are the Public Health legislation, the Food Safety and Hygiene Regulations, Food Storage and Prevention of Infestation and the Food Standards Act.

With an increasing number of regulations and guidelines with which fast food restaurants must comply, there is a daily challenge to remain compliant and deliver safe, affordable and healthy foods to consumers (Lelieveld, 2009). With so many regulations, not all of which are completely clear, there is a real burden placed on fast food restaurants (Chapman et al., 2010). Where the regulations are vague or uncertain, business may find it difficult to comply (Chapman et al., 2010). This is particularly true for small business such as fast food outlets (Fairman and Yapp, 2005; Caswell, 2013).

In Jamaica the Food Safety Agencies (FSAs) regulatory roles are undergoing review, this could see further changes to regulations around food safety. Changes in these regulations often requires rapid responses. It is important that fast food establishments can show their compliance. With the current revision of the legislations to meet local and international standards, there are likely to be far- reaching changes that will require fast food restaurants to change how they operate to meet the new set of revised regulations (Attorney General Chamber Audit Report, 2016). Fast food restaurants need to be able to meet all the regulatory requirements at the same time. This will require them to adjust their strategies and initiatives in order to comply as well as take measures to ensure a responsible food supply chain (Campbell, Johnson, Scarlett and Thompson, 2015).

2.5.2.4.2 Employee Turnover

The fast food restaurants in Jamaica find it difficult to retain trained staff due to high employee turnover which impacts their efforts to meet food safety compliance requirements (Hussain, 2013; Schmitt and Jones, 2013). Increasing employee turnover rates have become a major concern of many fast food managers (Batt et al., 2014; Dike, 2012). The turnover in the fast food industry is high compared to other industries (Dike, 2012; Perez and Mirabella, 2013; Sterrett, 2011; Wyld, 2014). The employee turnover rate in the Jamaica fast food industry is high at approximately 85% per annum (Ministry of Labour Annual Report, 2016). Employees' voluntary withdrawal from the industry occurs because of (a) low wages and benefits, (b) lack of training, (c) autonomy, (d) job opportunities, (e) lack of support from management, (f) and from unfavourable working conditions (Batt et al., 2014; Ryan, Ghazali and Mohsin, 2011).

Employee turnover is both disruptive and costly to employers, involving increased direct and indirect costs such as training, poor customer service and noncompliance to regulations (Batt et al., 2014; French, 2014; Ryan et al., 2011). The increasing number of voluntary withdrawals has caused many fast food managers to experience the hardship of replacing the employees (Mathe and Slevitch, 2013; Batt and Colvin, 2011).

The fast food industry is renowned for having low skilled-labor (Batt et al., 2014; Kwon, 2014). Fast food restaurants primarily hire with less experience or no experience that implies that employee turnover has an effect on employee efficiency that influences business performance in a negative fashion (Dike, 2012; Perez and Mirabella, 2013). Employee incompetence affects the quality service of the fast food restaurants as well as the ability to meet compliance requirements (Harrington, Ottenbacher, Staggs, and Powell, 2012; Henderson, 2012; Perez and Mirabella, 2013).

2.5.2.4.3 Space Constraint

Space constraints also have a negative impact on fast food restaurants in Jamaica. Some food establishments may find it difficult to meet legal requirements with regard to food storage space e.g. the FSPI Regulations stipulates that food must be stored

at least two feet away from walls. Non-compliance with such stipulations increases the risk of wetting (and hence fungal growth), food contamination and infestation. The limitation of physical space affects the carrying out of an effective integrated pest management programme which is a requirement to ensure a pest free environment and proper cleaning and sanitation of the premises (FSPID Annual Report, 2014).

2.5.2.5 Regulatory Inspection Protocol in Jamaica

FSIs are key players in food safety regulation. They are the officers who translate the law and bring policy decisions into action on the front line. Typically they are in possession of high levels of discretion about how to implement the law. Their overall approach does not take enforcement of the law to simply refer to legal action; rather it refers to a wide array of informal enforcement techniques such as education, advice, persuasion and negotiation (Ministry of Commerce, 2015). Securing compliance is the main objective, both through the remedy of existing problems and, above all, the prevention of others. The preferred methods to achieve these objectives are co-operative and conciliatory. So where compliance is less than complete, and there is good reason for it being incomplete, persuasion, negotiation and education are the primary enforcement methods (Charlebois and Hielm, 2014). Accordingly, compliance is not necessarily regarded as being immediately achievable; rather it may be seen as a long-term aim. The use of formal legal methods, especially prosecution, is regarded as a last resort, something to be avoided unless all else fails to secure compliance (Arendt and Sneed, 2008).

There are several regulatory bodies which inspect and/or audit fast food restaurants in Jamaica (National Food Safety Coordinating Committee, 2015). Government bodies, such as the Food Storage and Prevention of Infestation Division, Bureau of Standards and the Public Health Department, Plant Protection and Quarantine, Rural Agricultural Development Authority, Veterinary Services Division, Environmental Health Unit, Veterinary Public Health, National Public Health Laboratory and Pesticide Control Authority regularly inspect fast food restaurants to determine their suitability to store, prepare and sell foods. Training is also provided when necessary to assist these fast food restaurants in meeting compliance. There are several systems and standards (e.g. Jamaican Standard for the Production of Processed Foods, HACCP and ISO 22000)

which address food safety. While the Jamaican Government has been encouraging fast food restaurants to implement such, it is not yet a legal requirement that these systems/standards be adhered to.

A food handler's permit (FHP) is the basic requirement by law which authorizes employees and operators to prepare and serve food to the public in Jamaica. The FHP is issued by the Ministry of Health as a way of certifying that persons working in food establishment are free from communicable diseases and understand basic food safety principles (Ministry of Health, 2015). Regulatory bodies ensure that these establishments comply with their various laws and regulations which govern handling and storage of foods. These regulatory functions are achieved by way of inspections, which are conducted for compliance certification and should be conducted at least annually as required by the existing licensing and certification regime. Due to severe shortages of inspectors and a constant increase in the number of food service establishments, the mandatory minimum of one inspection per year is not realized in some cases (FSPID Annual Report, 2014), consequently, fast food service establishments might apply for re-certification (which requires an inspection) but do not get such an inspection, while others simply do not apply.

An inspection usually last for 45-60 minutes. The possible outcomes from an inspection may range from the issuing of a compliance certificate, statutory notices for corrections, and orders for dumping, notices for closure and or prosecution. It must be noted, however, that irrespective of the registration status of the establishment, certification is based on the status of the establishment at the time of the inspection and is assumed to be characteristics of the usual status of the establishment (Ministry of Health, 2012).

2.5.2.5.1 The Legal Context

Food safety law in Jamaica is centred on protecting the consumer by ensuring that food is safe for human consumption. Many of the provisions spotlight a proactive, rather than a reactive approach. FFBOs must show that they have adopted hygienic practices on premises suitable for the purpose. The risks associated with food processing and preparation have to be assessed by FFBOs, industry and the enforcers of food regulations. Standards of protection are achieved through the enforcement of specific

provisions (with breaches resulting in legal sanction) and through a framework that seeks to minimize the risk of unsafe food being present in the market (Lake et al., 2010). In each case, food law protection is based upon principles of risk management. Many of the provisions comprise broad principles which are then carried forward in more detailed terms by secondary legislation in law, or clarified by Codes of Practice (UNCTAD, 2007).

The overall legal responsibility for food safety in Jamaica sits within three government ministries - Ministries of Health, Agriculture and Industry, Investment and Commerce. Within these ministries are some key units or divisions (BSJ, PHD, PCA, and FSPID) that have a direct responsibility for regulating food safety. The legal mandate to support the food safety functions of these ministries are found in twenty (20) pieces of legislation; among these are Processed Food Act, Bureau of Standards Regulations, Public Health Regulations, Pesticides Control Regulations, Food Storage and Prevention of Infestation Act and Regulations and Veterinary Public Health Act (National Food Safety Policy, 2013). The government agencies operate twenty five (25) laboratories which conduct quantitative and qualitative analysis of food for biological, physical and chemical contaminants. These laboratories provide support to their regulatory functions thereby providing test results to inspectors in order to make timely decisions.

To address some of the legal challenges facing the fast food industry, the Jamaican Government has long recognized the need for coordination and consolidation of food safety activities as far back as 1985 and has established a National Food Safety Committee in the Ministry of Health. This committee brought together technical officers from the three ministries, private sector, international organizations and academia.   The National Food Safety Coordinating Committee represents the first formal initiative to bring stakeholders in food safety together at one table to discuss and explore ways to achieve interagency collaboration and coordination in food safety (Ministry Paper No. 256, 1986).

In 2001, the Jamaica Cabinet approved the National Quality Infrastructure Policy to undertake work to develop a National Food Safety Policy for Jamaica as well as to determine a   suitable   legal   institutional   arrangement   to   ensure   food   safety

compliance. In order to fulfil this mandate, the National Agricultural Health and Food Safety Coordinating Committee (NAHFSCC) were established.

A memorandum of understanding addressing the issues was signed by the three Government Ministers. The key strategies articulated in the policy include surveillance, risk analysis, establishment of a single food safety agency, establishment of a national laboratory accreditation body, research, training, public education and inspection. The major functions of the Food Safety Agency include administering regulations applicable to food safety and coordination of all food inspection activities at designated points in the food chain.   A laboratory accreditation program is well on the way and selected laboratories are implementing quality systems to gain accreditation. This proactive role that the government is leading will impact the fast food industry in accessing consistent feedback from the regulators, as well as providing solutions that can provide greater opportunities for compliance.   This one stop shop approach has resulted in reduced bureaucracy in doing business with government agencies (JAMPRO Annual Report, 2013).

Improving food safety is key in achieving sustainable development goals. The government should make food safety a public health priority, as they play a pivotal role in developing policies and regulatory frameworks, establishing and implementing effective food safety systems that ensure that food producers and suppliers along the food chain operate responsibly (Baines, 2010). However, in spite of the pieces of legislation governing fast food operation in Jamaica, compliance with the food safety requirements are inadequate. Hence, food borne illnesses resulting from the consumption of contaminated fast food continue to be a public health concern in Jamaica (Fletcher et al., 2013).

2.6   Generic Risk Management

Risk management is an activity which integrates recognition of risk, risk assessment, developing strategies to manage it, and mitigation of risk using managerial resources (Bassler, Oehmen, Seering and Ben-Daya, 2011). Risk management is an increasingly important business driver and stakeholders have become much more concerned about risk. Risk may be a driver of strategic decisions. It may be a cause of uncertainty in the

organisation or it may simply be embedded in the activities of the organisation. An enterprise wide approach to risk management enables an organisation to consider the potential impact of all types of risks on all processes, activities, stakeholders, products and services (Griffith et al., 2010).

2.6.1 Definition of Risk

Risk is defined as the uncertainty that surrounds future events and outcomes (Ahmad et al., 2013). It is the expression of the likelihood and impact of an event with the potential to influence the achievement of an organization's objectives (Zwikael and Ahn, 2011). The expression of the likelihood and impact of an event implies that, as a minimum, some form of quantitative or qualitative analysis is required for making decisions concerning major risks or threats to the achievement of an organization's objectives (Oehmen et al., 2012).

2.6.2 Risk Management

Risk management is defined as a systematic approach to setting the best course of action under uncertainty by identifying, assessing, understanding, acting on and communicating risk issues (World Economic Forum, 2008; ISO 3100, 2009; Oehmen and Seering, 2011; O'Connor and Rice, 2013; Song et al, 2013). The objective of risk management is to reduce different risks related to a pre-selected domain to an acceptable level (Zwikael and Ahn, 2011). Risk management is an integral component of good management and decision making at all levels of an organization. All departments in an organization manage risk continuously whether they realize it or not, sometimes more rigorously and systematically, sometimes less (O′Connor and Rice, 2013). More rigorous risk management occurs most visibly in those departments whose core mandate is to protect the environment and public health and safety. A further generic standard on risk management is in preparation as a common ISO/IEC standard (IEC 2008) describing a systemic top down as well as a functional bottom up approach.

Oehmen and Seering, (2011) argued that in order to apply risk management effectively, it is vital that a risk management culture be developed. Risk management culture supports the overall vision, mission and objectives of an organization. Limits and

boundaries are established and communicated concerning what are acceptable risk practices and outcomes (Park, 2010).

Since risk management is directed at uncertainty related to future events and outcomes, it is implied that all planning exercises encompass some form of risk management. There is also a clear implication that risk management is everyone's business, since people at all levels can provide some insight into the nature, likelihood and impacts of risk (Candi, Ende, van den and Gemser, 2013).

Candi, Ende, van den and Gemser, (2013) indicate that risk management is about making decisions that contribute to the achievement of an organization's objectives by applying it both at the individual activity level and in functional areas. It assists with decisions such as the reconciliation of science-based evidence and other factors, costs with benefits and expectations in investing limited public resources and the governance and control structures needed to support due diligence, responsible risk-taking, innovation and accountability (JCSS, 2008).

2.6.3   Risk Management Steps and Tools

Tang and Musa, (2011) and IEC, (2008) describe the risk management steps as shown in Figure 2., as establishing goals and context (i.e. the risk environment), identifying risks, analysing the identified risks, assessing or evaluating the risks, treating or managing the risks, monitoring and reviewing the risks and the risk environment regularly, and continuously communicating, consulting with stakeholders and reporting.

2.6.3.1 Establish Goals and Context

The purpose of this stage of planning is to enable understanding of the environment in which the respective organization operates i.e. thoroughly understanding the external environment and the internal culture of the organization. An analysis is undertaken through establishing the strategic, organizational and risk management context of the organization, and identifying the constraints and opportunities of the operating environment. Figure 2 below present the processes/steps in risk management.

Figure 2. Risk management process.
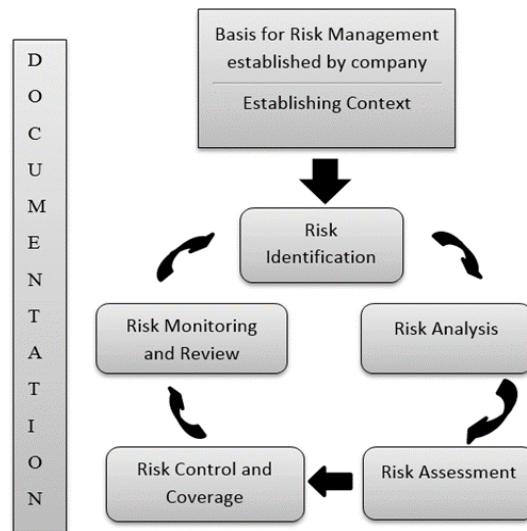
The establishment of the context and culture is undertaken through a number of environmental analyses that include, e.g., a review of the regulatory requirements, codes and standards, industry guidelines as well as the relevant corporate documents and the previous year's risk management and business plans (Wang, Lin and Huang, 2010). Carson, Wu and Moore, (2012) outlined that part of this step is also to develop risk criteria. The criteria should reflect the context defined, often depending on internal policies, goals and objectives of the organization and the interests of stakeholders. Criteria may be affected by the perceptions of stakeholders and by legal or regulatory requirements.

It is important that appropriate criteria be determined at the outset. Although the broad criteria for making decisions are initially developed as part of establishing the risk management context, they may be further developed and refined subsequently as particular risks are identified and risk analysis techniques are chosen (Ruzante et al., 2010). The risk criteria must correspond to the type of risks and the way in which risk levels are expressed (Krystallis et al., 2007).

2.6.3.2 Risk Identification

Using the information gained from the context, particularly as categorised by the SWOT (Strength, Weaknesses, Opportunities and Threats) and PEST (Political, Economic, Societal and Technological) frameworks, the next step is to identify the risks that are likely to affect the achievement of the goals of the organization, activity or initiative. It should be noted that a risk can be an opportunity or strength that has not been realised. Charlerois and Hielm, (2014) proposed that the following key questions that may assist with identification of risk include those to achieve the goals, when, where, why, and how risks are likely to occur. What are the risks associated with achieving each priority, what are the risks of not achieving these priorities? And who might be involved? (That is, suppliers, contractors, stakeholders).

The appropriate risk identification method will depend on the application area (i.e. nature of activities and the hazard groups), the nature of the project, the project phase, resources available, regulatory requirements and client requirements as to objectives, desired outcome and the required level of detail. Carson, Wu, and Moore, (2012) suggested that the use of the following tools and techniques may further assist with the identification of risks. Examples of possible risk sources, checklist of possible business risks and fraud risks, typical risks in stages of the procurement process, scenario planning as a risk assessment, process mapping, and documentation, relevant audit reports, program evaluations and/or research reports.

Specific lists, e.g. from standards and organizational experience, support the identification of internal risks. To collect experience available in the organization regarding internal risks, people with appropriate knowledge from the different parts of the organization should be involved in identifying risks. The identification of the sources of the risk is the critical stage in the risk assessment process (Cagno, Caron and Mancini, 2007). The better the understanding of the risk sources, the better the outcomes of the risk assessment process and the more meaningful and effective will be the management of risks (JCSS, 2008).

Caswell, (2013) indicated that the key questions to ask at this stage of the risk assessment process to identify the impact of the risk are: Why is this event a risk, what happens if the

risk eventuates and how it can impact achieving the objectives/outcomes. In practice, risk identification is a screening process where events with low or trivial risk are dropped from further consideration (Park, 2010). However, the justification for the events not studied in detail should be given. Quantification is then concentrated on the events which will give rise to higher levels of risk. Fundamental methods such as hazard and operability studies, fault trees, event tree logic diagrams and failure mode and effect analysis are tools which can be used to identify the risks and assess the criticality of possible outcomes (Song, Ming, Xu, 2013). Wang, Lin, Huang, (2010) proposed that an example of a systematic method for identifying technical risks of a plant is the elaboration of a risk register where different types of risks and damage classes are correlated to the local areas of a plant.

2.6.3.3 Risk Analysis

Risk analysis involves the examination of the source of risk, the consequence and likelihood to estimate the inherent or unprotected risk without controls in place (O'Connor and Rice, 2013). It also involves identification of the controls, an estimation of their effectiveness and the resultant level of risk with controls in place (the protected, residual or controlled risk). Qualitative, semi-quantitative and quantitative techniques are all acceptable analytical techniques depending on the risk, the purpose of the analysis and the information and data available (Oehmen et al, 2012).

Often qualitative or semi-quantitative techniques can be used for screening risks whereas higher risks are subjected to more expensive quantitative techniques as required. Risks can be estimated qualitatively and semi-quantitatively using tools such as hazard matrices, risk graphs, risk matrices or monographs but noting that the risk matrix is the most common (ANSIASSE Z690.2-2011, 2011). In applying the risk matrix, it is required to define for each risk its profile using likelihood and consequences criteria. Persson et al., (2009) suggested that applying the likelihood criteria or the consequence criteria contained in the risk matrix, determine the likelihood or consequence of a risk occurring. As before, the assessment is undertaken with reference to the effectiveness of the current control activities (Cagno et al, 2007).

2.6.3.4 Risk Evaluation

Once the risks have been analysed they can be compared against the previously documented and approved tolerable risk criteria. When using risk matrices the tolerable risk is generally documented with the risk matrix. If the protected risk be greater than the tolerable risk then the specific risk needs additional control measures or improvements in the effectiveness of the existing controls (Oehmen et al, 2010). A risk may be considered acceptable if e.g., the risk is sufficiently low that treatment is not considered cost effective, or a treatment is not available, e.g. a project terminated by a change of government, or sufficient opportunity exists that outweighs the perceived level of threat (O'Connor and Rice, 2013). If the level of risk is determined to be acceptable, the risk may be accepted with no further treatment beyond the current controls. Acceptable risks should be monitored and periodically reviewed to ensure they remain acceptable (ISO 31000, 2009). The level of acceptability can be organizational criteria or safety goals set by the authorities (Floricel and Ibanescu, 2008).

2.6.3.5 Risk Treatment

An unacceptable risk requires treatment. The objective of this stage of the risk assessment process is to develop cost effective options for treating the risks. Treatment options which are not necessarily mutually exclusive or appropriate in all circumstances, are driven by outcomes that include: avoiding the risk, reducing (mitigating) the risk, transferring (sharing) the risk, and retaining (accepting) the risk. Avoiding the risk means not undertaking the activity that is likely to trigger the risk while reducing the risk is controlling the likelihood of the risk occurring, or controlling the impact of the consequences if the risk occurs. Factors to consider for this risk treatment strategy include: can the likelihood of the risk occurring be reduced through preventative maintenance, or quality assurance and management, change in business systems and processes? Or can the consequences of the event be reduced through contingency planning, minimizing exposure to sources of risk or separation/relocation of an activity and resources? (Kim, 2015).

The strategy of transferring risk totally or in part may be achievable through moving the responsibility to another party or sharing the risk through a contract, insurance, or

partnership/joint venture. However, one should be aware that a new risk arises in that the party to whom the risk is transferred may not adequately manage the risk (Mu, Peng and MacLachlan, 2009). Retaining the risk and managing it - Resource requirements feature heavily in this strategy. The next step is to determine the target level of risk resulting from the successful implementation of the preferred treatments and current control activities. The intention of a risk treatment is to reduce the expected level of an unacceptable risk. Using the risk matrix one can determine the consequence and likelihood of the risk and identify the expected target risk level (Persson et al, 2009).

2.6.3.6 Risk Monitoring

It is important to understand that the concept of risk is dynamic and needs periodic and formal review. The frequency of identified risks needs to be regularly monitored. New risks and their impact on the organization may be taken into account. This step requires the description of how the outcomes of the treatment will be measured. Milestones or benchmarks for success and warning signs for failure need to be identified (Skandamis, Andritsos, Psomas and Paramythiotis, 2015). The review period is determined by the operating environment (including legislation), but as a general rule a comprehensive review every five years is an accepted industry norm (Bassler, Oehmen, Seering and Ben-Daya, 2011). The review needs to validate that the risk management process and that the documentation are still valid. The review also needs to consider the current regulatory environment and industry practices which may have changed significantly in the intervening period (Thamhain, 2013).

The assumptions made in the previous risk assessment (hazards, likelihood and consequence), the effectiveness of controls and the associated management system, as well as people, need to be monitored on an on-going basis to ensure risks are, in fact, controlled based on the underlying criteria. For an efficient risk control the analysis of risk interactions is necessary (Wang, Lin and Huang, 2010). This ensures that the influence of one risk on another is identified and assessed. Henwood et al, (2010) indicated that a framework needs to be in place that enables responsible officers to report on the following aspects of risk and its impact on organizations operations: What are the key risks? − How are they being managed? − Are the treatment strategies effective? – If

not, what else must be undertaken? − Are there any new risks and what are the implications for the organization?

2.6.4 Risk Communication and Reporting

Risk communication is defined as an interactive exchange of information and opinions throughout the risk analysis process concerning risk, risk-related factors and risk perceptions among risk assessors, risk managers, consumers, industry, the academic community and other interested parties, including the explanation of risk assessment findings and the basis of risk management decisions (Löfstedt, 2008).

Risk communication is an integral part of risk analysis and an inseparable element of the risk management framework. Risk communication helps to provide timely, relevant and accurate information to, and to obtain information from members of the risk analysis team and external stakeholders, in order to improve knowledge about the nature and effects of a specific risk (Sellnow, Ulmer, Seeger, and Littlefield, 2009). Successful risk communication is a prerequisite for effective risk management and risk assessment. It contributes to transparency of the risk analysis process and promotes broader understanding and acceptance of risk management decisions. Badr (2009) stated that communicating effectively with different audiences requires considerable knowledge, skill and thoughtful planning, whether one is a scientist (a risk assessor) or a government food safety official (a risk manager).

2.6.4.1 Understanding Risk Communication

Risk communication is a powerful yet often neglected element of risk analysis. For example in a food safety emergency situation, effective communication between scientific experts and risk managers, as well as other interested parties and the general public, is absolutely critical for helping people understand the risks and make informed choices. When the food safety issue is urgent; strong, interactive communication among the participants in risk analysis always improves the quality of the ultimate risk management decisions, particularly by eliciting scientific data, opinions and perspectives from a cross section of affected stakeholders (Shan, et al., 2015).

Thomas, Vanderford, Crouse and Quinn, (2008) indicated that multi-stakeholder communication throughout the process also promotes better understanding of risks and greater consensus on risk management approaches. Risk communication is sometimes underutilized. At times government officials are simply too overwhelmed with collecting information and trying to make decisions to engage in effective risk communication (Henwood, Pidgeon, Parkhill, Simmons, 2010). Risk communication also can be difficult to do adequately. It requires specialized skills and training to which not all government officials may have access. It also requires extensive planning, strategic thinking and dedication of resources. Since risk communication is the newest components of risk analysis to have been conceptualized as a distinct discipline, it is often the least familiar element for risk analysis practitioners (Tabba, 2010). Nevertheless, the great value that communication adds to any risk analysis justifies expanded efforts to ensure that it is an effective part of the process (Abraham, 2011).

Charlebois, and Watson, (2009) argue that risk communication is fundamentally a two-way process. It involves sharing information, whether between risk managers and risk assessors, or between members of the risk analysis team and external stakeholders. Risk managers sometimes see risk communication as an outgoing process, providing the public with clear and timely information about risk and measures to manage it; and indeed, that is one of its critical functions. Incoming communication is equally important. Through risk communication, decision makers can obtain vital information, data and opinions, and solicit feedback from affected stakeholders (Badr, 2009). Such inputs can make important contributions to the basis for decisions, and by obtaining them risk managers greatly increase the likelihood that risk assessments and risk management decisions effectively and adequately address stakeholder concerns.

Everyone involved in a risk analysis is a risk communicator at some point in the process. Risk assessors, risk managers, and external participants all need risk communication skills and awareness. In this context, some government authorities have communication specialists on their staff. When such a resource is available, integrating the communication function into all phases of a risk analysis at the earliest opportunity is beneficial (Abraham, 2011).

Clear communication is essential for the risk management process, i.e. clear communication of the objectives, the risk management process and its elements, as well as the findings and required actions as a result of the output (Palencher, 2008). Risk management is an integral element of an organization´s management. However, for its successful adoption, it is important that in its initial stages, the reporting on risk management is visible through the framework (Berg, 2010).

Documentation is essential to demonstrate that the process has been systematic, the methods and scope identified, the process conducted correctly and that it is fully auditable (Menon, 2008). Documentation provides a rational basis for management consideration, approval and implementation including an appropriate management system (Tabbaa,2010). A documented output from the above sections (risk identification, analysis, evaluation and controls) is a risk register for the site, plant, equipment or activity under consideration. This document is essential for the ongoing safe management of the plant as a basis for communication throughout the organisation and for the on-going monitoring and review processes (Badr, 2009). It can also be used with other supporting documents to demonstrate regulatory compliance (Covello, 2010).

2.6.5 Integrated Risk Management

Integrated risk management is defined as a continuous, proactive and systematic process to understand, manage and communicate risk from an organization-wide perspective (Griffith, Livesey and Clayton, 2010). It is about making strategic decisions that contribute to the achievement of an organization's overall corporate objectives (ANSIASSE Z690.3–2011, 2011). Integrated risk management requires an ongoing assessment of potential risks for an organization at every level and then aggregating the results at the corporate level to facilitate priority setting and improved decision-making. Borys, (2009) indicated that integrated risk management should become embedded in the organization's corporate strategy and shape the organization's risk management culture. The identification, assessment and management of risk across an organization helps reveal the importance of the whole, the sum of the risks and the interdependence of the parts, (ISO Guide 73, 2009).

Yapp and Fairman, (2006) pointed out that integrated risk management does not focus only on the minimization or mitigation of risks, but also supports activities that foster innovation, so that the greatest returns can be achieved with acceptable results, costs and risks. From a decision making perspective, integrated risk management typically involves the establishment of hierarchical limit systems and risk management committees to help to determine the setting and allocation of limits (Ruzante et al., 2010). Integrated risk management strives for the optimal balance at the corporate level.

2.6.6 Risk-Based Approaches To Food Safety Regulation

Food safety regulation is one domain that has witnessed the increasing alignment of risk and regulation, one manifestation of which is risk-based regulation (RBR) (Black, 2005; Hutter, 2004). RBR embraces a very broad range of approaches but it is possible to delineate some basic characteristics.   For example, in risk-based regimes risks are typically conceived as manageable and controllable (Abraham, 2011), leading to an anticipatory approach which looks forward to considering the prevention of risks not yet fully realized.   This approach is premised on a holistic, co-ordinated approach to risk

management which conceptualises risks as interrelated to each other and as having potential consequences for broader economic, natural, social and political environments. The complexities involved may well lead to an emphasis upon output based as opposed to prescriptive regulation. This is translated into practice through greater emphasis upon technical risk-based tools, emerging from economics (cost-benefit approaches) and science (risk assessment techniques).

Risk-based approaches are attractive to policy makers for a number of reasons. Risk-based tools have come to be seen as efficient instruments for making policy choices and aiding in decision-making (National Audit Office, 2000), and they are regarded as particularly helpful in resolving conflict between competing interests and groups over appropriate levels of risk management (Shim and You, 2015). In food hygiene contexts risk rating systems are an important tool for enforcers to apply when deciding upon their inspection regimes (William, Nganje, Hughner and Patterson, 2014; Jones et al., 2008 and Tebbutt, 2007).

A key example of enforced self-regulation and risk based approaches coming together in food regulation is the growing popularity of the food safety HACCP (DEFRA, 2011). HACCP is a preventative risk based approach to food safety which seeks to minimize risks but cannot eliminate them. The HACCP approach requires that FFBOs plan what needs to be done to maintain food safety, to document it, to follow the plan and to monitor and verify that the plan has been followed. HACCP systems are only protective to the extent that the workforce and management are fully committed to their implementation (Fielding et al., 2005 and Jones et al., 2008). The rigors of food safety regime can present particular difficulties for small businesses (Thamhain, 2013). Studies have shown that historically the practices adopted by FFBOs have increased the possibility of food contamination (Ackerman and Heinzerling, 2004). The limited resources (economic and otherwise) available to smaller enterprises can be a real constraint on providing safe food (Zentis and Schmitt, 2013). Risk based approaches to food safety regulation seek to ensure that greater emphasis is placed upon FFBOs managing their own risks, and in so doing reserve enforcement agency attention for the worst offenders (Zentis and Schmitt, 2013). This approach makes assumptions about the capacity of businesses to appreciate and manage attendant risks, which can be lacking in the case of smaller businesses.

The whole risk based regulations approach resonates with moves to minimize the regulatory burden on business through cost justifications, transparency, accountability, targeting, consistency and proportionality (Mather et al., 2013). The importance of risk based regulations was reviewed by Hutter and Amodu, (2008) whose objective was to reduce the administrative burden of regulation on business and to promote more efficient approaches to regulatory inspection and enforcement. The review recommended that there should be fewer inspections and more advice to improve compliance. The review was especially concerned to reduce the burdens on small businesses and claimed that there was over inspection at the local level and advocated that all regulatory activity should be on the basis of a clear, comprehensive risk assessment (Gkogka et al., 2011).

The Inquiry placed central emphasis upon risk-based approaches to inspection and enforcement. One major issue identified was local authority officers such as FSIs can only establish compliance levels through inspection and typically such inspections are the main means of advising and educating small businesses (Bofinger, Hayes, Bearman, Viner, 2015). The focus of responsibility is clearly on FFBO's to manage the risks generated and the onus is on regulators to intervene where businesses clearly fail to do this (Fatimah, Sambasivan and Salleh, 2011). The basis of an analysis of emerging co-regulatory arrangements to food safety; Barlow, Roehrich and Wright, (2013) contends that it is fairly easy to implement such arrangements.

2.6.7   Food Regulation in the Private Sector/SME

One significant trend in regulation is the move to involve a variety of private players in regulation, sometimes as part of a move to outsource public management functions (Fares and Rouviere, 2010). This is also a means of empowering different participants in the regulatory process in order to maximize the promotion and achievement of risk management. The move to enforced self-regulation is a perfect example of this as the state harnesses and emphasises the regulatory resources of business. Thomas, et al. (2011) have highlighted the importance of focusing on the interplay of economic, political and social forces in understanding corporate regulatory factors. And also the relevance of their interaction with the internal organization of a business and the views and behaviours of its management and employees.

Research by Hutter and Jones, (2007) on the fast food industry has shown that state regulation remains a key influence on business risk management practices but that those in the industry readily understand that there are other private sector external influences on their risk management practices. The role of consumers all but equalled that of the state. FFBOs underestimate how discerning consumers are with respect to food safety issues (Rouviere and Caswell, 2012). FSIs remain a key influence on food businesses. Indeed, their proximity to food retailers can be crucial in educating SMEs (Fairman and Yapp, 2004). The larger fast food businesses can exert considerable influence in the supply chain (Mohtadi et al., 2005).

Several studies have found that SMEs generally have lower levels of knowledge of regulatory laws and state regulatory systems (Herzfeld, Drescher and Grebitus, 2011; Van der Meulen, 2010; Hutter and Jones, 2007). They also appeared to rely on state regulatory systems for education and advice. One reason for SME reliance on state systems is that many small fast food businesses have less contact with private sector sources which provide information and advice. They might not be members of trade or business associations which may provide updates or even training on food safety and food hygiene matters, nor do they tend to use consultancies (Rouviere, Soubeyran and Bignebat, 2010; Hutter and Jones, 2007).

This of course contrasts with the larger fast food businesses which have greater regulatory resources and capacity of their own and are more likely to belong to associations, employ consultancies and take out insurance to cover risks. In the case of large retailers and caterers they may even become a source of regulation for other parts of the fast food chain as they impose standards which are sometimes in excess of state regulatory requirements (Gorton, Zaric, Philip and Quarrie, 2011). This is important in the context of the discussion of risk regulation trends in the food safety area as it demonstrate the value in relying on private sector sources of risk management in the SME sector such as the fast food industry. While food safety has been the focal point of most regulatory programmes, the desire to protect consumers from unsafe food has led to increasing government involvement in the control of food safety attributes (Caswell and Joseph, 2006 and CFIA, 2013).

2.6.8 The Role of Firm Size in Determining Adherence to Business Processes / Compliance with Regulations

Complex regulations are difficult for small businesses to comply with than for large businesses. According to Philip K. Howard, founder of the Anti-bureaucracy Nonprofit Common Good, "small businesses that try hard to comply are often at a competitive disadvantage to businesses that realize they can often get away with ignoring regulation altogether" (Buchanan 2017). Overall, small businesses suffer greater losses from complying with government regulations than large companies. Small businesses usually do not have an adequate amount of staff to keep up with rapidly changing laws (Huebsch, 2012).

According to the Small Business Administration's Office of Advocacy (Jackson, 2016), small businesses in the US, with less than 20 employees in 2010, paid about $10,585 per employee for regulatory compliance. This is more than 36 percent more, on a per-employee basis, than the costs paid by businesses with more than 500 employees. Obviously, this type of burden can reduce a typical small business's ability to stay in business as well as being compliant. So while there is a burden to be borne, small businesses bear more of it than larger ones. The results were, markets became less competitive and the share of wealth held by big business tended to increase (Peron, 2017). Regulations hindered competition, favouring the established big businesses. The point is that big businesses do not really mind regulation because it has the capability of dealing with it while small business hates it with a passion (Worstall, 2013).

Studies have shown that small firms generally implement regulations later and are more likely to choose partial or non-compliance. Fairman and Yapp (2004) modify the Henson and Heasman model to adapt it for the particular compliance process of small enterprises in the UK with food safety standards. They stress the complete reliance of small business on external information, and note that the compliance process is externally driven.

Insufficient resources may pose limitations on performing operations hygienically. Furthermore, lack of food safety knowledge (Yapp and Fairman, 2006) or economic problems (Charlebois and Summan, 2014) may be why small food business operators experience difficulty in complying with the regulations and some operators often have shortages of skilled labour (Charlebois and Summan, 2014). It was also reported that the

most common reasons why some operators did not correct violations were the lack of human and economic resources. As in other studies, SMEs generally had lower levels of knowledge of regulatory laws and state regulatory systems (Henson and Heasman 1998; Fairman and Yapp 2004). They also appeared to rely on state regulatory systems for education and advice.

One reason for SME reliance on state systems is that many small businesses have less contact with non-state sources that provide information and advice. They are not members of trade or business associations that may provide updates or even training on food safety and food hygiene matters, nor do they use consultancies (Fairman and Yapp 2004). This, of course, contrasts with large businesses that have greater regulatory capacity of their own and are more likely to belong to associations, employ consultancies and take out insurance coverage (Suharni, et al. 2016).

2.7   Conclusion

This literature review seeks to address a number of key areas in the proposed study: The use of Risk Management as a strategy that can be used to improve compliance with national food safety regulations in the fast food industry. It also highlighted the impact of unsafe food on consumers' health as well as the economic burden on fast food businesses that are non-compliant.

The review of literature has also highlighted the role of restaurant managers in the implementation of safe food practices. In the literature it would appears that most of the studies are directed towards the maintenance of food safety, exclusively dealing with the training and education of the restaurant managers, with little emphasis on appropriate communication skills of the FSIs. In addition this has created a lack of partnership between regulators and the restaurant managers. This points to the need for a holistic approach, focusing on how the regulators actions or lack thereof may influence compliance. This study seeks to address some of the communication challenges expressed by the restaurant managers.

The fast food industry need to adopt a proactive approach to food safety. It seems clear from the literature, that attention to risk management offers a tool that government

authorities can use to make significant gains towards food safety compliance. The literature proposed that it can be used to develop an estimate of the risks to human health and safety, to identify and implement appropriate measures to control the risks and to communicate with stakeholders about the risks and measures applied to food safety regulation. Therefore, there is a complex of explanations for business compliance and non- compliance. Crucial to understanding the issue of compliance is the fact that it is a dynamic, ever present issue. In the case of food safety, this may demand constant vigilance by all levels of staff, some of whom may not fully understand the risks involved and all of whom may, on occasion, be subject to production pressures which lead them to cut corners and take risks (Zwikael and Ahn, 2011). The literature review has highlighted the central issue on food safety and the requirements to be considered for compliance and how these may be integrated.

3 RESEARCH METHODOLOGY AND DESIGN

3.1 Introduction

This chapter presents an overview of the concepts of research paradigms and the researcher's ontological and epistemological standpoint. It also gives an outline of the research methods that were followed in the study. It provides information on the participants, that is, the criteria for inclusion in the study, who the participants were and the sampling process adopted. The researcher describes the research approach and design that were chosen for the purpose of this study and the reasons for this choice. The instrument that was used for data collection is also discussed and the practical approach to gathering data is included. The researcher also discusses the methods used to analyse the data. Lastly, the ethical considerations that were followed in the process are also highlighted and discussed.

3.2 Concept of Research Paradigms

A research paradigm is a set of fundamental assumptions and beliefs as to how the world is perceived which then serves as a thinking framework that guides the behaviour of the researcher (Jonker and Pennink, 2010). Although the philosophical backgrounds usually remain implicit in most research, they affect the practice of research. Some authors (e.g. Berry and Otley 2004; Creswell 2009; Saunders, Lewis and Thornhill 2009; Neuman 2011) have emphasized that it is important to initially question the research paradigm to be applied in conducting research as it substantially influences how one undertakes a social study in the way of framing and understanding social phenomena. Following this suggestion, various research paradigms are discussed below to enable justification of the theoretical assumptions and fundamental beliefs underpinning a social research.

3.3 Philosophical Dimensions

The two main philosophical dimensions to distinguish existing research paradigms are ontology and epistemology (Laughlin 1995; Kalof, Dan and Dietz 2008; Saunders, Lewis and Thornhill 2009). They relate to the nature of knowledge and the development of

that knowledge, respectively. Ontology is the view of how one perceives a reality. In terms of social research, ontologically one can perceive that the existence of reality is external and independent of social actors and their interpretations of it, termed objectivist (Saunders, Lewis and Thornhill 2009) or realist (Neuman 2011). On the other hand, subjectivist or nominalist adopter theory believes that reality is dependent on social actors and assumes that individuals contribute to social phenomena.

The second paradigm, epistemology, is the beliefs on the way to generate, understand and use the knowledge that is deemed to be acceptable and valid. Epistemology in a business research as a branch of philosophy deals with the sources of knowledge. Specifically, epistemology is concerned with possibilities, nature, sources and limitations of knowledge in the field of study. Alternatively, epistemology can be branded as the study of the criteria by which the researcher classifies what does and does not constitute the knowledge (Hallebone and Priest, 2009). In simple words, epistemology focuses on what is known to be true. It is a way of thinking opposite to ontology.

In research philosophy there are many different sources of knowledge. Sources of knowledge related to business research in particular can be divided into the following four categories: Intuitive knowledge - is based on intuition, faith, beliefs etc. Human feelings plays greater role in intuitive knowledge compared to reliance on facts; Authoritarian knowledge - relies on information that has been obtained from books, research papers, experts, supreme powers etc; Logical knowledge - is a creation of new knowledge through the application of logical reasoning and empirical knowledge relies on objective facts that have been established and can be demonstrated.

Research process may integrate all of these sources of knowledge within a single study. For example, intuitive knowledge can be used in order to select a specific problem to be explored within a selected research area, whereas authoritative knowledge is gained during the process of literature review. Moreover, logical knowledge is generated as a result of analysing primary data findings, and conclusions of the research can be perceived as empirical knowledge. In addition to these two fundamental philosophies, two basic beliefs that affect the way to investigate reality are axiology and methodology. The former is concerned with ethics, encompassing the roles and values in the research and the researcher's stance in relation to the subject studied.

3.4   Research Paradigms

When discussing the two research paradigms that might be classified as objectivist, it has been suggested that both positivism and post positivism apply the lens of natural science to social science. Ontologically, they share a common view that social reality is external and objective. Therefore, axiologically, they maintain the separation of the researcher from the researched by taking the stance of the etic approach or the outsider perspective. Epistemologically, they advocate the use of a scientific approach by developing numeric measures to generate acceptable knowledge. They commence with the test of theory in the form of hypotheses and involve statistical tests in their research process. However, they use different philosophical assumptions.

Positivist researchers seek to obtain law-like generalizations, termed nomothetic (Neuman2011), by conducting value-free research to measure social phenomena. Positivists believe that different researchers observing the same factual problem will generate a similar result by carefully using statistical tests and applying a similar research process in investigating a large sample (Creswell 2009). Their common belief is the existence of a universal generalization that can be applied across contexts, which is now called naive realism.

Post positivists recognize fallibility in the positivist approach and therefore challenge the belief of this absolute truth, especially in relation to studying human behaviour in social science. The post positivist approach also believes in generalization, but admits that knowledge is a result of social conditioning. This is called the critical realist stance, which means that understanding social reality needs to be framed in a certain context of relevant law or dynamic social structures which have created the observable phenomena within social world (Charmaz, 2006).

Diametrically opposite to the positivist approach lies interpretivism. Interpretivists believe that reality is constructed by social actors and people's perceptions of it. They recognize that individuals with their own varied backgrounds, assumptions and experiences contribute to the on-going construction of reality existing in their

broader social context through social interaction. Because these human perspectives and experiences are subjective, social reality may change and can have multiple perspectives (Hennink, Hutter and Bailey 2011). Therefore, interpretivists reject objectivism and a single truth as proposed in post positivism. To understand the social world from the experiences and subjective meanings that people attach to it, interpretivist researchers favour to interact and to have a dialogue with the studied participants.

It is common for interpretivists to prefer to work with qualitative data which provides rich descriptions of social constructs. As opposed to generalization or the nomonethic approach adopted by positivist researchers, interpretivists tend to use a narrative form of analysis to describe specifics and highly detailed accounts of a particular social reality being studied, which is termed the idiographic approach (Neuman 2011). Consequently, the parameter to test knowledge in the positivist and interpretivist paradigm-camp is distinct.

Positivist scholars believe in the power of replication research. Interpretivist researchers vote a study that uncovers inside perspectives or real meanings of social phenomena from its study participants as a good social knowledge. In terms of axiology, interpretivist researchers take the stance of the emic or insider perspective, which means to study the social reality from the perspective of the people themselves.

Here, the experiences and values of both research participants and researchers substantially influence the collection of data and its analysis. Pragmatism is an additional branch of research paradigm argument that refuses to join the 'paradigm war' between the positivist and interpretivist research philosophies (Tashakkori and Teddlie, 1998). Instead of questioning ontology and epistemology as the first step, pragmatist supporters start off with the research question to determine their research framework. They emphasized that one should view research philosophy as a continuum, rather than an option that stands in opposite positions. Pragmatism believes that objectivist and subjectivist perspectives are not mutually exclusive (Neuman, 2011). Hence, a mixture of ontology, epistemology and axiology is an acceptable approach to understand social phenomena. Here, the emphasis is on what works best to address the research problem at hand. Pragmatist researchers favour working with both quantitative and qualitative data because they enable them to better understand social reality.

3.5 The Researcher's Ontological and Epistemological Standpoint

As previously discussed, ontology is concerned with being and how the nature of reality is perceived. According to Bryman, (2008) the ontological issues are having to do with whether the social entities can and should be considered objective entities that have a reality external to social actors, or whether they can and should be considered social constructions built up from the perception and actions of social actors. A constructionist approach places priority on the phenomenon of study and sees both data and analysis as created from shared experiences and relationships with participants. (Charmaz, 2006). Denzin and Lincoln (2017) argue that it is crucial to consider the researcher's personal sentiments, beliefs and relationship to the subject matter, as this may have a bearing on the method chosen, i.e. the researcher's ontological persuasion.

In this study, the researcher adopted the constructivism view, as it is firmly believed that there is no single reality or truth and that reality is created by individuals and groups. It is also considered that people gain knowledge and understanding through the combination of their own experiences and ideas. Constructionism is an ontological position asserting that social phenomenon and their meaning are continually being accomplished by social actors, and that they are in constant construction and revision (Bryman, 2008). Taking an organisation and culture as an example, constructivism infers the continuous change, updating and rejuvenating of the existing social structures (Bryman, 2008). It is considered that individuals and/or groups are definitely able to influence existing structures that at first seem external and alien (Bryman, 2008). After all, the organisation and culture itself should be viewed rather as a collective extension of the individual's wants, needs and meaning, cohered into an assemblage that eventually is known as an enterprise or a particular culture. The researcher is of the view that persons who interact with the issues are the most suitable persons to provide information on causes and effects as well as identifying solutions to the problem.

Epistemology is the branch of philosophy that studies knowledge, by attempting to distinguish between 'True' (and adequate) knowledge and 'False' (inadequate)

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knowledge. (Erikson and Kovalainen, (2008). From an epistemological perspective, reality needs to be interpreted. It is used to discover the underlying meaning of events and activities (Bryman, 2008). It concerns the theory and method of the interpretation of human action. While positivist's point of departure is to explain human behaviour, the social sciences are more concerned about understanding human behaviour. Consequently, it is contended that the researcher adopts an interpretivist approach in this study.

In summary, as Grbich, (2007) pointed out, time has come for us to "Understand" social dynamics, and not simply to "measure" it. Interpretevism as a philosophical position within an epistemological stance that treats reality as being fluid, knowledge is subjective, everyone has an individual perspective that has been influenced by a range of external factors and the truth lies within the interpretation of the person's reality. This phenomenon is subject to the person's beliefs, values, culture, standing, language, shared meaning and consciousness. (Bryman, 2008; Grbich, 2007). Interpretevism or interpretive theory as per Charmaz, (2006), calls for the imaginative understanding of the studied phenomenon. This type of theory assumes emergent, multiple realities; indeterminacy; facts and values as linked; truth as provisional and social life as processual. The ontological perspective and the Epistemological standpoint of the researcher supports the theoretical perspective, methodology and method of the research.

3.6   Research Approach - Qualitative vs. Quantitative Research

As stated by Richard and Barrosos (2012), quantitative methods (which are the common approach to gathering data when following the norms of objectivism or positivism) focus on obtaining data by means of numbers and statistics, qualitative research methods aim at providing an answer to why things are and how they are, thus emphasizing understanding. Qualitative data is generally difficult to measure and quantify; it can yet reveal valuable attitudes and perspectives that can hardly be accessed through a traditional quantitative approach. The exploratory character of qualitative research permits the gathering of new information on specific areas of research, very often through an intensive dialogue between the interviewer and the respondent (Broda, 2006; Naderer and Balzer, 2007).

As fieldwork is done without predetermined categories of analysis, qualitative studies

provide depth and detail. In contrast to quantitative methods, which can statistically measure and evaluate the reactions of a great number of people to a limited set of questions and standardized answer categories, a qualitative study can never reach the same breadth due to the reduced number of cases (Patton, 2015). Richard and Barrosos (2012) provide an overview of the main differences between quantitative and qualitative research (see Table 4).

Table 4: Quantitative vs. Qualitative Research

Criterion	Quantitative Research	Qualitative Research
Assumptions about the Industry	Reality based on objectivity (etic view)	Insider's perspective (emic view)
Purpose of the research	Concrete answers to industry questions	Contextualized approach
Approaches to conducting Research	Form hypotheses that can be applied in multiple situations (deductive approach)	Move from particular to more general statements (inductive approach)
Role of the researcher	Strive for objectivity and Impartiality	Personal involvement and partiality researchers become instrument

Source: Richard and Barrosos, 2012.

In contrast to quantitative research, where hypotheses are formed and are then applied to various specific cases (deduction), qualitative research uses inductive reasoning, proceeding from particular to more general statements. To do this, qualitative research borrows methods from humanistic (e.g., from the social sciences) researchers, who believe in multiple realities and focus on interpreting the interaction between researcher and phenomenon (Sayre, 2001). The discussion of quantitative vs. qualitative as two opposed paradigms has a long tradition and cannot be exhaustively explained here. Naderer and Balzer (2007) summarize the status of quantitative and qualitative methods as equally academic and recognized; under the condition that research is conducted systematically and follows established rules. What differs is the degree of abstraction of data which is increasing as one is moving towards quantitative data. (See Table 5).

Table 5: The Academic Status of Qualitative and Quantitative Research

Degree of abstraction	Form of data	Characteristics	Academic Status
Abstraction increasing	Quantitative data	Abstracts quantities on the basis of qualitatively grouped data, systematically and following established	Academic/ scientific
	Qualitative data	Abstracts qualities on the basis of daily data, systemically and following established rules	Academic/Scientific
	Daily data	Spontaneous, based on situations, changeable, unsystematically, not following any established rules	Not Academic

Source: Naderer and Balzer (2007**).**

Given the interpretivist approach adopted by the researcher, it follows that a qualitative approach to this study was chosen as most suitable and is informed by the work of Pernecky, (2016). Qualitative research is considered to be a type of research that uses an interpretive and realistic approach towards its subject matter as well as an emphasis on the qualities of entities (i.e., processes and meanings occurring naturally) (Brown et al., 2014). Furthermore, qualitative research is used to study an occurrence within the environment in which it naturally occurs and supported by social meaning from the individuals who were subjected to the occurrence (Creswell, 2013). Denzin and Lincoln (2011) noted that qualitative research can be used to address questions relating to how social experiences are created and/or given meaning, which then creates

illustrations of the experience within a specific environment and makes that experience visible.

Hennink et al 2010; Richard and Barrosos, 2012 and Van len Hoonaard 2015 suggest that "qualitative research employs the meanings in use by societal members to explain how they directly experience everyday life realities" and that such social science constructs are built from the socially constructed nature of reality created by its members. Emphasizing situational details that have occurred over time allows qualitative research to describe processes because such work is highly descriptive through recounting what was said to whom, how, when and why (Khan, 2012). Furthermore, qualitative research has a humanistic and inherently literary focus and, even though talks and texts have meaningful representations, they generally start from and return to words. Such words help with the description and understanding of the values, meanings and processes from real-life settings that include actual human interaction (Denzin and Lincoln, 2011).

Finally, it might be argued that an additional benefit of qualitative research is that it has the potential to humanize the theory that is often researched in the field due to its ability to highlight the underlying human interactions, meanings and relationships among variables in the experiences, (Kahike, 2014) . Therefore, given that a qualitative approach to research provides robust insights from actions that have occurred in a real-life context which forms an understanding of underlying social processes and meaning in a business/management environment (Kahike, 2014). It is argued that only by adopting this approach in this study can memorable examples of important issues that enrich the business management field be developed and created. It is therefore suggested that achieving these robust insights would be difficult to produce from a quantitative research perspective (Richards, 2014).

3.6.1　Justification for a Qualitative Approach for the Research

The qualitative method allows the researcher to achieve the objectives of the research study, as the purpose is related to exploring the experiences of individuals regarding the phenomenon (food safety compliance) whether personal or professional (Bernard, 2013; Creswell and Planon, 2011). In a qualitative method, a theory emerges from the experience of the participants. The information collected creates a theme or category for further explanation of the phenomenon, which is the purpose of this study (Bernard, 2013; Bloomberg and Volpe, 2012).

The main purpose of a qualitative method is also to explore the topic, because of limited knowledge about the phenomenon (Cronholm and Hjalmarsson, 2011).
Individuals tend to understand the world in which they live or work. Research must include themes or categories to understand the related aspects of the phenomenon (Marshall and Rossman, 2006). A rigorous process is the goal of this method to understand the phenomenon with depth and breadth (Arendt et al., 2012). Furthermore, a researcher focuses on the descriptions of the phenomenon with words, rather than numbers or graphics (Arendt et al., 2012). The researcher uses a semi structured interview with open-ended questions to expand the topic of interest (Arendt et al., 2012). Observations, recordings, and taking notes are common strategies to uncover the qualitative longitudinal process, and the researcher does the analysis using thematic and coding approaches to gain deeper insights regarding the phenomenon (Arendt et al., 2012).

In this study, the qualitative method was appropriate because it is typically more flexible – that is, it allows greater spontaneity and adaptation of the interaction between the researcher and the study participants. In addition, with qualitative methods, the relationship between the researcher and the participants is often less formal (Kahle, 2014). Participants have the opportunity to respond in their own words, more elaborately and in greater detail. In turn, researchers have the opportunity to respond immediately to what participants say by tailoring subsequent questions to information the participant has provided (Goldberg and Allen, 2015).

A qualitative approach also allows the researcher the flexibility to probe initial participant responses – that is, to ask why or how - engage with them according to their individual personalities and styles, and use probes to encourage them to elaborate on their answers (Chang et al., 2013). For example, qualitative methods ask mostly open-ended questions that are not necessarily worded in exactly the same way with each participant (Kahlke, 2014). Open-ended questions have the ability to evoke responses that are meaningful and culturally salient to the participants, unanticipated by the researcher, rich and explanatory in nature, and these responses tend to be more complex than simply yes or no (Holstein and Gubtrium, 2012). Ultimately it is the research paradigm that drives and leads towards the type of research methodology selected.

In the study, a quantitative method was considered inappropriate as it did not meet the needs of the research study, because the quantitative research process involved examination of variables to determine if a correlation exists regarding the predictors and criterion variables using statistical analysis (Singleton and Straits, 2010; Green and Salkind, 2011; Petter et al., 2013).

On the other hand, a mixed method approach is a combination of quantitative and qualitative methods, where one method can support the other method in terms of narration or statistical approaches (Venkatesh et al., 2013; Ostlund, Kidd, Wengström, and Rowa-Dewar, 2011; Rozin, Hormes, Faith and Wansink, 2012; Zachariadis, Scott, and Barrett, 2013 and Vankova, 2015; Vergne, 2012). A quantitative method cannot apply alone without the qualitative method (Cronholm and Hjalmarsson, 2011; Venkatesh et al., 2013). The mixed method approach did not meet the needs of the research study, because the intent of the qualitative study was to explore the phenomenon and to examine the relationships between emerging themes (Cronholm and Hjalmarsson, 2011; Venkatesh et al., 2013).

In addition the research questions of this study could not be answered by applying quantitative methods. This is because they are largely exploratory in nature, and the purpose is to gain general insight into a topic on which little literature exists. In fact, the character of the study required access to profound expert information on the topic of food safety compliance which could not be acquired through a standardized questionnaire with predetermined answer categories as used in quantitative research. The aim was not

to measure or quantify something, but to improve understanding of the phenomenon by obtaining information from experts on personal experiences and critical incidents**.**

3.7   Research Design

Burns and Grove (2003) define research design as "a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings". This study focuses on the opinions regarding food hygiene regulations of persons who work in fast food restaurants in Jamaica. The research design is non-experimental, qualitative, exploratory-descriptive and contextual. The research design of the study was a mono-method qualitative design with thematic analysis. In a mono-qualitative design, researchers examine the emergence of themes by exploring the data (Green and Salkind, 2011). Using thematic analysis for the study helped to examine patterns and identify themes (Stanley, 2011; Green and Salkind, 2011 and Quests, 2012).

Hence, finding out about the essential or underlying meaning of lived experience is the main objective of this approach. As described, this study focused on the issue of food safety compliance. The purpose was to find out about the subjective lived experiences of restaurant managers that provide valuable insight into the topic. By comparing the experiences of different managers, shared experiences were identified and categorized.

A qualitative phenomenological design was considered most suitable to achieve the objectives of this study because the nature of the research was to achieve and obtain an in-depth understanding of how and why individuals/fast food restaurants experience the phenomenon of food safety compliance (Venkatesh et al., 2013). The rationale for using a qualitative approach in this research was to explore and describe the opinions of FFOs on issues of food safety compliance. The research design included semi-structure explorative focus interviews with open-ended questions, which allowing for a personal connection (Keough and Tanabe, 2011). In a phenomenological design, the researcher is encouraged to adopt one-to-one or focus group interviews with participants to expand the topic of interest in-depth (Downes-Le Guin, et al., 2012). Using a qualitative research methodology under an interpretive paradigm, Figure 3 highlights the diagrammatic representation of the research methodology. It also illustrates the broad theoretical base for the study and outlines the steps involved in the methodology.

Figure 3. Research Methodology
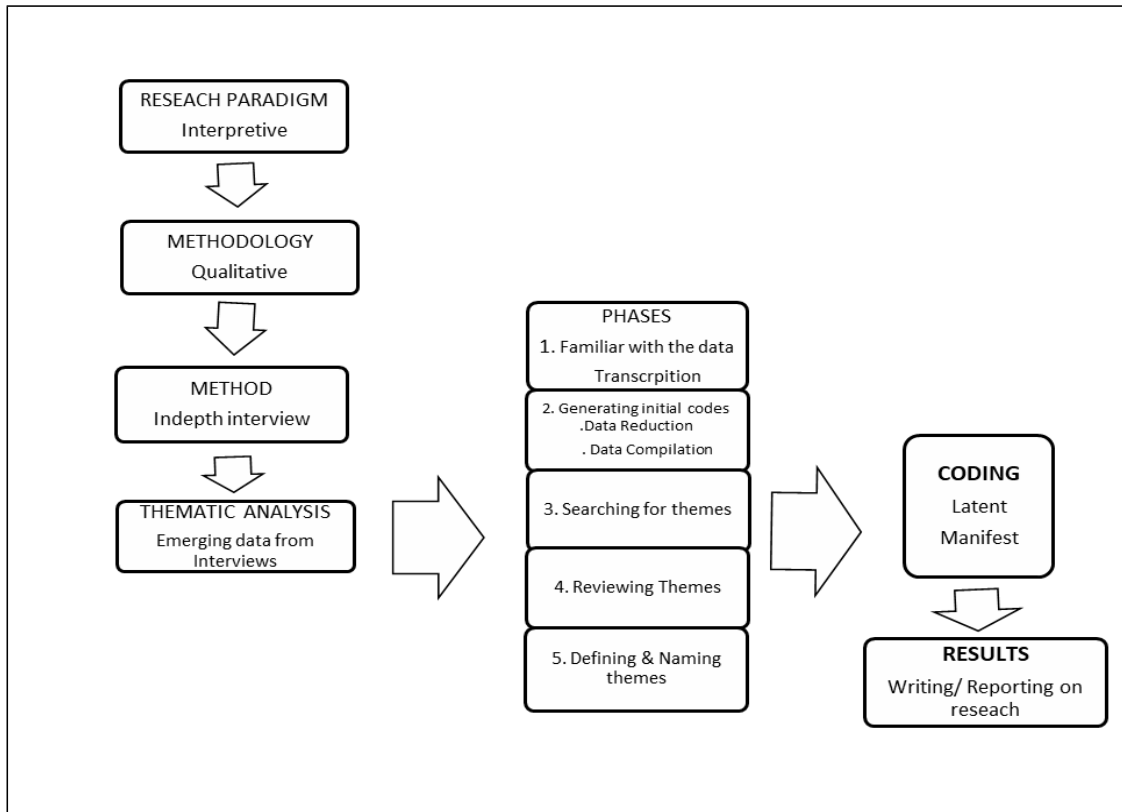
3.8   Research Paradigm – Interpretive

Bhattacherjee (2012) believes that employing an interpretive paradigm is the more productive way to study social order and that it is achieved through "subjective interpretation of the participants involved, such as by interviewing different participants and reconciling differences among their responses using their own subjective perspectives".

3.8.1   Justification for Adopting the Interpretive Paradigm

In the most common use of the concept of research paradigm, two paradigms in social science research are the interpretive and positivist approaches (Lapan, Quartaroli and Riemer, 2012). This view is linked to similar dichotomous views of associated research methodologies that include quantitative and qualitative methods, deduction and

induction, experimental and non-experimental methods (Lapan, Quartaroli and Riemer, 2012). The intent of the research is to understand the impact of noncompliance on fast food restaurants. Such intent fits with the intentions, philosophy and strategies of the interpretive research paradigm which is based on the epistemology of realism (Van Esch et al., 2013).

With this type of research, Creswell (2013) suggests that as findings emerge due to the interactions between the researcher and the participants (i.e., fast food resturants), the research also progresses because subjectivity is valued. This acknowledges that the research participants are human and incapable of total objectivity because their reality is constructed by subjective experiences within certain situations (Yin, 2016). Therefore, the values held by the researcher, the questions asked of the participants and the generated and interpreted findings all allow the research to be value-bound. In choosing the interpretive paradigm, certain assumptions and perspectives need to be accepted. Communication and interpretation are considered cognitive and interactive processes that can be tacit and subconscious while occurring within a specific context.

The interpretive paradigm was deemed most suitable for the research due to its potential to generate new understandings of an emerging concept in the fast food industry, such as the concept to be investigated in this research. The practical knowledge that is embedded in the world of human interaction and meanings was sought as it was further justified and appropriate to investigate under an interpretive paradigm (Braun and Clarke, 2013).

The research was based on the interpretive paradigm, which advocates from a theoretical viewpoint the study of research participants' experiences which are taken at face value and behavior that stem from their experiences helps to describe the reality (Mikecz, 2012). The interpretive researcher sees each experience and situation as unique with its meaning being an outcome of the circumstances as well as the individuals involved (Silverman, 2011; Gubrium, 2009). The interpretive researcher should hold a view that a descriptive, diagrammatic or verbal model can be acceptable, (Denzin and Lincoln, 2011) constructed socially and given significance by people (Gary, 2011).

3.9 Justifications for Explorative Interviews as the Qualitative Technique for the Research

Explorative interviews are used as the qualitative research technique to explore in great details individual experiences, ideas, perspectives, views and situations with a small number of respondents (Roulston 2010; Seidman, 2006). Explorative interviews are often used in addition to other qualitative research techniques to provide context and understanding of new emerging data, offering a broader picture through exploring individual behaviours, experiences, opinions or thoughts. A constant view held is that an explorative interview is interactive between the researcher and the research participants (Roulson, 2010; Galvin, 2015). It has been suggested that explorative interviews assist in the creation of an affinity between the researcher and those being researched and are especially suitable to facilitate frank, honest and open responses as well as maintaining privacy which in turn may alleviate any fear of reprisal from any articulated opinions, views and/or statements (Olsen, 2013).

As with every data collection technique and/or method; explorative interviews have advantages and limitations. The primary advantages of explorative interviews include the ability to provide detailed information outside of other data collection methods and it provides for a relaxed atmosphere to collect data in a one- on-one situation (Gills, 2008). However the primary limitations of explorative interviews include, a process to bias which can occur when interviewees have an invested stake in the research project under investigation. Interviews can also be time consuming and labour intensive due to the requirements to make contact, conduct, transcribe and analyse the interviews (King and Horrocks, 2010). Also, the results are not generalizable because in most cases, smaller samples are chosen and random sampling methods which allow for representativeness have not been used (Kvall and Binnk Mann 2009).

As a data collection instrument, explorative interviews may be referred to as a discussion guide and will generally use a few very broad questions to explore in great detail the research topic under investigation. In addition to the broader questions, the researcher will use clarification and explore concepts and details to elicit and extend themes emerging from the interviewees' narrative (Roulston, 2010). For this to occur, the researcher will build rapport with the research participant(s), have flexibility with discussion guides and

the ability to use passive listening skills combined with non-judgmental verbal communication to follow-up questions in order to probe and extract extended and detailed responses. The researcher will control the data gathering process through exploring and ensuring the right questions are asked as well as giving feedback through both verbal and non- verbal means (Green and Salkind, 2011).

3.10 Quality of Data

The criteria for judging the quality of this study is based on social construction and constructivist criteria. The aim is to describe phenomena as accurately and precisely as possible in order to provide knowledge on how the "real world" is. Traditionally, the quality of research studies has been evaluated based on internal validity, external validity and reliability (Smith et al, 2013).

The goal of this research was not to statistically measure noncompliance, but to provide the understanding of a specific phenomenon. Traditional scientific research criteria do not provide an adequate framework for the judgment of the quality of this study. More suitable for the nature of this study are social constructivist research criteria that correspond to internal and external validity as well as to reliability. Researchers supporting this point of view are rather interested in a deep understanding of specific cases within a particular context than in the creation of hypotheses and generalization.

Social constructivist researchers have established a number of criteria for the judgment of qualitative studies: Credibility, as the equivalent to internal validity, is the extent to which the multiple realities of the people under investigation are accurately presented. Transferability, corresponding to external validity, is the ability of one manifestation of the phenomenon to a second manifestation of the phenomenon in a different setting. Dependability, as analogue to reliability, recognizes that two interpretations of the same phenomenon will never be identical and finally confirmability, analogue to neutrality and objectivity in quantitative inquiry, refers to what the data should represent "a logical set of conclusions, and to be non- prejudiced and non-judgmental renderings of observed reality" (Patton, 2015). Based on Smith et al, (2013), we can conclude that qualitative inquiry needs to focus on authenticity, e.g. avoiding biased questions and responses, or using informants to confirm assumptions.   As described earlier, this study recognizes the

different constructions of reality and thus the different perspectives of people regarding food safety.

The next paragraph discussed how quality was ensured in this study, according to social constructivist criteria, with a special focus on credibility and confirmability. (Paris and Winn, 2013) mentions rigorous methods as the most important element on which the credibility of an inquiry depends. The use of rigorous methods starts with the employment of systematic data collection during fieldwork, e.g. through interviewing as described before, and ends with systematic analysis strategies of the collected data. The latter includes what Paris and Winn, 2013 calls integrity in analysis; generating and assessing alternative explanations of the phenomenon studied.

This study primarily focused on data triangulation (comparing different data sources and points of view) and on theory triangulation (interpreting data from different perspectives). Quality was ensured through the use of systematic coding and pattern analysis as well as systematic data interpretation procedures, which enhanced the credibility, the confirmability and the transferability of the study. Pilot testing was done to guide and support the credibility of the study.

3.11 Data Collection - Population and Sampling

A population is defined as a group of individuals, with at least one common characteristic which distinguishes that group from other individuals (Best & Kahn, 2006). The population of non-compliant fast food restaurants in Jamaica would firstly, be too large for a study of this limited scope and secondly, too diverse to be able to generalise the findings. It is for this reason that it was necessary to have a target population. A target population consists of a specific group to whom findings might be generalizable. In this study, the target population was managers / supervisors from fast food restaurants that are non-compliant with food safety regulations in Kingston taken from the government data base of fast food restaurants. To solve the problem of size, it was necessary to select a sample from the target population that would form the basis of the research study.

A sample is a small proportion of the population that is selected for observation and analysis (Best & Kahn, 2006). For the purpose of this study, 15 out of 20 individuals were

chosen to participate in the interview based on convenience of their location, availability and willingness to participate. By observing the characteristics of the sample, one can make certain inferences about the characteristics of the population from which it was drawn. Probability sampling allows the investigator to generalise results of the study from the sample to the population from which it was drawn. Since generalisation in a statistical sense is not a goal of qualitative research, probabilistic sampling is not necessary or even justifiable in qualitative research (Merriam, 2009). Non-probability sampling is therefore the method of choice. Non-probability sampling techniques include convenience, volunteer, purposeful sampling. For this study, purposeful sampling is employed, as appropriate to research where the investigator wants to discover, understand and gain insight, and therefore must select a sample from which the most can be learned (Merriam, 2009). Patton (2002), cited in Merriam (2009), argues that "the logic and power of purposeful sampling lies in selecting information rich cases for in depth study.

Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry, hence the term purposeful inquiry". For this study, when choosing the participants for the interviews the following selection criteria were applied. Participants for this study included workers at the supervisory level or in management positions for 3-5 years in fast food restaurants that were noncompliant with government food safety standards in Kingston, Jamaica. The sample included males and females, full-time or part-time employees who were college graduates. The participants in the study were 8 males and 7 females who had over 5 years' experience working in the food establishment. These persons started out as line staff workers who upgraded their education/qualifications and as a result were promoted to supervisory/management positions in the company. These managers had qualifications at the college level (diplomas/associate degree) and have participated in several workshops and seminar on food safety, risk management and supervisory management.

This was an essential criteria as the aim of the study was to investigate regulatory compliance in the Fast Food Industry. The interview sample comprised of 3 managers from 5 fast food restaurants.

3.11.1 Sampling Procedure

The sampling method for the study was a convenience purposive sampling, because the participants of the targeted population were specific and fit for the purpose of the study, and did not depend on random selection (Coolican, 2014). Maxwell, (2012) added that in purposive sampling selected participants, settings, and activities provide information for the purpose of the study. The simple random sampling did not meet the needs for the study, because the selection of participants was not random. (Anthes, 2011; Coolican, 2014; D'Onofrio, Lahey, Turkheimer, and Lichtenstein, 2013; Olagbemi, 2011; Olsen, Orr, Bell, and Stuart, 2013).

Convenience purposive sampling allows the researcher to select a sample based on their availability (Coolican, 2014). The strength of the convenience sampling is that researchers can invite available participants to answer the research questions (Bernard, 2013). Convenience sampling does not involve biased awareness (Hall et al., 2013). Except that the weakness of this strategy is that participants may not represent the population (Bernard, 2013). Providing the right numbers of participants can generate better information results to support the research study (Chen, Luo, Liu, and Mehrotra, 2011).

3.11.2 Research Sample Size

Whereas quantitative research works with random probability sampling, there are no specific rules for the determination of sample sizes in qualitative research (Miles, 2014). Sample size rather depends on considerations of the researcher related to the purpose of the study, the usefulness and the credibility of the selected cases and, last but not least, on the available time and resources (Patton, 2015). Patton (2015) describes the different approaches of quantitative and qualitative research regarding sample size as a trade-off between breadth and depth.

Breadth vs. Depth - Quantitative instruments limit responses to predetermined categories by means of standardized questions. Hence, quantitative researchers are able to measure the reactions of many respondents and this way can increase data and breadth. On the contrary, qualitative studies generally permit the inquiry of only a few selected

cases, but in great depth and with attention to detail and context, thus enhancing the depth of the study. Whereas quantitative research will hardly be able to provide depth, the breadth or number of people that might be interviewed or observed in qualitative research is limited. Purposeful sampling, as used in qualitative research designs, is an approach towards sampling aimed at limiting this trade off (Miles, 2013). The sample size identified for the study was fifteen (15) individuals from a total possible sample of twenty (20) individuals as recommended by (Mason, 2010; Creswell, 2012, Guest, Bunce and Johnson, 2006; Francis et al., 2010), from 5 fast food restaurants (FSPID Data Base) that were noncompliant and located in Kingston, Jamaica. The sample size was considered appropriate to obtain enough data to sufficiently describe the phenomenon of interest, address the research questions and to give a better picture for analysis. The participants in the study were 8 males and 7 females who have 3-5 years' experience working in a fast food restaurant. These persons started out as line staff workers who upgraded their education/qualifications and, as a result, were promoted to supervisory/management positions in the establishment. These managers have participated in several workshops and seminars on food safety, risk management and supervisory management. In exploratory and interpretive research, the researcher collects data from sources directly related to or individuals that have had the experiences under investigation (Creswell, 2012).

3.11.3 Data Collection Technique – Interview

The interview can be described as a communicative process through which the investigator extracts information from a person or informant (Miles, 2013). The extracted information will be strongly influenced by the respondent, who acts and interprets his environment on the basis of his previous experiences. So every interview generates a subjective informative product shaped by the interviewees' experiences (Delgado and Gutierrez, 2007). Based on these considerations, it becomes clear that the goal of qualitative interviewing is to provide understanding of things that cannot directly be observed, such as feelings, thoughts, opinions, attitudes or behaviours of interviewees. Since qualitative interviewing is based on the assumption that the perspective of others is meaningful and knowable, entering into their perspective becomes a major objective for the qualitative researcher.

3.11.4 Interview Forms

Qualitative researchers have proposed different classification systems for interview types. Miles (2013), for example, distinguishes the unstructured field interview from the more formal structured interview working with a predetermined set of open ended questions. Callegaro (2013) provides a more detailed classification of open- ended interviews, differentiating three basic stages of interviewing: the informational conversational interview, the interview guided approach, and the standardized open-ended interview. The most important features of each interview approach are presented in Table 6.

Table 6. Approaches of Open-ended Interviews

The informational conversational interview	The interview guide	The standardized open-ended interview
Unstructured	Semi-structured	Semi-structured
Questions flow form immediate context: no predetermination of questions, topic or wording	The interview guide provides topics or subjects areas in advance, in outline form	The exact wording of questions and their sequence are predetermined
Conversational flow as major tool of fieldwork	Within the framework of the guide, the interviewer is free to explore, probe and ask questions	Each respondent gets to answer the same questions in the same way and in the same order, including standard probes
	However: focus on a particular predetermined subject	
Data gathered will be different for each person	Data collection more Systematic	Enhanced comparability of data

Source: Callegaro (2013).

All three formats have open-ended questions, meaning that the phrases or answer categories used by respondents are not predetermined, as this is the case in closed, fixed-response interviews in quantitative studies. What varies is the extent to which wording and sequencing of the questions that will be asked during the interview are predetermined. The format that was applied in this study was the interview guide approach, with the wording of the questions predetermined, but the sequence determined during the conversational flow. The advantage of this approach is that it makes data collection more systematic and ensures that certain topics and issues of interest will be covered (Callegaro, 2013).

3.11.5 Explorative Expert Interview

The interviews that were conducted can be classified as explorative expert interviews. Explorative interviews are unstructured or semi-structured conversations, which primarily focus on gathering detailed and complete information on specific topics or issues of interest. Their major goal is to obtain relevant information and opinions on the research topic. Broda (2006) cites this characteristic as the major criterion used to describe explorative interviews which are aimed at revealing unconscious motives and attitudes that are difficult to find out. Also explorative interviews focus more on the informational aspect (Broda, 2006).

3.11.6 Interviews in this Study

An interview guide specifies important issues and topics related to the formulated research questions that will have to be covered during the interview. In qualitative research, questions need to be open-ended, neutral, singular and clear. There are a number of different question categories, from experience questions to background/ demographic questions (Patton, 2015). The interview guide developed for this study mainly consisted of experience and behaviour questions as well as opinion questions. Part of the expert interview also focuses on so-called critical incidents in food safety. Critical incidents have far-reaching consequences – so for example a critical planning error can have important consequences for the quality of an action. The critical incident technique was particularly useful in finding out about the major challenges of fast food restaurants in food safety compliance (Buber & Holzmüller, 2007).

To collect data from the targeted population, the researcher used face to face explorative interviews (Callegaro, 2013). Participants for the interviews were pre- recruited (Bosnjak et al., 2013). The objective of the data collection was to determine the level of understanding of food safety requirements to meet government compliance among fast food employees. As well as to assess the risks to which fast food businesses are exposed by not meeting government regulations for compliance.

One advantage of using an explorative interview technique is that participants could express themselves in their own words (Callegaro, 2013; Albaum, Wiley, Roster and Smith, 2011). The interviews were conducted at a time when the participants were accessible, and at their convenience (Keough and Tanabe, 2011; Middleton, Bragin, Morley, and Parker, 2014).

Names of participants or companies were not recorded in order to protect their identity and confidentiality (Dodou and de Winter, 2014). The interaction with the participants was short and interviewees were not required to provide complete answers before moving on to other points (Middleton et al., 2014). Middleton et al., (2014) indicated that the format must appear brief and concise to avoid possible withdrawal from the process. However, participants could have withdrawn anytime or decline to answer the questions as was their rights (Gill, Leslie, Grech, and Latour, 2013). In terms of formality and structure, each interview was flexible in its approach, i.e. informal approach was adopted in the delivery (Downes-Le Guin et al., 2012). During the interview, questions were either omitted or used in a different order depending on the direction of the dialogue. Probes were at the discretion of the interviewer, who sought clarification when necessary, and the style of language was adjusted as needed. The face-to-face explorative interviews gave the researcher the opportunity to appropriately interact with the sample group, which in turn achieved quality outcomes from the interview, and the data collected was rich due to a high level of personal interest and response to the research questions from the interviewees (Smith et al., 2013).

Explorative interviews were held with three food service managers/owners each of whom were identified from five fast food restaurants located in Kingston, to determine

managers' perspectives regarding their role and reasons for non- compliance/unsafe food-handling practices. Food service managers were recruited from food service operations that had formal responsibility for the supervision of food preparation. An interview sheet with five questions was developed based on the objectives of the study with special emphasis on culture and current literature on food safety risks, compliance and regulations, food safety practices and attitudes towards food safety matters etc. The draft interview questions were pilot pretested for ambiguity, trustworthiness and credibility (Burnard, 2006).

The wording of the interview questions was chosen with great care, with particular emphasis on introducing questions, follow up questions, probing questions, specifying questions, indirect questions and structured questions (Saunders, Lewis and Thornhill, 2012). It was important to recognize that, although these questions were used to guide the process, qualitative method of data collection allowed the interviewer to establish the direction and exploration of areas the researcher might not have anticipated (Rosenblatt, 2012).

Before each interview started, participants were assigned pseudonyms – managers A, B, and C. The interviews were informal and open ended and carried out in a conversational style (Saunders, Lewis and Thornhill, 2012). The interviews were audio recorded, replayed for note taking and verification of information in conjunction with the field notes and transcribed to facilitate data analysis (Jacob and Furgerson, 2012). The interviews started with technical issues while sensitive issues were dealt with later in the discussions. The interviews varied with each interview and, required focus on the part of the researcher (i.e., interviewer) to ensure that all the relevant areas were covered. Even though the areas were covered in different orders and in different ways during the different interviews, each interview became a story in its own right. (Braunt and Clarke, 2013). The interviews lasted approximately 30 minutes each and were conducted over a two month period. At the end of each interview session a summary sheet was completed (Simon, 2011) with clarifications and additional details added to the notes (Kvale and Brinkman, 2009). Appendix 6.5 provides a summary of the interview data.

3.12 Research Data Analysis – Thematic

Bhattacherjee (2012) describes qualitative analysis as the analysis of data (e.g. data from interview transcripts) which is heavily dependent on the researcher's analytic and integrative skills and personal knowledge of the social context where the data is collected. However, in qualitative analysis, rather than explaining or predicting, sense-making must be the emphasized in order to understand the experience. For researchers using qualitative analysis, it is imperative to have a creative, ethical, investigative and participant-in-context attitude (Emmel, 2013). Most researchers consider thematic analysis to be a very useful method in capturing the intricacies of meaning within a data set. (Hammersley, 2015; Guest, 2012 and Gale et al., 2013).

A thematic approach to analysis was chosen as it involves analyzing data with little or no pre-determined theory, structure or framework and uses the actual data itself to derive the structure of the analysis. Inductive analysis is the most common approach used to analyze qualitative data (Leedy and Ormrod, 2010). As the name would suggest, a thematic approach to analyzing data results in themes being identified that are strongly linked to the data because assumptions are data-driven. This means that the process of coding occurs without trying to fit the data into a pre-existing model or frame thus making it highly suitable for this study.

While a variety of inductive approaches to analyzing qualitative data are available, the method of analysis - thematic content analysis is one of the most common methods in qualitative research (Guest, 2012). It emphasizes pinpointing, examining, and recording themes within data (Denzin, and Lincoln, 2011). Themes are patterns across data sets that are important to the description of a phenomenon and are associated to a specific research question. The themes thus become the categories for analysis. Thematic analysis is performed through the process of coding in six phases to create established, meaningful patterns. These phases are: familiarization with data; generating initial codes; searching for themes among codes; reviewing themes, defining and naming themes; and producing the final report (Gale et al., 2013).

This method emphasizes organization and rich description of the data set. Thematic analysis goes beyond simply counting phrases or words in a text and moves on to

identifying implicit and explicit ideas within the data (Guest, 2012). There is a wide range as to what a "data set" entails. Texts can range from a single-word response to an open-ended question or as complex as a body of thousands of pages. As a consequence, data analysis strategies will likely vary according to size. Most qualitative researchers analyze transcribed explorative interviews that can be up to two hours in length, resulting in several pages of transcribed data per respondent (Creswell, 2013).

Thematic analysis takes the concept of supporting assertions with data from grounded theory. This work is designed to construct theories that are grounded in the data themselves. This is reflective in thematic analysis because the process consists of reading transcripts, identifying possible themes, comparing and contrasting themes, and building theoretical models (Guest and MacQueen, 2012). Thematic analysis is also related to phenomenology in that it focuses on the human experience subjectively (Gill, 2014). This approach emphasizes the participants' perceptions, feelings and experiences as the paramount object of the study. This allows the respondents to discuss the topic in their own words, free of constraints from fixed- response questions found in quantitative studies (Onwuegbuzie, and Leech, 2007).

3.12.1 Data Analysis Procedure

Indigenous concepts, key phrases and terms used by the persons in the setting, very often form the basis for sensitizing concepts.

Planning is required not only for data analysis. Once data is collected in a qualitative research context; in the case of this study through explorative interviews, the researcher sorts and sifts them, searching for types, classes, sequences, processes, patterns or wholes (Patton, 2015). The aim of this process is to assemble or reconstruct the data in a meaningful analytical framework or comprehensive fashion (Jorgensen 1989: 107). In order to achieve such processing, raw field notes produced through tape recording or handwritten notes were converted into write-ups that represent a summary. This implies that qualitative researchers capture the key phrases most important to the respondents (indigenous concepts), and use those key phrases to build categories and to orient fieldwork (sensitizing concept). Although the analyst defines the categories, it still remains important how people actually experience and describe their reality (Patton, 2015).

Further analysis then includes theme identification in the interviews' context (Welman et al. 2005), where one needs to pull together and categorize a series of otherwise discrete events, statements, and observations (Charmaz 1983: 114). For the research project described in this thesis, coding is used to extract from the interviews aspects about the rationale of food safety compliance which is then presented in the form of thematic maps generated from the interview content.

The interview recordings were transcribed. The transcripts from each interview resulted in 2 pages of notes. After the review, the researcher signed off on themes and related codes and therefore data collection ceased. Additional analysis of findings from these interviews, and implications for food service management were assessed. Manual method of analysis allowed for enriched analysis and visual presentation of the relationships of the findings (Rettie et al., 2008). Each of the interview transcripts was used as the primary document (PD) of analysis. After the manual analysis of the transcripts was done, the document was reviewed to verify that all necessary information from the participants was analyzed by the researcher. Then the document was coded and reviewed. Codes were grouped in code families (categories); codes included in one family are conceptually related (Muhr, 1991). Hyperlinks were created by the researcher (based on the manual analysis) to show relationships in the data, and names were assigned to the links depending on the nature of the relationship by a set of predetermined categories, such as "relates to", "is part of", or "contradicts".

For this study the interview guide that was conceived constituted a descriptive analytical framework for analysis. The answers from different respondents were grouped by topics from the guide; however, since the sequence of questions differed from interview to interview, the relevant data was dispersed throughout the respective interviews.

3.12.2 Coding the Data

The most important instrument of thematic analysis is the appropriate coding of collected data (Saldans, 2015). Coding is the primary process for developing themes within the raw data by recognizing important moments in the data and encoding it prior to interpretation

(Nowell et al, 2017). The interpretation of these codes can include comparing theme frequencies, identifying theme co-occurrence, and graphically displaying relationships between different themes (Guest et. al., 2 016). It also includes the process of breaking down and reducing text into manageable units of analysis (Saldana, 2015).

The analyst, by reading over all collected text, first needs to identify key words to form meaning units, which can later be classified into categories. During this process of preliminary coding, when researchers are trying to identify those meaning units, they need to rely on textual or extra-textual criteria and also need to decide on an extensive or intensive strategy. Later on, in the process of identifying categorization units, the different levels of communication (semantic and pragmatic) play a major role (Delgado & Gutierrez, 2007). As part of the data analytical process, data that was semantic was identify by focusing mainly on the significance of the meaning of words/phrases in a literal sense. Therefore the meaning of a sentence or comment was considered without paying attention to their context. Attention was placed on the ways in which the meaning of words/phrases can be related to each other or their relations to synonyms and antonyms.

Data that was considered pragmatic was identify by focusing on their meaning with emphasis on the contextual clues surrounding the words or phrases. Intended or the inferred meaning was also taken into consideration. Therefore the context surrounding a word/phrase/scenario was filtered to pull out relevant pieces, compare them against experiences and use them to develop a deeper understanding of the context.

The analyst must constantly face decisions between convergence (what fits together?) and divergence (what to eliminate?) (Patton, 2015). Therefore, the approach to the data analysis in the research involved coding the data, looking for emerging themes and categorizing the data, further distilling of the data to identify any abstract themes that could be understood holistically. Special attention was placed on comparisons, implications and inferences (Coroning et al., 2008). Both manifest and latent coding techniques were used (Neuman, 2006; Saldana, 2015). Manifest coding was used to capture the frequency of words, sentences, phrases and actions that appear during the interview. However, because manifest coding cannot take the connotations or context of

a phrase or words into account, latent coding was used to capture particular themes, moods, context and implicit communication within the interviews (Neuman, 2006).The use of manifest and latent coding was supported by Neuman (2006) as both approaches strengthened the final result.

3.12.3 Analysis - Explorative

The data from the explorative interviews were used to bolster and probe further into the findings of the textual analysis and further distil any emerging or present concepts and/or themes (Van Esch et al., 2013). This approach of analyzing the data, gives the big picture from different perspectives and serves to complement and provide clarification to the data.   Due to the relatively small sample of fast food restaurants and the information obtained from each manager/owners varying considerably and in complex ways, it was used to develop an understanding of the respondents and developing themes with regard to the emerging and abstract findings of the explorative interviews (Tashakorri and Teddlie, 2010).

Findings from the interview analysis were used to draw meaningful conclusions and implications. However, due to research limitations and the type of research conducted, the findings may be limited to potentials rather than exacts that are often attributed to the outcomes of quantitative studies (Van Esch, 2009). Nevertheless, the approach, method and reflection provided a "logical, systematic and coherent resource for carrying out the analysis and synthesis needed to arrive at essential descriptions of the investigation" (Guen et al., 2009). It is the rigor of the method deployed on which the reader can rely for a sense of assurance in the findings.

3.13 Ethical Considerations and Limitations

3.13.1 Ethical Considerations

This relates to the moral standards that the researcher should consider in all research methods in all stages of the research design (Keough and Tenabe, 2011). To this end all researchers, regardless of research designs, sampling techniques and choice of methods, are subjected to ethical considerations (Keough and Tenabe, 2011). The research project

described in this thesis adheres to the ethical standards as stated in Edinburgh Napier University's Code of Practice on Research Ethics and Governance. The following ethical aspects were adhered to in the research.

The participants were fully informed regarding the objectives of the study, while they were reassured that their answers were treated as confidential and used only for academic purposes and only for the purposes of this particular research. The respondents' participation was by open invitation (Appendix 1). According to Keough and Tanabe (2011), a researcher must secure approval before conducting the study. Copies of consent forms were sent to fast food restaurants and participants to understand the process of data collection. The consent forms included the invitation to participate, purpose of the study, research procedures, and rights of participants to withdraw or decline the interview invitation (Beddall-Hill, Jabbar and Shehin, 2011).

The important issues of risks, benefits, privacy and confidentiality of the participants were also included. Copies of the letter of consent and confidentiality agreement are located in Appendix 2. Participants / respondents were not subjected to any risk of unusual stress, embarrassment or loss of self - esteem. Caution was taken to avoid any harm to participants in the light of sensitivity of the research theme concerning responses about food safety. Therefore the researcher ensured that participants / respondents would remain anonymous and right to privacy and confidentiality of information obtained was guaranteed by a written statement on the consent form. The research was conducted in accordance with the ethical requirement to report the findings in a comprehensive and honest way (Babbie 2004: 306).

The study participants did not receive any incentives, benefits, or penalties for participating or not participating in the study. For security purposes, the information / data collected remained confidential and safely secured with an encrypted password. In order to protect their identities participants were not required to give their names or workplace. Therefore, participants remained anonymous throughout the process.

Consent to tape recording was also obtained, and it was explained that the tapes will be destroyed on completion of the study. Participants were informed that the findings of the study would be written in a thesis and will be kept in the university library.

There could be perceived ethical concerns re the use of non-compliance information/data for use in the study. However participants were informed that the researcher has no contact or influence with the regulatory arm of the organization. Promises, appointments and agreements were kept as well as genuineness and consistency so as to ensure the integrity of the study. The consent process was observed and individuals participated freely in the research with full knowledge of any related risks or benefits. All participants in the study signed consent forms indemnifying the researcher. The establishment/individuals were specifically informed about the reason for the study, expected time line of the research and the procedures involved. It was made clear that it was only for academic purposes. The names of the company was not recorded instead the company /individual names was coded. Company/documents with identifying formation were enacted.

3.13.2 Limitations

Limitations are influences that the researcher cannot control. They are the shortcomings, conditions or influences that place restrictions on the methodology and conclusions. As with any research study, there are limitations imposed by the methodology adopted.

The research approach specified in Figure 3 is subject to a number of limitations. Some follow directly from the individual research design choices depicted in Figure 3: the choice of interpretivism as the overarching research paradigm implies natural limitations in many ways. Since this paradigm allows the researcher high levels of subjective assessment, the research findings inevitably depend on the individual researcher. Different persons may process the same data sets in different ways. Therefore, another researcher with an identical educational background to the author's may arrive at somewhat similar, but not necessarily identical conclusions when reproducing the same research design. In the same vein, the axiological choice of utility over the truth bears limitations. Since the proposed research design is aimed at a meaningful contribution to professional practice in the field of food safety, it does not come alongside reliable truth claims or a distinct theory contribution, as may be the goal of positivist researchers. The methodological decision to rely on explorative interviews comes at the cost of

limited representativeness (compared to quantitative surveys). Furthermore, the deliberate exploratory research mission entails that the empirically gained results cannot form a reliable basis for explaining existing phenomena or even for predictions. Further limitations arise from the national and cultural positioning of the empirical research stage. The fact that the empirical study is conducted in Kingston, Jamaica means that results are potentially biased by the local culture and traditions in addition the following limitations have also been identified.

The samples used in the research was small and indicates that these were convenience samples, because of this, they may not be representative of the population under study (Rosenthal and Rosnow, 1991). Inaccuracies/biases could be in the selection of the restaurants that participated in the study. In addition, given the high staff turnover that is associated with the fast food industry, the respondents were relatively new and thus lack in-depth knowledge about the food safety compliance issues of the company/industry.

Also basing the study on a larger sample size could have generated more accurate results, hence, the study does not propose an exhaustive description of the topic investigated. Five variables could be identified as the most important restrictions in sampling: limited time frame, financial restrictions, geographic restrictions, a limited number of interviewers, and limited access to confidential company information. The time frame for conducting explorative interviews was two months, with no budget available. Research was geographically limited to the regions of New Kingston Entertainment Zone and Sovereign Centre Shopping Mall in Kingston City.

Self-reported data – self-reported data is limited by the fact that it can rarely be independently verified. In other words people remarks are taken at face value. Also self-reported data can contain several potential sources of bias such as selective memory, telescoping, attribution and exaggeration, the data collection was done by the researcher, if this were done by an independent person maybe the respondents would be more open or the presence of the researcher could have influenced the responses.

There was limited time to complete the study, if the researcher had more time more data

would be collected thus giving a wider spread to the findings and conclusion. The limitations acknowledge the need for further study, 1ack of previous studies in the research area – a lack of literature on the emerging concept of the relationship between the dimensions of Government regulations and fast food restaurants in the management of risk. This may have affected the scope and objectivities of the study, the resilience on language to explain thoughts, views and opinions to explicate and synthesize the data during data collection, the adeptness of the researcher in learning the language, skills and underlying philosophy of the methodology, and in applying that methodology in a competent fashion and the researcher's ability being affected by fatigue in manually transcribing and analysing the data. In addition, the non-random and cross-sectional nature of the data suggest that the interpretation of the results should be limited to the groups examined at the time of the study. Therefore the results of the study cannot be generally applied to a larger population.

3.14 Summary

The empirical study of this thesis followed a qualitative research approach, based on the model of phenomenology. This model implied a focus on the lived experiences of the respondents forming part of the sample. By means of homogenous and emergent sampling procedures, 15 managers/owners of fast food restaurants were selected for semi-structured explorative interviews. Interviews were conducted with the aid of an interview guide that covered the major topics of the research questions. On the basis of the interview transcripts, a content analysis was conducted with the help of a systematic coding procedure. Quality was ensured through data triangulation and through the application of systematic pattern and content analysis. The next chapter will now present the results and discussions of the empirical investigation.

4 RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter documents the results/findings of the implementation of the research design specified in chapter three. The chapter concludes with a summary of the results and discussion. A total of fifteen participants were included in the interview sessions. Seven participants (47 %) were managers/owners of their own fast food restaurants and eight were managers (53 %) of a fast food restaurant chain. Each participant had over five years' experience managing a fast food restaurant. Each respondent has also worked in other areas of the food and beverage sector, including restaurants, catering, and dining services in hotels. The outcome of the process of analysis adopted in this study is presented in the following chapter which captures the input of different respondents (See appendix 7.4) to the coded issues. Analysis was performed by relating the findings to the research goals and by interpreting the results. Finally, a model is created which captures identified patterns.

4.2 Result Analysis / Discussion

From the manual analysis of the managers/owners interview data which are based on the quotations - codes were grouped into four themes: FSIs related Challenges; Operational Challenges; Staff Training; Roles of the Manager. Thirteen subthemes were associated with these key themes. The identified subthemes were business context; time constraint, financial constraint, attitudes of managers; managers as trainers, government training program, training methods; inspections; enforcing rules; skills and knowledge of FSIs; FSIs Relationships/Attitudes and FSIs feedback.

This more streamlined summary of the information illustrates the effectiveness of the data analysis, and as a tool to corroborate hand-coding of data, similar to the visual mapping method used by Bliss et al, (2012). With the use of manual analysis, information was more easily and efficiently grouped for analysis and interpretation. A series of themes and subthemes were identified, which allowed for a concise and clarified understanding of food safety issues represented within the experiences and contexts of the interview conversations. These themes and subthemes represented employees'

motivators or challenges with following safe food-handling practices as identified by the managers/owners. The following section will discuss each of the identified themes in detail.

4.2.1   Food Safety Inspector Roles/Related Challenges

The theme for FSI Roles/Related Challenges was associated with four subthemes. These subthemes are: FSIs Feedback; FSIs Relationship/Attitudes; Skills and Knowledge of FSIs; Inspections.   The Researchers' Visual Diagram below illustrates the theme and subthemes related to FSIs Relationship/Attitudes. The theme /sub theme FSIs Feedback is use as an example to demonstrate how the analytical process was conducted.

Researchers' Visual Diagram

Figure 4. Food Safety Inspectors Relationship/Attitudes
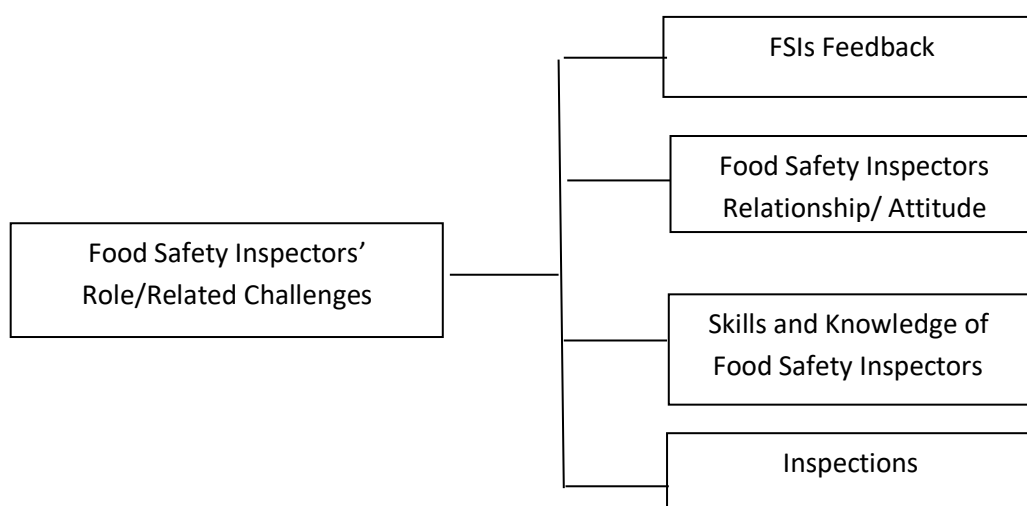
4.2.1.1 FSIs Feedback

Braun and Clarke (2006) provided a six-phase guide which was adopted as the framework for conducting the analysis. This framework includes becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining themes and writing up. This is arguably the most influential approach, in the social sciences at least, probably because it offers such a clear and usable framework for doing thematic analysis.

The goal of a thematic analysis is to identify themes, i.e. patterns in the data that are important or interesting, and using these themes to address the research or say something about an issue.

Step 1: Become Familiar with the Data:

The first step in the analysis was reading, and re-reading the transcripts. At this point the analyst becomes very familiar with the entire body of data (i.e. all the interviews). Also at this stage notes are taken and early impressions jotted down. The interview extract that forms this example can be found in Appendix 7.6. The interview extract was taken from an interview that was conducted with fast food restaurant managers in relation to FSIs feedback. The extract covers about 20 minutes of the interview.

Below are some early, rough notes made on the extract?

The managers do seem to think that feedback from FSIs is important but didn't always find it useful. There was sense that the inspection process, including feedback, could be seen as threatening and was not always understood. The managers were very clear that they want very specific feedback that tells them how to improve in a personalised way. They wanted to be able to discuss their business on a one-to-one basis with FSIs, as this was more personal. The emotional impact of feedback is important.

Step 2: Generating Initial Codes:

In this phase the data was organised in a meaningful and systematic way. Coding was used to reduce lots of data into small chunks of meaning. Each segment of the data was coded to capture something relevant to the research topic. Open coding was used; that means there was no pre-set codes, but codes were developed and modified throughout the coding process.

There were initial ideas about codes when step one was completed. For example wanting to discuss feedback on a one - to - one basis with FSIs was an issue that kept coming up in all the interviews, not just this extract and was very relevant to the research topic. The interview transcripts were worked through by coding every segment of the text that seemed to be relevant to or specifically address an issue. When this was completed codes

were compared and modified. By going through the process new codes were generated that sometimes modified existing ones. This was done by hand, working through hardcopies of the transcripts with pens and highlighters.

Step 3: Search for Themes:

As defined earlier, a theme is a pattern that captures something significant or interesting about the data. Braun and Clarke (2006) explain, there is no hard and fast rules about what makes a theme. A theme is characterized by its significance. In this case the codes were examined and some clearly fitted together into a theme. For example, several codes that related to perceptions of FSIs and feedback. This was collated into an initial theme called the Purpose of Feedback. At the end of this step the codes had been organised into broader themes, that is to say something specific about the data. The themes were predominately descriptive i.e. they describe patterns in the data relevant to the research.

Table 7 below shows all the preliminary themes that were identified in the extract, along with the codes that were associated with them. Most codes were associated with one theme although some were associated with more than one (these are highlighted in Table 7). In this example, all of the codes fit into one or more themes.

Table 7: Preliminary Themes

Theme : The purpose of feedback from FSIs Codes	Theme: FSIs. Codes	Theme: Reasons for using feedback (or not). Codes
Help to detect what is being done wrong, Enable determination whether of the question has been answered, Enable to judge whether question interpreted properly, Distinguish purpose and use, Help to improve inspection grade, Help to improve structure	Some FSIs are more approachable, Some FSIs give better advice, Reluctance to admit difficulties to FSIs, Fear of unspecified disadvantage, Unlikely to approach FSIs to discuss feedback, FSIs variability in framing feedback, Unlikely to make a repeated attempt, Have discussion with FSIs, Example: Wrong frame of mind	To improve inspection grade, Limit feedback, Didn't understand feedback, Feedback was focused on inspection grade , Used to improve grade, Distinguish purpose and use, Unlikely to approach FSIs to discuss feedback, To improve structure improve inspection grade, To separate inspection grade and learning, New priorities take precedence Forget about feedback
Theme: How feedback is used (or not). Codes	Theme: Emotional response to feedback. Codes	Theme: What managers want from feedback from FSIs Code Usable feedback explains

Read feedback, Usually read feedback, Refer to feedback if focusing on same area, Not sure feedback is used, Used feedback to improve compliance, Example: using feedback to improve food safety, Refer back to example that went right, Forget about feedback until next inspection, Feedback applicable to similar inspections, Feedback on food safety widely applicable, Help to detect what is being done wrong, Enable the determination of whether the question has been answered, Determine of the question has been interpreted properly, Identify purpose or use Experience: feedback focused on inspection, Generic feedback widely applicable	Like to get feedback, Don't want to get feedback if haven't done well, Reluctance to hear criticism, Reluctance to hear criticism (even if constructive), Fear of possible criticism, Experience: unrealistic fear of criticism, Feedback taken personally initially, Feedback has an emotional impact, Difficult for FSIs to predict impact, Managers variability in response to feedback, Want feedback in private as emotional response difficult to manage in public, Wording doesn't make much difference, FSIs variability in framing feedback. Negative feedback can be constructive, Negative feedback can be framed in a supportive way.	inspection grade and how to improve, Want feedback to explain inspection grade, Example- uninformative feedback, Very specific guidance wanted, More feedback wanted, Want dialogue with FSIs, Dialogue means more, Dialogue more personalised/ individual, Dialogue more time consuming but better, Want dedicated time for inspection grades and feedback, Compulsory feedback, Structured option to get feedback, Feedback should be constructive, Feedback should be about the work and not the person, Experience – feedback is about the work, Difficulties judging own work, Want feedback to explain what went right, Feedback should focus on understanding, Improving understanding improves grade. Want feedback in private as emotional response is difficult to manage in public.

Step 4: Reviewing Themes:

During this phase preliminary themes that were developed were reviewed and modified. At this point the data relevant to each theme was gathered. This was done by cut and the paste function in word processing.

For example, it was felt that the preliminary theme, Purpose of Feedback did not really work as a theme. There was not much data to support it and it overlapped with Reasons for Using Feedback (or not) considerably.

It was felt that the FSIs theme also did not really work. This related to perceptions of FSIs and interactions with them and it was also felt that it captured an aspect of food safety. A new theme was created - Food Safety Environment that had two subthemes: Understanding Food safety Expectations and Perceptions of FSIs. This seemed to better capture what the participants were saying in the extract.

The themes, Reasons for Using Feedback (or not), and How is Feedback Used (or not), did not seem to be distinct enough to be considered two separate themes. Rather it was felt that they reflected different aspects of using feedback. These were combined into a new theme Use of Feedback, with two subthemes, why? And How?

After reviewing the theme Emotional Response to FSIs Feedback it was felt that there was at least one distinct sub-theme within this. Many of the codes related to Perceptions of Feedback as a potential threat, particularly to self-esteem and it was felt that this did capture something important about the data. It is interesting that while the managers own experiences were quite positive the Perception of Feedback as potentially threatening remained.

To summarise, a number of changes were made at this stage:

• The theme, Purpose of Feedback were eliminated

• A new theme created - Food safety Environment that had two subthemes: Understanding FSIs Expectations and Perceptions of FSIs,

• Purpose of Feedback, Why Feedback is (not) used and How Feedback is used were collapsed into a new theme, - Use of Feedback,

• Feedback was identified as potentially threatening as a subtheme within the broader theme Emotional Response to Feedback. These changes are shown in Table 8 below.

Table 8: Themes at end of Step 4

Theme: Food safety Context.	Theme: Use of feedback.	Theme: Emotional response to feedback.	Theme: What managers want from feedback from FSIs?
Subtheme: Food safety expectations.	Subtheme: Reasons for using feedback (or not).	Like to get feedback from FSIs,	Usable feedback explains inspection grade and how to improve,
Unable to judge whether question has been answered,	Help to learn what you're doing wrong,	Difficult for FSIs to predict impact,	Example- uninformative feedback,
Unable to judge whether question interpreted properly,	Improving inspection grade Improving structure,	Manager variability in response to feedback,	Very specific guidance wanted
Difficulties judging own work.	To improve inspection grade,	Subtheme: Feedback potentially threatening.	More feedback wanted,
Subtheme: Perceptions of FSIs ,	Limited feedback,	Don't want to get feedback if haven't done well,	Want dialogue with FSIs,
Ask some CFIs,	Didn't understand feedback,	Reluctance to hear criticism,	Dialogue means more,
Some CFIs more approachable,	Feedback focused on inspection grade,	Reluctance to hear criticism (even if constructive),	Dialogue more personalised/ individual,
Some CFIs give better advice,	Use to improve inspection grade,	Fear of possible criticism,	Dialogue more time consuming but better,
Reluctance to admit difficulties to FSIs,	Distinguish purpose and use,	Experience: fear of potential criticism,	Want dedicated time for feedback,
Unlikely to approach FSIs to discuss feedback,	Improving structure improves grade,	Feedback taken personally initially,	Compulsory feedback ,
Unlikely to make a repeated attempt,	Can't separate inspection grade and learning,	Feedback has an emotional impact,	Structured option to get feedback,
Have discussed with FSI,	New priorities take precedence, forget about feedback.	Want feedback in private as emotional response difficult to manage in	Feedback should be constructive ,
Example: Wrong frame	Subtheme: How feedback is used (or not).		Feedback should be about the work and not the person,

| of mind,

FSIs variability in framing feedback | Read feedback/Usually read feedback,

Refer to feedback if doing same work,

Not sure feedback is used,

Used feedback to improve food safety, Example: using feedback to improve compliance,

Refer back to example that 'went right,

Forget about feedback until next inspection,

Feedback applicable to similar inspection,

Feedback on food safety widely applicable,

Experience: feedback focused on food safety,

Generic feedback widely applicable | public,

Wording doesn't make much difference,

Negative feedback can be constructive,

Negative feedback can be framed in a supportive way. | Experience – feedback is about the work,

Want feedback to explain inspection grade,

Want feedback to explain what went right,

Feedback should focus on understanding,

Improving understanding improves grade,

Want feedback in private as emotional response difficult to manage in public. |

Step 5. Defining Themes:

This is the final refinement of the themes and the aim is to '...identify the 'essence' of what each theme is about. In this analysis, what managers want from FSI feedback is an overarching theme that is rooted in other themes. Figure 8 is a final thematic map which illustrates the relationships between themes. Included below is the narrative of what managers want from FSIs feedback.

Figure 5. Thematic Map – FSIs Feedback
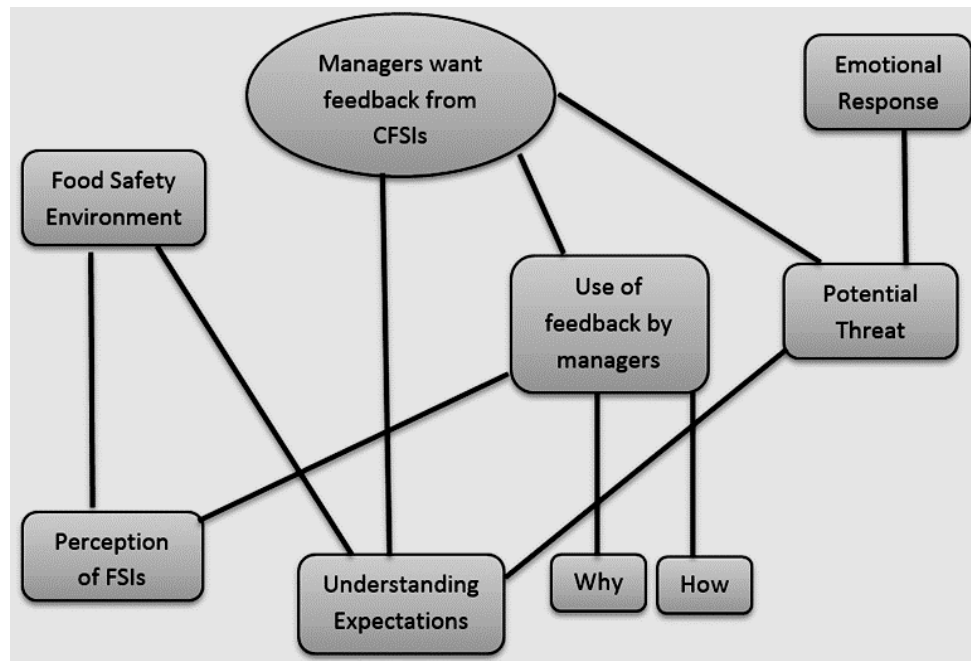
4.2.1.2 What Managers want from FSIs Feedback?

Managers are clear and consistent about what constitutes effective feedback and made concrete suggestions about how current inspections could be improved. What managers want from feedback is rooted in the challenges; understanding inspection criteria, judging their own work, needing more specific guidance and perceiving feedback as potentially threatening. Manager want feedback that both actions and offer specific guidance on how to improve their operations. They conceptualised these as inextricably linked as they felt that improving understanding would have a positive impact on food safety. Managers identified that they not only had difficulties in judging their own work but also how or why the inspection outcome was given. They wanted feedback that could help them to evaluate their own work.

Participants felt that they needed specific, concrete suggestions for improvement that they could use in future work. They acknowledged that they received useful feedback on the regulations but that other feedback was not always specific enough to be useable. Significantly it emerged that managers want opportunities for both verbal and written

feedback from FSIs. The main reason identified for wanting more formal and verbal feedback is that it facilitates dialogue on issues that may be difficult to capture on paper. Moreover, it seems feedback enables more specific comments on strength and limitations of food safety. However, it is also clear that verbal feedback is valued as the perception that FSIs are taking an interest in individual managers is perceived to 'mean more'.

For these participants, the ideal situation was to receive feedback on a one-to-one basis in private. Privacy is seen as important as managers do find feedback potentially threatening and are concerned about managing their reactions in public. Given this; they wanted feedback sessions to be formally scheduled.

4.2.1.3 FSI Relationship/Attitudes

The relationship between the managers/owners and the FSIs was found to have broad and significant impacts. As previously noted, the issues FSIs focused on during inspections correlated with the manager's understanding or focus in terms of food safety. The relationship with the FSIs also influenced managers' perception of the government, their efforts in ensuring compliance, and the likelihood they would engage with FSIs to resolve issues.

Interestingly, if a cordial relationship existed with the FSIs, managers/owners may be more willing to take a proactive rather than a reactive approach to ensuring food safety in their restaurants. This concurred well with research done by Cruz and Suanrez (2001) who found inspectors' relationships impact approaches to food safety.

Perceptions of FSIs were varied. They ranged from perceiving FSIs as uncaring to them being extremely helpful and diligent. The quotes below support these claims.

> *"We have had some really friendly officers come out and give us ideas about free training that we can provide to staff for their food safety supervisors course. One officer told us about the free online training."* (Respondent H)

"It all depends on the safety officer. There are friendly ones and there are unfriendly ones. Everything that he said ... we would try and do it. ... things that were hard to do he gave us very good advice. If there was something noticeable he ... give us some ideas on what to do to fix it. ... It was less time-consuming for us ... when he came back and saw that we had fixed it he was very happy." (Respondent M)

As is evident from the last quote, if FSI is friendly the managers/owners are more likely to ensure compliance. Not surprisingly managers/owners preferred the officers they perceived as supportive and understanding. Eleven managers/owners (Respondents E – O) noted that the FSIs wanted the same outcomes as they did.

The FSI are okay, they are after the same things as we are. We want a clean work environment. We want everything to move smoothly." (Respondent H)

"If everything is on track and right it makes it easier for the inspector to do their job and our job ... we stay on top of things. At the end of the day we know the inspectors are doing their job to ... and we do our job to keep people safe, it's good to have a good relationship with him that's."(Respondent F)

"Sometimes what the FSI tell me ... seems challenging at first, but after discussing it with my staff we usually comes up with ways of how to approach it. The last time the Inspector praised us for job well done." (Respondent L)

When a favourable relationship exists, managers/owners feel that they can engage the FSI in meaningful discussions to seek mutually beneficial solutions to more difficult issues. This accords well with research done by May and Wood, (2003) whose findings indicated that good relationships between inspectors and managers/ owners results in finding solutions to food safety problems.

"I have had a good relationship with the FSI. ...
Writing to him recently, seeking advice. He has always been there
to help us and support us. It has to be a partnership ... things can
go wrong. We want to do things right. ... open to discussing if
something is wrong and we can fix it so." (Respondent K)

If FSIs were seen to understand the business context and work with the restaurant, they were more likely to be respected and appreciated. On the other hand, a perceived lack of understanding of the business context by FSIs has negative impacts. This was articulated in the following quote.

"I think they understand what they study but they don't
understand what the people who work in the restaurant are trying
to do. ... Officers, don't understand that people work very hard to
keep the restaurant in good order. It can be very tough".
(Respondent J)

Some managers/owners believed that FSIs could be negative, trivial or always trying to find faults. This may cause stress and decrease the likelihood the manager/owner will be open about issues and seek help.

"Some of the things like moving the stove off the wall, cleaning
the vents that might have a bit of dust on them but not create an
issue for food can be seen as trivial". (Respondent D)

"I think the main thing is for inspectors not to come in with such
a negative attitude. ... They come in with an attitude of wanting to
help the restaurant instead of just wanting to beat down the
business. If you have a concern or worry about something in your
restaurant and the inspector is not helpful ... you're more likely to
try and hide an issue." (Respondent I)

"People get scared when inspectors come into your restaurant you know that everything will be wrong, nothing will be right, trust me!" (Respondent K)

Taking time to explain information appeared to reduce the possibility that the manager would perceive the regulations or the FSI conducting the inspection as burdensome. This is in keeping the new strategy suggested by FDA, (2012) –"Educate before Regulate"

"I think the FSI are okay, they give you time to be heard. They have tried to explain and spend time with us." (Respondent K)

All the managers/owners indicated a clear preference to have the same FSI inspect their restaurant each time because a relationship could be established and the FSI would have existing knowledge about the restaurant. While this may be good, on the other hand it may create a too familiar situation which can undermine the inspection process.

"For the last few inspections we have had the same inspector ... he remembers things and checks up on things that may have occurred during the last visit." (Respondent C)

"We have the same officer come in for all our checks. We know each other. It's all about the relationship. This ensured that there weren't any contradictions ... That inconsistency can be a problem in any industry." (Respondent G)

Purported inconsistencies were the most common concern expressed by concern expressed by managers/owners. Due to the perceived inconsistency between FSIs, a common perception regardless, of whether FSIs were highly regarded or not, was that they had personal preferences and opinions. Many managers/owners reported that different FSIs focused on different things and for some this could be very frustrating. Therefore, it was considered more efficient and effective for them if they could meet the expectations of a single officer, rather than having to meet the expectations of several officers who had varying foci.

"Having the same officer each time ... build up a relationship. That would be really helpful. Consistency in approach is really important so that we know that we are complying with, what we have to do, not just based on a personal preference of ..." (Respondent H)

"... it can become difficult is when you are dealing with the personal opinion of the FSI. ...to be compliant with the laws...have to bend to different officers opinions. There are some grey areas there that relate to the personal opinion of the safety officer." (Respondent I)

"In the past we didn't see the same officer each time. We have been given different advice about some things which can be very confusing." (Respondent A)

It is noted in the last quote that the second Food Safety Inspector may have adapted their advice based on the restaurant manager's indication that they did not want to use a particular product. However, the conclusion was that the manager was confused and therefore unsure of what to do which impacted his ability to comply.

There were also concerns raised regarding inconsistencies in how tough different FSIs are and the perception that different standards were imposed on different, often competing restaurants. Charlebois, Streling, Haratifar and Naing, (2014) reported that FSIs have been criticized for being a source of inconsistency, particularly regarding their levels of expertise.

"They send different people all the time, some are tougher than others ..., but we make sure everything is clean whenever they come." (Respondent C)

The issues regarding perceived inconsistencies are extremely challenging and complex.

However, it is noted that most of the situations revealed in the quotes above could be improved through additional communication.

4.2.1.4 Skills and Knowledge of Food Safety Inspectors

Ten of the managers/owners (Respondents C-L) generally considered FSIs as skilled and knowledgeable professionals. There seemed to be a general respect and recognition of FSIs' technical and regulatory knowledge. This is supported by research done by Berzins (2015) who indicated that inspectors' technical knowledge is important in a routine inspection program. As previously noted, managers/owners perceive FSIs to be more knowledgeable if they also demonstrate having a good understanding of the food industry and an appreciation of the issues and challenges faced by managers/owners. A FSI may be regarded as less skilled and knowledgeable if he/she is not able to provide customized advice regarding how legislation can be applied in a specific restaurant.

Communication skills were noted by the managers/owners to be the most critical skill of FSIs. For example, many of the perceived inconsistencies noted in the previous section may be the result of a lack of effective communication rather than actual inconsistencies. Buckley (2015) in his research on interactions between processors and inspectors indicated that communication skills are very important when dealing with food safety matters. FSIs are seen to be highly knowledgeable when they are able to collaboratively develop solutions with managers/owners that ensure the restaurant will be fully compliant and is responsive to the unique features of the individual restaurant. Being able to explain concepts and ideas in ways that are easily understood by the restaurant manager/owner also influences the manager's regard for FSIs. Conversely, FSIs who engage less with managers/owners are perceived to be compliance gatekeepers and are less likely to be viewed favourably. There is an expectation that FSIs will inform managers of what they must do, however there is also a recognition that if FSIs can communicate to managers/owners why they need to do something and the implications of doing so in the context of food safety, then they are more likely to adopt this behaviour in this business e.g. the difference between cleaning and sanitizing. Research done by Berzins, (2015); Buckley, (2015), voiced a desire for a supportive approach from regulators.

"I notice difference between younger and older inspectors…have more experience and tell you why you have to do things. The younger ones just walk…Young people need to understand that they have to tell people what they need to be doing and why." (Respondent F)

Effective communication can be extremely powerful in changing a manager's understanding and perceived importance of issues. For example:

"I remembered things mostly about microorganisms and then the inspector explained to me again how quickly microbes can grow and that it can cause people to die. That scared me a bit, but I did not really understand before she told me what a big problem it can be." (Respondent N)

The maintenance of technical skills is particularly important in identifying food safety risks in each restaurant and also when applying the legislation to individual restaurant contexts. Significant concern was expressed about the suitability, practicality and flexibility of the legislation by managers/owners, but when the conversations were analysed, it is noted that the concerns expressed relate to the interpretation and application of the legislation. The legislation is outcomes-focused and generally is flexible so that it can be applied in all food business contexts. However, FSIs need to maintain their technical skills /knowledge so they can work with restaurants to develop practical solutions that conform to the requirements of the legislation.

FSI communication was a key focus in the discussions with the managers/owners and whilst at times it was noted that communication was a barrier to compliance, it is also the solution to some issues. The ways in which FSIs communicate can influence food safety outcomes.

If FSI explains why a certain action should or should not be taken in the context of food safety outcomes and talks about food safety holistically and in terms the manager/owner understands, the manager/owner is more likely to think about food safety holistically as

well as recognize the FSI's expertise and consequently holds him/her in high regard. Other factors that influence a managers' respect for a FSI include the FSIs' ability to communicate in a way that demonstrates respect to the manager/owner and shows an understanding of the business context including the competing priorities and the numerous challenges they continually face. Berzins, (2015), indicated that all inspectors should emphasize the communication skills that their roles required and the importance of information sharing to achieve compliance.

The issue of perceived inconsistencies is currently a barrier that is adversely impacting the likelihood a manager/owner will trust that a FSI has advanced skills and knowledge and their level of respect for the FSI. There is growing evidence that effective use of interpersonal skills increases compliance (Pautz, 2009; 2010) Improved communication by the FSI may address perceptions of inconsistency by allowing an open and honest dialogue about the situation and highlighting any actual inconsistencies that regulators should address. The managers/owners in this study indicated that their respect for FSI and recognition of their expertise influenced their effort in ensuring compliance, the likelihood they would adopt a proactive approach to food safety and the likelihood they would engage FSIs to help them resolve issues. Numerous other factors, including the business' financial ability, time, the operating environment and competing priorities also impact these outcomes. However, it is important to recognize the significant impact FSIs' communication also plays in terms of food safety outcomes. This is a challenge for government FSIs who must then be able to apply their expertise across a complex and diverse food industry (FSPID, 2015). Moreover, FSIs need to develop ways of providing advice and identifying options without taking on responsibilities and liabilities that should remain with the manager/owners.

As noted above, when a FSI can explain why an issue is important in terms of food safety, they are viewed as knowledgeable, but they may be regarded as less skilled and knowledgeable if they are not able to provide customized advice regarding how legislation can be applied in a specific restaurant.

Several managers/owners in this study believed FSIs applied personal opinions to businesses. In these cases it appeared the manager/owner did not understand why something was important and how it related to food safety. Communication appeared to

play some role in the perception of the restaurant that personal opinion rather than professional judgement was at play. Sparrow (2000) notes that by the very nature of their work, regulators exercise judgement and discretion. FSIs have to interpret and apply outcome-based legislation to a variety of food business contexts. But the reality is that in some cases managers/owner will not agree with or appreciate the requirements imposed by the FSI. The FSI, therefore, has to have keen communication skills in order to be able to allow the manager/owner to understand that professional judgement, based on their interpretation of the legislation, is being applied (Baines, 2010).

FSIs' interpersonal skills can also influence the anxiety and stress felt by restaurant managers/owners during inspections. Some FSIs may be shocked to think that in doing their job, by simply being present in a food business, they are sources of stress and anxiety for some managers/owners. This agrees well with research done by May and Wood (2003) where they show that inspector skills and attitudes impact regulatory compliance. This is not the fault of any individual FSI, but highlights the pressure restaurant managers/owners are under. Importantly, a positive experience can reduce the stress and anxiety during that and subsequent inspections. A positive experience does not necessarily involve only positive feedback, but focuses on being constructive, helpful and working with the manager/owner. If government regulators fail to consider this issue, it will be difficult to develop a collaborative relationship and move forward on food safety issues. In practical terms, a person who is stressed is also less likely to be able to deeply concentrate on the information a FSI is communicating. There was a common concern in managers' feedback concerning the overarching importance of communications that echoed the views of Griffith. et. al., (2010) who stated that, 'food safety communications is a measure of quality of the transfer of food safety messages and knowledge between management, supervisors and food handlers'. There was collective agreement that communications in the food industry is critical for food safety. Insufficient communication may also lead to negative perceptions of a FSI (Ghezz and Ayoun, 2013).

4.2.1.5 Inspections

The impact of inspections conducted by FSIs was explored. The perceived value of inspections varied. Larger corporately-owned stores and franchises noted the FSIs are

qualified and have expertise, but their head offices remained the primary source of information and advice and inspections by head office were considered more important, mainly because their inspection is considered to be more detailed. Smaller restaurants were more likely to use the results of FSIs inspections to understand what action they needed to take to be compliant. However, smaller Fast Food Restaurant owner noted that inspections can cause anxiety and worry. As previously discussed, managers/owners often relied on the food business as their sole source of income to support their immediate and extended family and the fear of losing that income would understandably be stressful.

> *"Inspectors come and visit every six months ... it is stressful you always think something is not good enough. Normally we get through pretty easily. They have a look around they tell us to clean this ... we just do it. We have to comply ... and make sure everything is clean."* (Respondent K)

> *"We are probably due for an inspection soon, and it's always stressful. We just have to do what they tell us to do." "Sometimes I cry when he comes ... I sit outside and cry, it's very stressful and I was very worried."* (Respondent G)

A good experience during inspections can minimize the level of anxiety that can be felt by managers during an inspection. As previously noted, the focus of FSIs during inspections has a strong correlation with what fast food restaurants managers/owners believe food safety is or what is important for food safety. Similarly, wholesale food manufacturers in Colorado voiced "a desire for a supportive approach" from regulators (Berzins, 2015; Buckley, 2015) A strong focus on one or two issues during an inspection may effectively 'blinker' the manager to focus only on those issues, at the risk of ignoring others. For example, a single focus on cleanliness of a restaurant may lead a manager/owner to believe that achieving compliance is only dependent on keeping the restaurant clean, while there are other factors at the time that may prevent compliance. If the FSI were able to clearly explain to the manager the many inter-related aspects of food safety in the restaurant, it appears the managers/owners are more likely to view food

safety on a continuum of interrelated procedures. The focus of inspections described by managers/owners varied.

"It's been on the cleanliness of the environment and whether or not you comply with their regulations." "Just walked through and looked things over – looked at the walls and ceilings – nothing to do with the food I was preparing ...." (Respondent N)

"They have never looked at our food logs. ... Focus on equipment and the general upkeep of the restaurant. ... Whether or not this is because we've never had an issue or a complaint. ... all conversations with them have been in regards to equipment, extra dishwashers, sinks or signage it's never about ...." (Respondent K)

"... Is trivial stuff – like one time they were looking in the office and not in the kitchen? They were looking at ..., not the things that we thought they should have been looking at." (Respondent D)

Whilst to most managers/owners this may seem an odd thing for FSIs to be looking at, it is actually a good area for FSIs to inspect. In many fast food restaurants, the office is immediately adjacent to the kitchen, but is subject to less rigorous cleaning regimes. Consequently pests find this type of area very appealing to nest in and be around. It is quite likely that if pests are present in the office they will be entering the kitchen and may be a source of contamination. Therefore, the situation this manager described shows that the FSI was thorough and had a good understanding of pests and business operations. Unfortunately they failed to communicate relevant information to the manager. This resulted in a negative impression of the FSI and a lost opportunity for the manager/owner to learn something and to have them monitor the area regularly for signs of pests. It is also clear that enhanced communication would enable restaurant managers/owners to improve their understanding of why issues are important (Griffith, Livesey and Clayton, 2010).

"Some of the rules and regulations might be bit odd but obviously they are qualified and have done the training ...expect that they know what to do." (Respondent G)

"They do not tell us why they are looking at some things and not others. They just come in and don't really explain what they are looking at things for." (Respondent B)

In relation to the quote above, it must be noted that it is the manager/ owner responsibility to more fully understand the requirements of the regulations.

In response to areas of food safety compliance seen as trivial, bureaucratic or unrealistic, managers /owners responded in what they saw as a realistic way rather than a compliant way.

"The inspector ... I had to write down temperatures of food but we don't worry, it's okay. I check the temperatures, not usually with a probe, just rely on the cooking of the oven and make sure the display cabinet is at the right temperature."(Respondent D)

"They don't look at the big picture ....to always find something wrong. It's a good idea to keep an eye on food safety. There will always be some small things wrong. We have fly screens we have security doors we have air conditioning but we can't keep flies out and keep the place clean ....It's impossible." (Respondent L)

From comments like this it is clear that for these managers/owners, the practices of FSIs seemed at times not to demonstrate understanding of a broader context of running a restaurant in challenging circumstances. It is clear that FSIs need to consider the individual restaurants' context during each inspection. It was interesting to note during the interviews, most managers/owners knew approximately when the FSI was next due to return for an inspection. However knowing this does not impact their level of compliance.

"Twice a year they come, they were here in April, they will come back in three months' time and after that I will get a new license." (Respondent M)

Several managers/owners noted that generally inspectors were diligent. Inspections to ensure important issues had been corrected. Some managers/owners indicated that they would like prior notice of inspections and others felt more frequent inspections would be beneficial.

"... coming, give us some notice, they don't really understand what it's like when you have such a small staff group. The priority is on getting customers in and food out; other things can sometimes slip because of this". (Respondent L)

"...random checks would be a good, just to keep everyone on top of the game. ... Just walk in and tell us that they here for a health inspection we don't get any prior warning. If no one's complained it will be a general health inspection if someone has complained they will sit down with us and show pictures and notes and thoroughly discuss it." (Respondent G)

The approach to the prioritization of corrective measures to be implemented was that those that could affect the health of the consumers should be given priority treatment followed by those that were very conspicuous. All participants reported that they relied on the FSIs to advise them on the requirements for the attainment and maintenance of compliance. This was aptly described by one manager (Respondent M) "my inspector tells me exactly what is expected of me..." Participants identified double standard, bias in targeting establishments, inconsistencies, and lack of adequate monitoring by FSIs as inspectors-related barriers to compliance. These comments collaborate with research done by Chen et al, (2015) where it was indicated that FSIs themselves have been criticized for being a source of inconsistency regarding their levels of expertise.

Three interviewees (Respondent A, E, and J) reported that the issuing of closure notices, especially at the initial stages, increased compliance rates. As one interviewee reported:

"When you close them, at that time you will find that they comply, that's what they usually do." (Respondent A)

"... Should not have to wait until we get a citation for us to keep the restaurant clean. Keeping the restaurant means less chances of contamination…After three citations you are likely to be prosecuted." (Respondent E)

Regarding noncompliance, they noted that some FSIs did not do follow-up on a timely basis or that "... standards are not equally applied across the board. One interviewee indicated,

"There is too much leniency on the part of some Food Safety Inspectors."(Respondent J)

"It is rather unfortunate restaurants have to be closed for them to take food safety serious. Inspectors must follow up on notices." (Respondent A)

The focus of FSIs during inspections has a strong correlation with what managers/owners believe food safety is or what is important for food safety. By the regulatory nature of inspections, some FSIs may focus their final discussions on non-compliances, i.e. breaches of the food safety legislation, because these are the issues the restaurant must address. This practice has the potential to divert the manager's focus to the areas of non-compliance raised by the FSI, at the risk of ignoring other higher risk issues which were compliant at the time of the inspection. By inadvertently diverting the attention of the manager/owner from higher risk issues that the restaurant had managed correctly to lower risk non-compliances, the actual risk posed by the restaurant may increase. Therefore, how fast food restaurants inspections are conducted is very important in influencing how managers/owners carry out their duties while seeking to be compliant.

A review of inspection formats may be warranted to ensure that higher risk activities are

separated so as to remind FSIs to pay particular attention to these issues during inspections. The addition of a section to inspection preformats where the FSI identifies the highest risk issues for each restaurant may also encourage the FSI to have a more holistic discussion about food safety in the context of each restaurant, talking about high priority practices that the restaurant needs to maintain as well as the areas of non-compliance the restaurant needs to address. FSIs also need to ensure that they are not restricted by an inspection format to the extent that they ask questions that are not relevant to a restaurant, thereby reducing the manager's regard for them.

The results indicated that the lack of inspections and the difficulties associated with inspections is a cause for concern. Results from the data indicated that several managers/owners interviewed stated that they have challenges with FSIs. This situation has resulted in a negative attitude among managers/owners towards the authorities (Vanschaik and Tuttle, 2014). Respondent H, stated that "I think more attention is given to big restaurants and other facilities and inspectors are not as concerned with fast food businesses." The negative responses in the data show a significant finding as several respondents professed an unenthusiastic attitude toward the inspection process.

Some of the respondents accused FSIs of not following up on noncompliance issues. The results indicated that the lack of fast food restaurant inspections and the difficulties associated with inspections is a problem. Results from the data indicated that 60% of fast food restaurant managers/owners interviewed stated that they have yet to be inspected. Recent research has shown that the lack of official inspections of fast food restaurants is quite common (Mercer, 2017; Vanschaik and Tuttle, 2014). This precarious situation has evoked a negative attitude among managers/owners who have been trained, but then not held accountable for inspection by authorities.

This could have led them to conclude that the health departments were not serious about compliance. Similar findings were reported in the Auditor General's report (2016). FSIs charged with enforcing food regulations must demonstrate their seriousness quite unambiguously so that the wrong signals are not sent to fast food restaurants managers/owners, which could cause them to lose confidence in the regulatory process and undermine its credibility. Managers' forgetting to or not having the time to apply for

a license or to implement corrective actions is suggestive of the need for follow up and enforcement. FSIs must be mindful of this very important option in securing compliance among the deliberately noncompliant, lest they be deemed to be barriers to compliance as was insinuated. Fairman and Yapp (2005) indicated that simple precursory measures, however, such as providing managers/owners with a checklist and providing timely reminders about outstanding compliance requirements and deadlines would add value to the process.

4.2.2   Operational Challenges

This overarching theme has three associated sub-themes: the business context; time constraint; and the lack of financial resources as indicated in figure 6, Researchers' Visual Diagram.

Researchers' Visual Diagram.

Figure 6. Operational Challenges
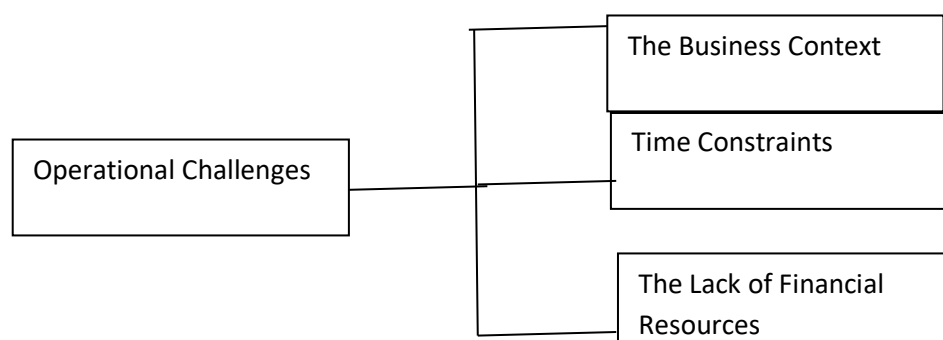
During the interviews, twelve of the participants (Respondents A-G and Respondents J -N) considered this code to be a major issue.

There is no doubt that the diversity of business contexts, particularly in terms of size, plays an enormous role in how food safety regulation is experienced. All the managers/operators (Respondents A-O) reported the challenge of grappling with competing and often complex priorities related to staff turnover, suppliers, meeting increasing cost burdens, providing high quality products and working long hours. These

agree well with studies undertaken by Lawrence, (2012) who found that these issues were external pressures affecting businesses. As such, some of the comments about the regulation of food safety were related to the broader picture of small business operation and the role of government in either supporting or hindering their operations. This concurred with studies done by the Small Business Service, (2000), addressing factors impacting small business survival in developing countries.

It is important to note that none of the interviewees suggested that food safety should be disregarded. Indeed, all the participants were cognizant of the importance of food safety. This confers well with research undertaken by Caswell (2013), who finds that persons working in food establishments share a great concern for food safety. Twelve managers/owners (Respondents A- L) indicated that there was strong agreement that food safety was important to business. Its direct relationship to the sustainability of the organization was described in very direct and personal terms.

> *"For a small fast food restaurant, food safety is very important for us. We take it very seriously as it can affect all aspects of the business."* (Respondent A)

> *"Food safety must not be disregarded. It must be at the fore front of everything we do. Proving safe food is number one."* (Respondent M)

A participant employed to large fast food restaurant also felt a strong level of personal responsibility in relation to food safety compliance.

> *"Head office – focus on food safety issues. They hold managers accountable, and personally responsible for all matters related to food safety."* (Respondent G)

> *"As a large chain, we are required to keep up with any changes in the industry even though this can be time consuming. Our company see food safety as one of our goals."* (Respondent D)

Large and small operations both required long hours with tasks and time being shared across multiple activities. For managers /owners, focusing on daily operations allowed for less time being devoted to administrative/management functions including food safety matters. This harmonies well with research conducted by Boodraj, Reid and Williams (2011) who investigated time constraints in global entrepreneurship, the results indicated that time constraint was a major impediment in completing assignments. Food safety practice potentially spans all of these dimensions of daily routines. The availability of time and the pressure to adhere to strict deadlines, particularly in fast food businesses, were raised as another common hindrance to proper food safety practices. This matches well with studies undertaken by Skeete, Boodraj, Kiddoe, Lawla, Peart, Myers (2008) on issues affecting businesses. The lack of time to correct infractions was highlighted as a factor inhibiting compliance as well as notably, this subtheme was highlighted by all the participants. Nine participants (Respondents B – G and Respondents L-N) shared that lack of time was a factor when attempting to maintain compliance with regulatory requirements and that it should be the government's responsibility to provide notification whenever regulatory changes are enacted. The sheer sense of tiredness and lack of time for small and large fast food restaurant managers/owners was a regular feature of their narratives as exemplified in the following quotes.

> *"Because there are just four of us in our restaurant and we work very long hours, we finish late at nights. We find the cleaning and closing down process at times very challenging. We are pressed for time to deal with food safety matters."* (Respondents D and F).

> *"Even though we are a large restaurant with quite a few staff, we still find it pressuring to keep up with food safety issues. We don't have enough time to keep up with all matters related to food safety."* (Respondent L)

Some small restaurant managers/owners found it difficult to understand all the requirements for establishing a food business and consequently relied heavily on the advice of FSIs. Such interventions assisted them in obtaining licenses and beginning

operations. Houghton, Van Kleef, Rowe, and Frewer (2006) posits that fast food restaurants often times are ignorant of the regulations associated with their activities. This also is in keeping with findings of research done by PIOJ (2011) on growth – inducement strategy for Jamaica in the short and medium term. This rewards obedience to the Food Safety Inspectors' instructions and may inadvertently be establishing a system where managers/owners become dependent on government FSIs to instruct them during inspections rather than proactively managing food safety risks. Another aspect of complexity and potential burden in meeting food safety requirements which relates to the operational context, is the potential challenge related to costly building repairs/renovations. There often challenges in complying with food safety regulations as other parties may hold significant positions of influence and control, as in the case of building repairs and renovations.

These concerns are similar to the finding of the Fair Trading Commission (2011) studies on the Examination into the Impediments to the Participation of (MSEs).

> *"Restaurants paying rent are forced ...regarding building repairs and renovations which often impedes progress in meeting compliance requirements. ... Meeting building code and food safety regulations can be challenging as requirements may be dissimilar and sometimes counter to each other."* (Respondents C and I).

> *"We also have to satisfy the requirements of the Fire Department, Building Codes, Ministry of Health and the Food Storage Division in order to be compliant."* (Respondents H and J)

All fifteen managers/owners interviewed noted that funds were limited and affected their ability to adequately address food safety issues, such as repairs to refrigerators. This accedes with studies undertaken by Planning Institute of Jamaica (PIOJ) 2010 Report, where it was indicated that lack of adequate funding can cripple the operations of small businesses. Fourteen (Respondents B-O) mentioned that proper working equipment was

important. In the discussion it was mentioned that food service food equipment must meet BSJ standards. According to the BSJ, modifying equipment would infringe on the BSJ standard as this can have food safety implications. Pest control, waste disposal and the purchase of cleaning chemicals are also affected. These constraints inhibited the managers' ability to correct regulatory infractions and to pay for requisite renewal of licenses to operate.

The need for financial resources was discussed by eight managers/owners (Respondents B – D and Respondents H – L) as a barrier to compliance. The quotes below support these views.

"We sometimes modify the equipment, especially when they malfunction, because we don't have the money to repair them." (Respondent B)

"Sometimes we are short on funds to call in the exterminators or even to pay for the collection of our garbage. When this is not done the restaurant is at risk of infestation." (Respondent C) *"... we sometimes we do the pest control work ourselves. Sometimes the treatment is not as effective as when the pest control company does it. They have the right spraying equipment and chemicals."*(Respondent F)

"We have food spoilage when our freezer breaks down because it sometimes takes a long time for repairs to be done due to shortage of funds." (Respondent H)

"Some of our freezers need changing, but right now the new ones are so expensive ...by next year in the new budget we can change maybe the two small ones." (Respondent G)
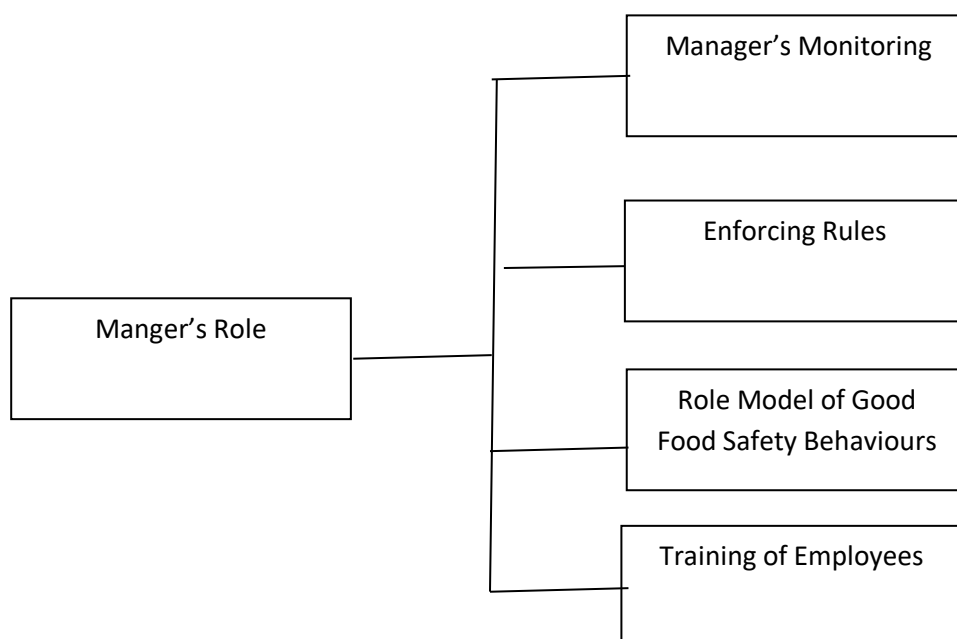
4.2.3   The Managers' Roles

Managers/owners viewed their role as significant and that without managers serving as a role   model   by   exhibiting   positive   attitudes   towards   safe   food-handling

behaviours, monitoring, enforcing rules and training employees; the safety of food served would be compromised. This coincided well with research done by Jaigarh and Puro hit (2013) who finds that manager' roles and functions positively impacted food safety compliance. The manager's roles as indicated in figure 7. Researchers' Visual Diagram shows the related subthemes.

Researchers' Visual Diagram

Figure 7. Manager's Roles

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                                    ┌─────────────────────────┐
                                    │   Manager's Monitoring  │
                                    │                         │
                                    └─────────────────────────┘

                                    ┌─────────────────────────┐
                                    │     Enforcing Rules     │
                                    │                         │
  ┌──────────────────┐             └─────────────────────────┘
  │                  │
  │  Manger's Role   │             ┌─────────────────────────┐
  │                  │             │   Role Model of Good    │
  └──────────────────┘             │  Food Safety Behaviours │
                                    └─────────────────────────┘

                                    ┌─────────────────────────┐
                                    │   Training of Employees │
                                    │                         │
                                    └─────────────────────────┘
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The attitude and behaviour of managers/owners were perceived by the participants engaged in this study to be critical in shaping and supporting employees' approach to food safety. Eleven participants (Respondents B-G and Respondents K- O) noted that the manager/owners should be the 'role model' for food safety standards.

Workers' attitudes may be negatively affected where the expectation of a manger is perceived as laid back.

> *"If the managers are more laid back, they will be more lenient*
> *with some things. You learn how far you can go and how far you*
> *can't with different managers. The attitude of the managers*

towards food safety is really important." (Respondent D*).*

Seven of the participants (Respondents A – D and Respondents J- L) indicated that they are responsible for monitoring and enforcing rules in order that the restaurant meets compliance. Two participants (Respondent J and O) indicated that when staff do not follow the rules, they run the risk of being terminated.

> *"On a regular basis, they inspect all work areas to ensure that the standards are being upheld and that all health and safety proced*u*res are being followed. Employees who do not observe the rules and guidelines are likely to be fired." (Respondent J)*

> *At my restaurant we are very strict on following rules. Everyone is encouraged to follow the procedure when cleaning the equipment. The cleaning log sheet have to written up, otherwise you get a demerit point. Overtime this can lead to dismissal."* (Respondent O)

The attitude of managers/owners towards food safety often impacts their employees' mind-set. Research has shown that positive management attitudes towards food safety give employees motivation to perform their job correctly for the safety of consumers (Nee and Sani, 2011; Angelillo et al., 2000; Ghezzi and Ayoun, 2013; Liu et al., 2015; Ko, 2013). In a study conducted by Clayton, Griffith, Price, and Peters (2002), it was discovered that managers/owners might be aware of good food safety attitudes but they do not display them. Two of the participants (Respondents O and H) in the study indicated that they sometimes display poor attitudes. Managers' attitude has been found to be a critical aspect of the food safety dilemma. Griffith, Liveey and Clayton, (2010) indicated that managers projecting a positive work attitude can become role models that others can emulate.

The managers/owners voiced an interest and willingness to train employees, as this is a requirement of their job. It was mentioned by ten participants (Respondents D – H and Respondents K - O) that managers are most suitable to conduct training once they themselves are adequately trained.

Management in most scenarios is required to train their employees in food safety. The ultimate responsibility of a fast food operation to provide safe food to the public rests with the manager/owner. The risk, as defined by Dillion and Griffith (1996), "the probability of an adverse event in conjunction with the seriousness or severity of that event", would be taken into consideration when to pass on proper training to employees. Businesses identified as a source of food poisoning outbreaks can suffer significant damage in brand identity and financial losses (Griffith, 2000). Therefore, it seems unlikely that management would risk their business and reputation with an unfortunate foodborne illness outbreak. Fast food managers/owners are also responsible for passing inspections by their governing authorities and the local health department. Passing on appropriate food safety training to employees would be a proper strategy to avoid a failing inspection. It is was strongly expressed during the interviews that using manager as trainers was a good idea. The following quotes reflect this position.

"Managers are good at training. … A manager may be in a better position to put him or herself in the shoes of different people. Positive impact on training and staff morale." (Respondent E)

"Managers, because of their different backgrounds and experiences have the opportunity to detect and try out new things. They can put the individual at the centre and may also emphasise emotional aspects as trainers." (Respondent B)

All of the managers/owners had received some level of semi-formal or formal training in their employment. Mixed modes of training provision were identified ranging from being provided written information, online training, formal staff presentations, watching instructional DVDs and on-the-job training. Some participants had completed a certificate in food safety through the Public Health Department or other training organizations. This exposure to food safety knowledge makes it quite suitable for managers to provide training on a continuous basis in food safety compliance.

It was felt that using managers/owners as trainers would raise performance standards and improve staff morale as they are familiar with staff training needs. Managers/owners delivering the training must have a background in food safety, relevant experience in the food industry, knowledge of how people learn and training skills. One benefit of having an in-house trainer is that they can support and encourage the transfer of knowledge in the workplace. This accedes well with research undertaken by Medeirosa et.al, (2011) who found that staff benefits more from in house trainers.

4.2.4 Staff Training

Provision of staff training was well expressed by all the managers/owners. The term training is used broadly in this discussion and may include formal training through an educational or training organization, formal training in a workplace or on-the-job instruction. Food safety training has been identified to increase proper food handling practices within a foodservice operation (Kassa, 2001). According to Singh (2004) and Nieto-Montenegro, Brown, and LaBorde (2008), for management to ensure there is an execution of training activities that have been taught, someone must be assigned to supervise these activities after the initial training. A report conducted by Hedberg, Smith, Kirkland, Radke, Jones, and Selman (2006), stated that food service establishments that provide food safety training to their employees have less risk of causing food-borne diseases.

Themes associated with food safety training are identified below in the Researcher's Visual Diagram figure 8.

Researcher's Visual Diagram

Figure 8. Staff Training
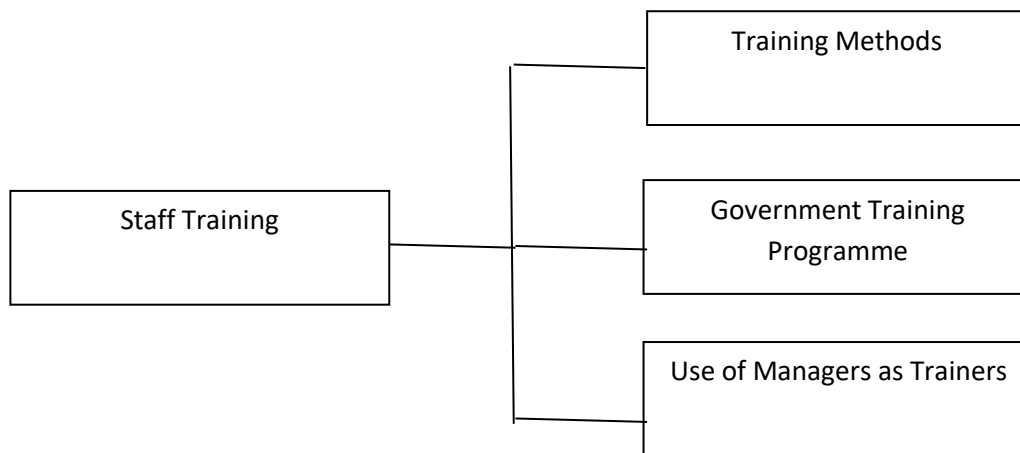
All the managers/owners (Respondent A-O) reported that they could not train others unless they themselves had been trained appropriately. The participating mangers/owners stated that it was not their duty to keep up to date with training. Four participants (Respondents D, K, J and O) mentioned that it should be up to the government to provide notification as to when training for certification is necessary, and when to attend appropriate training initiatives. All fifteen participants indicated that time was as a hindrance when trying to keep up with training requirements. It was mentioned by two managers (Respondents H and K) that having a smartphone or tablet application would be something that they could incorporate into their training. Research done by Fenton, LaBorde, Radhakrishna, Brown, and Cutter (2006) on the use of computers in training agrees with this suggestion. Five managers/owners (Respondents C-G) stated "time is valuable since everyone has a smartphone or tablet; it makes sense for us to have an App. That would make life easier; "they could log on, take the exam and finish". Time was discussed and was determined to be a major issue. Managers related that utilizing Food Handlers Certificate was a hindrance, stating that it was time consuming and could take a whole day.

Recertification was viewed as an important aspect of training, and that maintaining an up to date certification is important in a fast food restaurant business. The use of computer programs as a training method has been found to be positively associated with higher food safety knowledge (Fenton, LaBorde, Radhakrishna, Brown, and Cutter, 2006). Research by Bowman (2002), also maintains that active participation in the learning or training process will yield greater retention.

"I agree that once we take the required training then government officials need to inform us when to do it again." (Respondent K)

"...the day class that Public Health puts on is time consuming its losing a whole day." (Respondent O)

"I wish we have an app, this would make training much easier. We could study food safety materials from anywhere. Also we could download the regulation, so when we are not sure of something we could easily check it out." (Respondent M)

In addition, managers/owners focused on the communication methods used for training, giving examples of positive, memorable food safety messages and pointing out that communication must be continuous and methods varied (e.g. written and verbal communication) in order to keep the information fresh for staff. All fifteen respondents voiced the need for continual training and retraining of employees on food safety principles because, without this, managers could not be effective. It is also a requirement mandated by government agencies.

The managers/owners interviewed recognized that training of employees was crucial; and if employees were trained in food safety, this would help the restaurant to be more compliant. Managers/owners indicated that they saw the benefits of using new technologies for training. For example, access to the internet gives trainees access to a broad range of resources to search for food safety information in different ways, which in turn can increase their engagement. Research by Rocheleau (2017); Mercer, (2017), supports this position based on their findings of the use of technology in training. They also noted drawbacks to using such new technologies, for example, if an employee has questions there is no on the spot correction or instructor to assist the employee. They also spoke to the methods of training; group versus individual training. Most of the interviewees indicated that both group and individual training were necessary. Various methods of training, such as role play and shadowing were some of the examples given to assist managers/owners in the training of employees. Active training

methods such as role- playing and one-on one instruction force the trainee to actually do something, as opposed to just sitting and listening to someone lecture. Fanning (2011), also acknowledges that engaging and active training strategies are successful methods in the retention of k n o w l e d g e . According to DiPietro (2006), in-class training has an advantage in food safety training because it brings many people together at the same place but, in-service training allows the trainee to see what is taught as they work, allowing them to engage during the process (Medeirosa et.al., 2011). MacAuslan (2001) and Sprenger (1999), suggest that food hygiene courses should be shorter and more focused on the needs of the participant.

> *"Training methods such as the use of a manual to study, shadowing, role playing, the use of computer software programs and one-on-one instruction are predictors of higher food safety knowledge and compliance."* (Respondents M and O)

The data indicated that managers/owners utilize a variety of training strategies such as shadowing, one-on-one instruction and a manual to study in addition to the national programs. The respondents related that these methods were the most user- friendly and present the most convenient means of completing the process. Research by Bowman (2002), maintains that active participation in the learning or training process will yield greater retention. Fanning, (2011), acknowledges that these types of training strategies are successful methods in the retention of knowledge, since they all provide a setting in which the learner can "see, hear, say, and do".

Active training methods such as shadowing and/or role playing, and one-on one instruction force the trainee to actually do something, as opposed to just sitting and listening to someone lecture. Role playing was discussed as a successful training strategy. In the interviews managers/owners discussed how they implement this strategy. For example, a manager could take on the role of an inspector and create a scenario in which they conduct a walk-through inspection with a trainee. Managers/owners also discussed the importance of utilizing the role model technique before the start of each shift. Performing the technique prior to beginning a shift brings greater awareness and reinforcement in the execution of safety practices by the employees. This agrees well

with research done by Medeirosa et.al. (2011) on the effects of different teaching methods learning techniques e.g. role play. This research indicated that role playing was very effective in enforcing knowledge. In this form of training, direct communication engages the trainer and trainee. As the trainee is given instruction, immediate feedback allows the trainee to determine if they are correctly performing the activities. Employees are able to ask questions and a direct dialogue builds reinforcement of the subject matter. Respondents stated that they train their staff utilizing these techniques. In this way, they may teach their employees the exact manner in which things are to be done.

Additionally, participants used visual aids to emphasize and reinforce food safety awareness and practice with their employees (Vanschaik and Tuttle, 2014). Fourteen of the participants (Respondents B – P), strongly agreed that the use of visual aids was important in helping their employees stay focused in their food safety practices. The use of visual aids were also discussed in all of the interviews. This brings into focus the importance of their use. In a restaurant setting, visual signs stating that employees must wash hands is a requirement and must be in view of all employees (FSPID, 2015).

"Pictures can remind staff of what to do, they also visualize handwashing." (Respondent K)

"In all our restaurants, the company ensure that posters are up with food safety tips. … Wash hands after using the bathroom, don't come to work if you have a cold. … With Dos and Don'ts in all the different section of the kitchen and some rooms." (Respondent C)

From the feedback provided by the managers/owners it was evident that the method, level, quality and timing of information and the frequency of training received varied significantly from restaurant to restaurant. From this study it appears that larger restaurants or franchises tend to offer more formalized training and smaller privately-owned businesses are more likely to offer on-the-job training with very little opportunity for ongoing training. Participants indicated that in most cases a manager, team leader

or boss would provide some initial training or on-the-job instruction. However, in small restaurants any additional training or on-the-job support that was required would mainly be provided by other peers/staff.

> *"Managers do not have time to train all the time, so new staff;*
> *they're thrown in the deep end and told to ask the other staff.*
> *That's hard when you still have your job to do as well."*
> (Respondent E)

> *"You would learn as you go from other employees that work there, not*
> *from the boss."* (Respondent I)

Training is considered to be a necessary element in the prevention of foodborne illnesses. Several factors contribute to the spread of foodborne outbreaks by food service workers. Among these factors are improper practices and the low level of knowledge of service workers (Sharif, Obaidat, and Al-Dalalah, 2013). Angelillo, Viggiani, Rizzo, and Bianco 2000), point out that food handlers need training and education because of their low knowledge concerning microbiological food hazards cross-contamination, proper temperature, and personal hygiene. The majority of foodborne illness outbreaks originate in foodservice establishments (Olsen, Mackinon, Goulding, Bean, & Slutsker, 2000). In a study in California, critical risk factors (poor hygiene, improper temperatures, unsanitary food handling practices), were observed while in operation (Vanschaik Tuttle, 2014). The growing number of fast food restaurants around the country may and contribute to a weakened food safety environment.

When staff is well trained they usually have a better understanding of food safety issues and compliance requirements. Therefore different methods of training are very important given the fact that people learning styles are different. Therefore the retention of food safety information will vary and in cases where there is a delay in learning compliance maybe delayed.

All Managers/owners indicated that they would like government to provide some form of food safety training. There are many benefits that would result from this including

more control over the quality, accuracy and consistency of the training. The Public Health Department tends to provide either introductory food safety training or highly advanced training. There may be an opportunity for government to provide mid-range training aimed at fast food restaurant managers/owners. Such training could include more advanced, but not too advanced, information and discuss the role of managers/owners in setting the business culture in relation to food safety compliance. It may also be constructive for government to review existing training programs to ensure the training is practical and it uses scenarios to allow participants to apply what they learned, as described by all the interviewees. Consideration should also be given to including content that will help food handlers, particularly young people, develop the skills and confidence needed to address food safety issues on a daily basis. All of the participants indicated that they preferred if government training programs could have an element of on the job practical learning as it allows "opportunities to apply knowledge in practical settings". When training was accompanied by sound explanations as to why certain practices were considered important, the managers/owners indicated that they would be more likely to apply the knowledge on the job.

Rennie (1994), suggests that improvements in food safety practices could be increased if the training activities implemented, are associated with a physical and social environment that supports the application of appropriate food handling behaviours. The results of a meta-analyses of food safety training on hand hygiene knowledge (Soon, Baines, & Seaman, 2012), confirmed the benefits of efficacy of food safety training for increasing knowledge and improving attitudes about good hand hygiene. The same study determined that managers should emphasize the positive outcomes of hand washing while creating an environment that encourages hand washing through the display of posters and reminders. The Soon et. al. (2012) study, recommended that management should practice positive role modelling as a contributor to a safe food service. Malhotra, Lal, Krishna, Prakash, Daga, and Kishore (2008) suggests that training in food service workplaces should be an on- going process, with periodic assessments in order to support the implementation of food safety practices.

This was considered important in being able to retain knowledge necessary to perform their tasks. It was also suggested that if the government training was more hands on it was

less likely to be perceived as boring and irrelevant. An opportunity for follow-up training appeared to be limited and is mainly confined to larger establishments or when new products were introduced in the food industry.

> *"... If training was ongoing or had follow-up... I would be able to retain it a lot more. I'm sure there is stuff I don't remember. ... more of a long- term program it would be more effective."* (Respondent N)

> *"To keep up to date we need more training sessions but not for an entire day. Make short sessions regularly. This is necessary since restaurants tend to have a high staff turnover."* (Respondent E)

Each participant acknowledged that they have had prior food safety training. While participation in an accredited program is important and fulfils many government requirements, only five participants (Respondents A, B, E, G and J) took an examination to finish the program and test their knowledge retention.

4.3   Summary of Results and Discussion

This chapter concludes with a model presenting a combination of the four codes and the thirteen related sub-themes generated from the explorative interviews. Figure 9 presents this model in a visual representation

Figure 9. Model Presenting a Combination of the Four Codes and the Thirteen Related Sub-themes
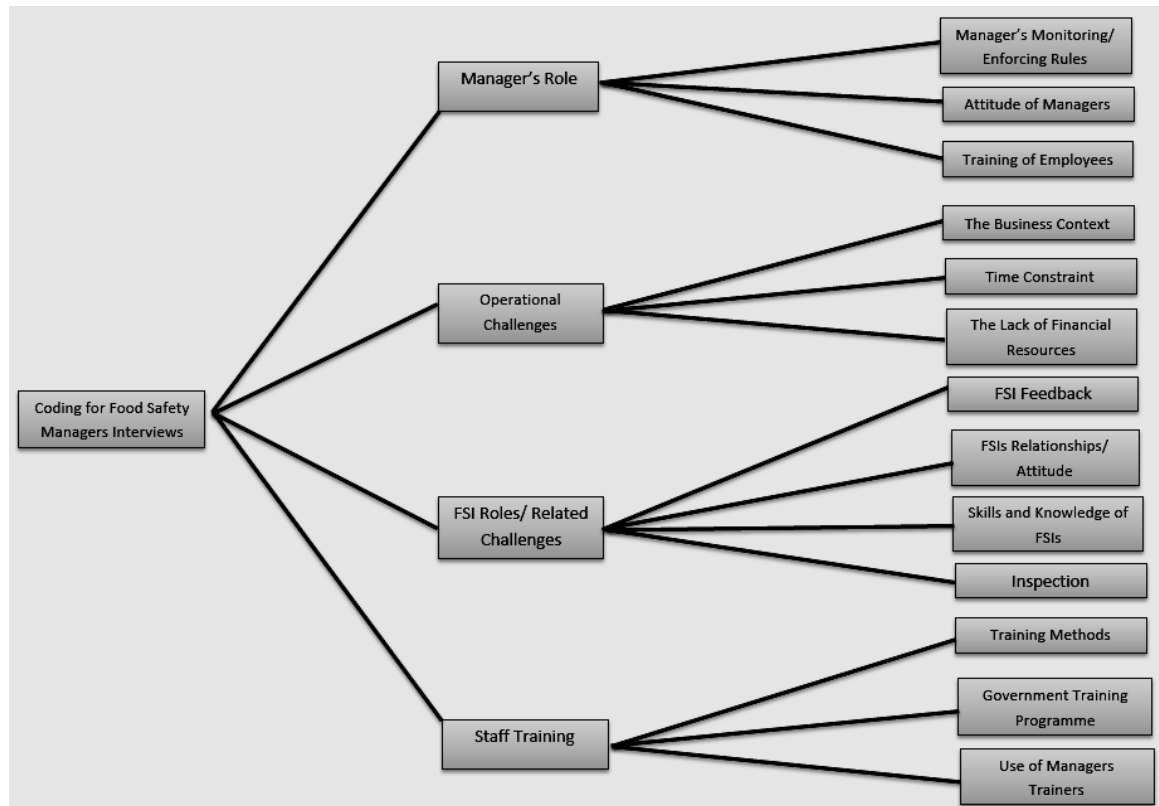
The fast food sector of the Jamaica food service industry continues to grow. This means food service shows no signs of slowing down as it has become quite popular (MIIC, 2016). Few research studies have been conducted with regard to food safety in the Jamaican sector. Past studies have pointed out the need for improvement in food safety practices, and greater resources to conduct inspections to safeguard the public (Vanschaik and Tuttle, 2014; Ghezzi and Ayoun, 2013). The fast food industry cannot be overlooked and, in fact, food safety in this sector has been recognized as a serious concern (Woolhouse and Rocheleau, 2017).

While FSIs are designated to monitor food safety in fast food restaurants, the infrequency of such visits leaves compliance to managers/owners whose focus on food safety is often secondary to sales. Given that we cannot rely on periodic FSIs' visits to reduce food safety violations, greater manager/owner accountability for employee non-compliance

and an increased emphasis on employee education could help fast food restaurants minimize threats to public health. Regarding the value of compliance, managers/owner thinks it is good for the business and the consumers. Some indicated that complying gave them self-satisfaction and confidence to conduct business with pride, as compliance was deemed an asset in attracting customers.

The findings enable a deeper understanding of how FSIs influence food safety outcomes. However, it is emphasized that this depth was achieved by engaging a small sample size. Therefore, like all qualitative research, it was not intended to provide definitive generalizable findings. The key findings of the research include: The fast food restaurant managers/owners who participated in this study believed food safety is important and indicated a willingness to comply with food safety laws. These beliefs can be positively harnessed by the government. A key theme of the findings is the need to better conceptualize a synthesized food safety practice which brings together regulation and health promotion. In particular, compliance needs to be positioned as one tool among many for attaining the outcome of high standards of food safety. The term compliance has multiple meanings. It was found that many fast food restaurant operators/ managers believe they are compliant if they obey the instructions of FSI after an inspection. But government typically view compliance as ongoing adherence or conformance to the food safety standards (FSPID, 2015).

The research results also indicate that there are several areas that managers need to consider in order for employees to follow safe food-handling practices and regulations. The importance of training to encourage and improve food safety practices in the workplace was evident. Managers also identified the need to improve their training effectiveness and readiness; Findings suggest a gap exists between FSIs' food safety knowledge and their ability to communicate this information to managers /owners. The need for concise, customizable, visual food safety messages and communication resources for managers/owners is clear. Results also show that manager's time constraints inhibit the ability to carry out safe food practices.

Several factors are linked to whether food safety compliance is achieved. These include managers and staff, food safety and restaurant procedures. A lot of effort is placed on

food safety training, but responses by managers /owners show that training alone is not enough to ensure food safety compliance. To be successful, food-safety programs must do more than give training. They must also address the full range of factors that affect food-handling practices.

Effective use of interpersonal skills such as communication, patience, empathy, respect and considerations are among core inspectors' competencies that appear to improve compliance. This study results support findings in other sectors that suggest interpersonal interaction shapes regulatory outcomes. The results also improve the understanding of the practice of compliance assistance in food safety regulation enforcement.

Our modern world is technologically driven. It is not surprising that a general consensus from the data is that more computer based formats should be used in the training of fast food employees. The results indicated that computer software programs can positively influence learning. The participants expressed that the use of computer based formats would extend greater convenience and save time as they instruct their employees. An online app would be an efficient means for food service employees to download and use for training (Woolhouse and Rocheleau, 2017; Mercer, 2017).

The present study discovered that routine inspections in the fast food industry needs to improve, in fact some respondents in the study stated that they have yet to get a follow up visit from health officials. Routine inspections are necessary in order to protect the general public from health risks. A lack of routine inspections may put consumers at danger as restaurants that are noncompliant continue to sell food to the public. An apparent lack of fast food restaurants inspections in the industry is quite significant and investigations should take place to determine the root cause of this situation.

Interestingly, some respondents inferred that some FSIs were themselves barriers to compliance describing their recommendations as unreasonable, inconsistent and expressed their lack of understanding of them. Managers/owners should be encouraged to procure the regulations and understand the requirements for compliance and reduce their reliance on FSIs.

The results of the study indicate a definite need for improving food safety knowledge by those involved in the fast food sector. Protecting the public from foodborne illness should not be taken lightly, and every effort should be considered to maintain a safe environment. The results of this study are also in accordance with other studies that have addressed the food safety issue, that there is an acute need to improve food safety knowledge and practices in the food industry (Webb and Morancie, 2015; Angelillo et al., 2000; Samapundo et al., 2015; Liu et al., 2015; Ko, 2013).

Generally the results provided answers to the research question as it outline managers' role in mitigating the risk of contamination and also identified some of the factors that can impact compliance. Although the majority of the participants in the study acknowledged that they have been trained, they still express a clear desire for continuous training in order to maintain their competence ability. Overall, managers/owners did express that practicing proper food safety was an important aspect of their job, and a positive attitude toward the implementation of food safety training was popular in the outcome.

Managers/owners projecting a positive approach in the work setting can become role models that others are inspired to emulate. A supportive food safety culture (Griffith, Livesey, and Clayton, 2010), may strengthen food safety knowledge, practice and compliance in a fast food operation. Modelling another individual with their guidance and support can lead to successful learning. The results of the study indicate that social support can be an influential medium in the improvement of food safety knowledge and compliance.

4.4   Implications

Countless local regulations that govern fast food business operation are put in place to ensure that entities act in a reasonable and responsible manner. But with the abundance and complexity of regulations, and the fact that they change rapidly, many businesses tend to treat compliance as a secondary function with little consideration of the consequences.

A restaurant's public image is key to its success. When a restaurant is thrust into the public eye for failing to comply with regulations, there are reputational repercussions, which eventually lead to distrust. Once that happens, customers may leave, new customers may be put off and potentially beneficial partnerships may never develop.

The lack of funds limit the fast food restaurants to meet compliance requirements which impact assuring safe food handling practices are carried out. Infraction pointed out by inspector can be quite costly to fix. Due to the lack of funds, these infractions may remain unattended to and ultimately develop into greater issues. Restaurants not able to remedy food safety issues will not be able to obtain license to operate. To sell food without a license is a serious breach of the law which attracts huge penalties as well as imprisonment. Also restaurants that offer food to the public without a licenses run the risk of selling unsafe food to the public. The impact the lack of funds has is greater on small restaurants than on larger ones in their effort to comply with safe food practices. Not being able to purchase/repair equipment may impact food safety in that food produced may be of lower quality and spoils easily. With budgetary constraints training programs related to food safety may have to be curtailed resulting in a workforce that is not adequately trained to handle the issues related to compliance.

Due to the lack of funds managers/owners may attempt to carry out pest control activities by themselves, in so doing there is the risk of cross contamination of chemicals with food items. Cross contamination especially with pesticides can be very dangerous resulting in death. Also not using the correct chemicals and dosage rate exposes pests to build up resistance.

Facility inspections are intrinsically interpersonal. In the case of compliance which is the focus of this study, the importance of interpersonal skills is especially evident. Inspectors work to explain to clients, in some way that make sense to clients, in some cases going to great lengths to do so. While maintaining a position of authority, they nevertheless presented themselves as human and achieved a dynamic of fairness and of give- and-take with clients. Yet even in situations in which inspectors adopt a stricter enforcement role and do not aim to provide assistance, effective use of interpersonal skill may nevertheless impact compliance.

FSIs attitudes and communication skills play a vital role when interacting with fast food restaurants managers/owners. Poor communication can cause misunderstanding of food safety compliance requirements, create fear and ultimately a barrier between FSIs and managers/owners which is counterproductive to good governance. Investments in interpersonal skills training might ultimately improve inspection efficiencies by mitigating disagreements and reducing clients' complaints. The task of separating inspectors' roles as regulatory enforcement officers from broader business development roles is important. This suggest that government need to prepare inspectors to be called upon for a wide range of expertise, and that government need to strengthen networks with other service providers.

The lack of inspection visit is of grave concerns. As much as sixty percent of the managers/owners interviewed of fast food restaurants are yet to be inspected. This situation is untenable and exposes unassuming consumers to purchase unsafe food. Fast food restaurants may continue to operate under unsanitary conditions. In addition, such actions by the inspectors may not be seen as serious about enforcing the law.

The managers/owners role in the fast food restaurant is very important. The manager is responsible for the day to day operation of the restaurant, for example monitoring and enforcing rules. Therefore the manager/owner has to be very alert to all the activities and ensure that the staffs are not doing anything that will undermine the success of the restaurant. Also the manger is seen as a role model and of such his conduct will affect how he is seen and respected by the staff. A manager failing in his role and responsibilities will give rise to noncompliance. A well trained staff force helps to build the reputation of the establishment. Proving effective training is a good investment.

Results gathered from the interviews revealed that managers/owners were very interested in a computer software training application that could be used via a smartphone or tablet in the form of an App. Due to the nature of the fast food operation, such an App would allow managers/owners greater flexibility to train their employees at their convenience. Such a potential App would not only alleviate the issue of time restraint, but also extend the opportunity for employees to refresh their food safety knowledge on the job.

The more educated the staff; there is the likelihood of fewer problems with understanding the regulations as well as making fewer mistakes. A restaurant with well trained staff is likely to get fewer citations from FSIs.

5 Conclusion and Recommendation

5.1 Conclusion

This study has uncovered a complex array of interrelated issues that affect the likelihood food handlers and food businesses will adhere to food safety standards. This research has revealed new insights regarding the knowledge, attitudes and food safety practices of manager/owners of fast food restaurants.

The issues relating to noncompliance are related to social, economic, and regulatory factors involving both the regulated and the regulator. Where breakdowns and or weaknesses exist in compliance, the public is at risk of foodborne illnesses. Government food safety authorities should promote greater understanding of the food safety regulations and a more proactive approach to compliance. Owners/operators of fast food restaurants should be encouraged to assume greater responsibility for the certification of their establishments. FSIs are to be held more accountable for enforcing the regulations as well as certification and compliance of fast food restaurants.

Regulation is of critical importance; however it has the potential to narrow attention toward compliance and lose potential leverage on other tools for promoting excellence in food safety practice. It is very clear that FSIs are much more than regulators in terms of the relationships they form with fast food restaurants. They are also enablers, supporters and educators all of which require empathy and understanding of diverse organizational, social, cultural and economic circumstances of fast food restaurants.

In order to advance food safety standards it is essential that a shared understanding of government expectations of fast food restaurants is developed. Adopting different terminology such as adherence may assist government to communicate their expectations. Government processes and systems that are used during the establishment of a food business may unintentionally reward businesses that reactively obey FSI instructions. Subsequently, government processes and systems should be reviewed to ensure they encourage fast food restaurants manager/owner to adopt the desired behaviour from the beginning. The focus of FSIs discussions/feedback during inspections influences fast food restaurant managers/owners understanding and actions in relation to food safety.

This means FSIs have the ability to significantly influence food safety outcomes. Consequently, FSIs need to discuss food safety in a holistic way with fast food businesses and focus on higher risk issues.

FSIs are seen to be highly knowledgeable when they are able to collaborate or develop solutions with restaurant managers/owners that will enable full compliance with the laws and are responsive to the context of the individual business. It is essential that FSIs are supported to develop and maintain advanced technical knowledge and soft skills, such as communication. Improved communication by FSIs will help address perceived inconsistencies in the application of food safety laws, perceptions that some of the government's requirements are unnecessary and improve fast food restaurant managers/owners' perception of FSIs. To assist government implement a holistic strategy to improve food safety, and adapt the findings of this research to their local context, a national food safety policy and associated guideline is necessary.

In summary the main findings of this study are:

- Fast food restaurant managers / owners believed food safety is important and indicated a willingness to comply with food safety laws.
- Better conceptualization of synthesized food safety practices which bring together regulation and health promotion.
- Gaps exist between food safety inspectors' knowledge and their ability to communicate information to manager/ owners.
- Use of technology may positively influence learning by providing greater convenience for training and instruction.
- Routine inspection of the FFIs needs to improve in order to protect consumers from health risks.

In order to effect outcomes in regards to safe food practices FSI's ability to communicate with the restaurant managers needs to be addressed. The need for training of inspectors in appropriate and effective communication skills should be adopted as part of the model for implementation of food safety practices. This should include the application of technology with the use of food safety Apps. Improvements in the number of routine inspections

which are carried out and the areas for improvements that are clearly discussed should be illustrated where possible by FSIs.

Allowing food safety laws to be seen as a part of health promotion and therefore improving the willingness to comply by stakeholders. These changes in practices if undertaken by the FSIs will overall lead to greater compliance and decrease food safety risk.

The results have indicated a shift in focus from restaurant manager's actions to the FSI's approach with regard to interpersonal skills/ relationships between fast food restaurants managers and FSIs. The development of soft skills can greater influence food safety compliance in the fast food industry.

Despite the limitations of this study, the results suggest the need for improved training and supervision of fast-food managers/owners. Food safety regulatory agencies need to recognize the value of interpersonal skills in enforcement. The FDA has signalled a cultural shift, articulating an enforcement strategy of "educate before we regulate" and highlighting regulator training priorities that focus on behaviour and technical knowledge (FDA, 2014; Taylor, 2015; Wagner, 2015). Further investigations should examine the roles that interpersonal skills play in a broader range of inspection approaches, including those involving strict enforcement.

5.2   Recommendations

The following four recommendations are put forward to assist the fast food industry to satisfy government requirements for compliance while ensuring and protecting consumer health and safety.

5.2.1   Development of a National Food Safety Policy for the Fast Food Industry

A food safety policy is important to the development of an improved food safety program as it provides the overarching framework and principles that will guide the requisite interventions. These principles are based on the assurance of public health and well-being; development of a competitive food production system; promotion of the development, adoption and enforcement of effective and relevant legislation.

The vision of such a policy should advance the national food safety systems based on national standards aimed at safeguarding human, environmental health and the facilitation of trade through the application of science based principles, enabled by an integrated institutional framework, effective interagency collaboration and appropriate legislation, as well as a strengthened public/private sector partnership. The policy should cover all aspects of national practices, principles, guidelines, standards and agreements governing food safety systems. The policy should include all public and private entities involved in the scientific, technical, operational and management aspects of food safety and control systems in the country. The policy should be underpinned by a national food control strategy; strengthening of infrastructure and institutional framework; compliance policies which establish specific or general limits to which products, processes and practices must comply, and accompanied by effective and efficient food control systems and legislation.

The goals of the policy should be the establishment of one food safety system; ensure that food consumed is safe, sound and wholesome; implement a system of traceability for food from production to consumption; institute a formal risk analysis system to enhance food safety; integrate institutional arrangements and capabilities for the efficient and effective management of the food safety system; promulgate appropriate legislation to support food safety; and effect behavioural change through heightened public awareness about food safety issues. Ongoing training of stakeholders, public education and awareness are to be considered key elements to the successful undertaking of this policy. The implementation of a National Food Safety Policy will play a vital role in ensuring that fast food industry meets recognized food safety standards and guidelines and signals its commitment to improving the quality and safety of food supply system. The Policy will also provide the foundation for a comprehensive and integrated approach to food safety programs that will result in the protection of the health of consumers in the market place.

5.2.2 Development of Risk-based Compliance Inspection System

Government reforms have focused on risk-based compliance as a means of reducing the regulatory burden on industry while maintaining the legal mechanisms that protect

consumers from significant risks. A risk-based compliance approach ensures that limited resources are used to target the issues that create the biggest risks to the industry. The benefits of adopting a risk-based compliance approach include: Improved compliance outcomes by customizing actions to effectively deal with the most significant risks; efficiency gains by targeting programs to concentrate on issues that will have the greatest outcomes; reduced business compliance costs by only imposing requirements that are needed and greater business support for compliance measures by ensuring the compliance approach taken is widely understood by business. (The Better Regulation Office, 2008). Risk-based compliance is achieved by working through the series of steps shown in figure 10.

Figure 10. The Risk Assessment Steps Involved in Developing a Risk-based Compliance Approach.
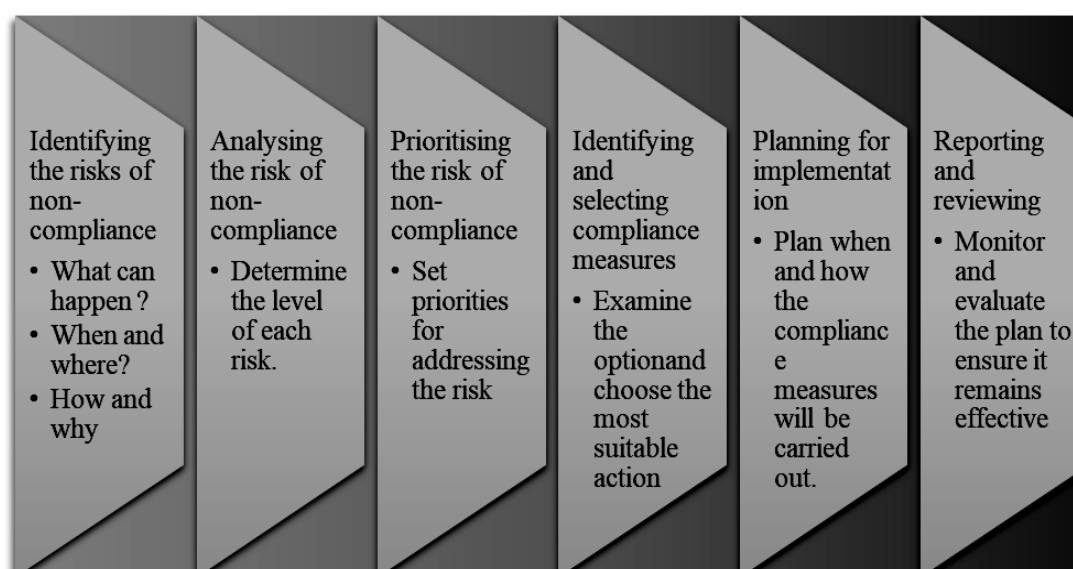
Adopting a risk-based compliance approach will enable government to adopt a holistic approach to food safety and prioritize issues, which is essential to improving food safety outcomes. The findings of this research can be used to help identify the most suitable actions for achieving compliance. However, it is important that government adopting this approach view compliance measures as a broad term and don't limit measures to enforcement mechanisms because, enforcement tools may not address the underpinning issue that is causing the non-compliance and therefore may not be effective in improving food safety outcomes.

This research has shown there are many complex reasons why a fast food restaurant may not comply with the food safety laws. In order to be able to choose the most suitable options to achieve compliance a deep understanding of the reasons for non- compliance is needed. Therefore, if government adopts a risk-based compliance approach, it is recommended that a research step is incorporated into the process shown in figure 10 before methods to achieve compliance are identified and selected. Further research to improve the government's understanding of why fast food restaurants are not complying may be needed if the review process reveals that the plan is not effective.

5.2.3 Establishment of a National Association of Fast Food Restaurants

An association of fast food restaurants can serve a variety of roles for their members and society at large. These include developing standards and training, lobbying the government for changes in legislation and informing the public about important information regarding the industry. Starting an association can be a lot of work, and it requires a lot of resources. It's often best to start small, at a local level with a few restaurants. Then, once a consensus is developed on what is most needed in the industry, you can begin formalizing the association. Many associations, including business associations that reach a national level, get their start as a small group of peers who get together to discuss issues related to their business.

Some advantages of having a National Fast Food Association are: awareness – learn about key issues, new ideas and best practices affecting the industry and its members; credibility – it shows customers that you are engaged and taking initiative, strategy that is current with changes in the industry; contacts - you have access to member database and other resources that can be used for marketing and research; networking – provides opportunities to attend events and get referrals for your business or to form potential partnership; mentorship – those with experience can offer support and guidance as well as lobbying – there is strength in numbers; provide advantages and opportunities to lobby government for change in reviews and drafting of legislation that affect the industry.

5.2.4 Development of a Comprehensive Training Manual

A national training manual is needed to bring consistency and awareness of recognized training methods that may be used in food safety. Such a unified training manual would serve as a standard. Fast food managers around Jamaica could use the manual as a tool from which they could gather recommended food safety curricula, and discover suggested training methods that are proposed to be the best strategy in which to carry out the instruction of specific food safety practices. In addition, such a manual would help to reduce the burden newcomers face as they initiate a fast food enterprise. Although the majority of the participants in the present study have received some food safety training, there is an evident shortfall in their retention of basic food safety knowledge.

Moreover, the general deficiency in food safety knowledge exhibited by the respondents in the present study, indicates a need for further research to determine if these programs are suitable to certify food handlers, and managers over time before recertification is mandated. The overall deficiency in food safety knowledge found in the present study strongly suggests that improvements can be made to make managers more competent in their training role.

As a final point the food safety training manual recommended, can be implemented in fast food businesses and monitored for success rates. The training manual can be tested for its effectiveness in the instruction of food safety. Food handlers would be assessed in their food safety knowledge with a pre-test, post-test format. The training manual would be the major tool for the food safety instruction for the investigation, as the fast food industry continues to grow, future research is recommended to investigate the food safety climate in this sector.

6 REFERENCES

Abdullahi, A., Hassan, A, Kadarman, N., Saleh, A., Baraya, Y.S. and Luna, P.L. (2016). Food safety knowledge, attitude and practice toward compliance with abattoir laws among the abattoir workers in Malaysia. International Journal of General Medicine, 9, 79-87.

Abraham, T. (2011). Lessons from the pandemic: the need for new tools for risk and outbreak communication. Emerging Health Threats Journal, 4, 10.3402/ehtj.v4i0.7160. http://doi.org/10.3402/ehtj.4i0.760.

Ackerman, F., & Heinzerling, L. (2004). Priceless: On knowing the price of everything and the value of nothing. The New Press, New York.

Ahmed, A. (2013). Contamination cases renew fears over globalized food supply. Retrieved from: America.aljazeera.com/articles/2013/8/12contaminationcasesfearsoverfoodsafety.html (accessed on October 8, 2016).

Ahmad, S., Mallick, D.N., & Schroeder, R.G. (2013). New product development: impact of project characteristics and development practices on performance. Journal of Product Innovation Management, 30, 331–348.

Albaum, G., Wiley, J., Roster, C., & Smith, S. M. (2011). Visiting item non-responses in internet survey data collection. International Journal of Market Research, 53(5), 687-703.

Aluko, O., Ojeremi, T.T., Olaleke, D.A., & Ajidagba, E.B. (2014). Evaluation of food safety and sanitary practices among food vendors at car parks in Ile-Ife, southwestern Nigeria. Food Control, 40, 165–171.

Angelillo, I. F., Viggiani, N.M.A., Rizzio, L., & Bianco, A. (2000). Food handlers and foodbourne diseases: Knowledge, attitudes and reported behavior in Italy. Journal of Food Protection, 63(30), 381-385, doi: 10.4315/0362 028X-63.3.381.

ANSIASSE Z690.2–2011. (2011). Risk Management Principles and Guidelines. Washington, D.C., American National Standards Institute.

Arendt, S., & Sneed, J. (2008). Employee motivators for following food safety practices, pivotal role of supervision: Food Protection Trends, 28(10), 704-11.

Aronica, M. (2014). Where your favourite fast food chains began.

Retrieved from USA Today: http://www.usatoday.com/story/travel/destinations/2014/05/31/fast-food- chains origins/9729901/, (accessed on November 15, 2016).

Attorney General Chamber Audit Report, (2013). Ministry of Justice Jamaica.

Auditor General Annual Report. (2014). Government of Jamaica.

Babbie, E. (2005). The basics of social research, (3rd ed). Thomson: Wadsworth.

Badr, E. (2009). Public health communication: some lessons for effectiveness. Sudanese Journal of Public Health, (4)3, 313.

Baines, R.N. (2010). Quality and safety standards in food supply chains. In delivering performance in food supply chains. Edited by C. Mena, G. Stevens. Cambridge: Woodhead Publishing Limited, pp. 303–23.

Barlow, J., Roehrich, J.K., & Wright, S. (2013). Europe sees mixed results from public-private partnerships for Building and managing health care facilities and services. Health affairs, (32)1, 146–154.

Bassler, D., Oehmen, J., Seering, W., Ben-Daya, M., (2011). A comparison of the integration of risk management principles in product development. In: Culley, S.J., Hicks, B.J., McAloone, T.C., Howard, T.J., Cantemessa, M. (Eds.), Proceedings of the 18th International Conference on Engineering Design (ICED11), 3, 306–316.

Batt, R., & Colvin, A. (2011). An employment systems approach to turnover: HR practices, quits, dismissals, and performance. Academy of Management Journal, 54(4), 695-717.

Batt, R., Lee, J. E., & Lakhani, T. (2014). A national study of human resource practices, turnover, and customer service in the restaurant industry (Doctoral dissertation, School of International and Public Affairs, Columbia University). Retrieved from http://rocunited.org/wp-content/uploads/2014/01/HRPTCS_Cornell_Report_4.pdf.

Bernard R.H. (2013). Social Research Methods Qualitative and Quantitative Approaches (2nd ed.) Altamira Press, Plymouth, UK.

Berzins, N. (2015). Preparing for the implementation of a routine inspection program in Colorando. Journal of the Association of Food and Drug Officials, 75(1), 23-28.

Belaya, V., Hansen, H. & Pinior, B. (2012). Measuring the Costs of Foodborne Diseases: A Review and Classification of the Literature. Retrieved from: http://ageconsearch.umn.edu/handle/138195 (accessed on March 10 2017).

Berg, H. (2010). Risk management procedures, methods and experiences. RT&A Journal, 1(2), 79-95.

Berry, A. J. & Otley, D. T. (2004). Case-based research in accounting. Humphrey Publishing Co.

Lee (eds.), The Real Life Guide to Accounting Research: a behind-the-scenes view of using qualitative research methods. Elsevier, Ltd, 231-255.

Better Regulation Office. (2008). Considering the National Enforcement Priorities. Birmingham: LBRO.

Bhattacherjee, A. (2012). Social Science Research: Principles, Methods, and

Practices. Textbooks Collection. Book 3. http://scholarcommons.usf.edu/oa_textbook/3.

Birol E., Karandikar, B., Roy, D., & Torero, M. (2015). Information, Certification and Demand for Food Safety: Evidence from an In-store Experiment in Mumbai. Journal of Agricultural Economics, 66(2), 105-117.

Black, J. (2005). The Emergence of Risk Based Regulation and the New Public Management in the UK. Public Law, Autumn, 512-549.

Bliss, B., Li. X., Meng, F., & Harrill, R. (2012). Applying causal mapping to tourism research: a case study of American college students' experience in China study abroad programs. Tourism Analysis, 17(1), 1-14.

Bloomberg, L. D., & Volpe, M. (2012). Completing your qualitative dissertation: A road map from beginning to end. (2nd ed.). Los Angeles: Sage.

Bofinger, C., Hayes, J., Bearman, C., & Viner, D. (2015). OHS risk and decision-making in the core body of knowledge for OHS professionals. Tullamarine, Victoria: Safety Institute of Australia.

Borys, D. (2009). Exploring risk-awareness as a cultural approach to safety: exposing the gap between works as imagined and work as actually performed. Safety Science Monitor, 13(2), 1-11.

Bosnjak, M., Haas, I., Galesic, M., Kaczmirek, L., Bandilla, W., & Couper, M.P. (2013). Sample Composition Discrepancies in Different Stages of a Probability-Based Online Panel," Field Methods, 25, 339–360.

Bowman, S. (2002). Preventing death by lecture. Glenbrook, Nevada: Bowperson Publishing Co.

Brandsen, T., Boogers, M.J.G.J.A. & Tops, P.W. (2006). Soft Governance, Hard Consequences: The Ambiguous Status of Unofficial Guidelines, vol. 66, no.4, pp. 546-553.

Broda, S. 2006. Marktforschungspraxis. Konzepte, Methoden, Erfahrungen.Wiesbaden, Germany: Gabler Verlag.

Brown, R.N., Carducci, R., & Kuby, C. R. (2014). Disrupting Qualitative Research Inquiry. Peter Lang Publishing Incorporated.

Bryman, A., Becker, S., & Sempik, J. (2008). Quality Criteria for Quantitative, Qualitative and Mixed Methods Research: A View from Social Policy. International Journal for Social Research Methodology, 11(4), 261-276.

Braun, V., & Clarke, V. (2013). Successful qualitative research: A practical guide for beginners. London: Sage. ISBN 9781847875815. Available from: http://eprints.uwe.ac.uk/21156.

Buber, R., & Holzmüller, H.M. (2007). Qualitative Marktforschung: Methoden - Konzepte – Analysen. Wiesbaden, 218-229.

Buckley, J.A. (2015). Food Safety regulation and small processing: A case study of interactions between processors and inspectors. Food Policy, 51, 74-82.

Burnard, P. A. (2006). Pragmatic Approach to Qualitative Data Analysis. In Newell R, Burnard, P (eds). Research for evidence based practice. Oxford: Blackwell Publishing. 97-107.

Burns, N., & Grove, S.K. (2003). Understanding nursing research. 3rd ed. Philadelphia: Saunders Company.

Buraun, V., & Clarke, V. (2013). Successful qualitative research: A practical guide for beginners. London: Sage. ISBN 9781847875815. Available from: http://eprints.uwe.ac.uk/21156.

Bureau of Standards, Annual Report, (2013). Government of Jamaica.

Cabinet Paper No. 57. (2014). Office of the Prime Minister, Government of Jamaica. CA duff, L., & Beranger, T. (2006). Managing Risk and Regulation in European Food Safety Governance. Review of Policy Research 23(1), 153-68.

Cano, E., Caron, F., & Mancini, M. (2007). A multi-dimensional analysis of major risks in complex projects, 1-18.

Allegro, Mario. 2013. Paradata in Web Surveys. "In Improving Surveys with Paradata: Analytic Use of Process Information, edited by Frauke Kreuter, Hoboken, NJ: Wiley 261–79.

Campbell, N., Johnson, J., Scarlett, H., & Thompson, S. (2015). Characteristics of non-compliant food handling establishment and factors that inhibit compliance in a regional authority, Jamaica. U.S. Journal of environmental health, 78(2), 20-26.

Canadian Food Inspection Agency Food (CFIA), Regulatory Forum, (2013). Compliance promotion: Formalizing an approach to support stakeholder compliance Ottawa, Canada.

Candi, M., van den Ende, J., & Gemser, G. (2013). Organizing innovation projects under technological turbulence Technovation, 33(45), 133–141.

Carson, S.J., Wu, T., & Moore, W.L. (2012). Managing the trade-off between ambiguity and volatility in new product development. Journal of Product Innovation Management, 29(6), 1061–1081.

Caswell, J.A. (2013). Challenges in choosing the mix of public and private standards for food quality assurance. In the federal policy role in today's food and agricultural markets, ed. Walter J. Armbruster and Ronald D. Knutson, 227-247.

Caswell, J.A., & Joseph, S. (2006). Consumers' food safety, environmental and animal welfare concerns: major determinants for agricultural and food trade in the future. Paper presented at the Summer Symposium of the International Agricultural Trade Research Consortium (IATRC). Food Regulation and Trade: Institutional Framework, Concepts of Analysis and Empirical Evidence, Bonn, Germany.

Charmaz, K. (1983). Loss of Self: A Fundamental Form of Suffering in the Chronically ill. Sociology of Health & Illness, 5, 168-197.

Chen, J, Luo, J., Liu, K., & Mehrotra, D.V., 2011. "On Power and Sample Size Computation for Multiple Testing Procedures." Computational Statistics and Data Analysis 55(1), 110-122.

Creswell, J.W. (2009), Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, (3rd ed). Sage Publications, Thousand Oaks

Creswell, J.W. (2013). Qualitative Inquiry and Research Design: Choosing Among Five Approaches. Sage.

Creswell, J. W., & Plano Clark, V. L. (2011). Designing and conducting mixed methods research (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. (2012). Qualitative inquiry & research design: Choosing among five approaches (4th ed.). Thousand Oaks, CA: Sage.

Cronholm, S. & Hjalmarsson, A. (2011). Experiences from sequential use of mixed methods. The Electronic Journal of Business Research Methods, 9(2), 87-95.

Center for Disease Control and Prevention (CDCP), (2010). Surveillance for Food borne Disease Outbreaks, United States: Annual Report.

Center for Disease Control and Prevention (CDCP), (2015). Surveillance for
Food borne Disease Outbreaks, United States: Annual Report.

Chang, H., Ngunjiri, F.W., & Hernandez, K-A.C (2013).
Collaborative autoethnography. Walnut Creek, CA: Left Coast
Press.

Chapman, B., Eversley, T., Fillion, K., MacLaurin, T., & Powell, D. (2010).
Assessment of food safety practices of food service food handlers (risk
assessment data): A communication intervention (evaluation of tools), 73(6),
1101-1107.

Charlebois, S. (2011). Food recalls, systemic causal factors and managerial
implications: the case of Premiere Quality Foods. British Food
Journal, 113(5), 625-636.

Charlebois, S., & MacKay, G. (2010). World Ranking: Food Safety Performance
Regina, SK: Johnson-Shoyama Graduate School of Public Policy.
Retrieved from: www.schoolofpubicpolicy.sk.ca/_final.pdf (accessed
March 10 2017).

Charlebois, S., & Watson, L. (2009). Risk communication and food recalls. In A.
Lindgrccn, M. K. Hinglcy, and J. Vanhammc (ed.). The crisis of food
brands: sustaining safe, innovative, and competitive food supply.
Gower Publishing, Ltd., Burlington, VT, 29-44.

Charlebois, S., & Hielm, S. (2014). Empowering the regulators in the
development of national performance measurements in food safety. Br.
Food, 116, 317-336.

Charlebois, S., Sterling, B., Haratifar, S., & Naing, S.K. (2014). Comparison of
global food traceability regulations and requirements. Compr. Rev. Food
Sci. Food Saf, 13, 1104-1123.

Charmaz, K. (2006). Grounded theory: A practical guide through qualitative analysis Thousand Oaks, California: Sage.

Chen, E., Flint, S., Perry, P., Perry, M., & Lau, R. (2015). Implementation of non- regulatory food safety management schemes in New Zealand. A survey of the food and beverage industry. Food control, 47(1), 569-576.

Chief Public Health Inspector for Kingston and St. Andrew, (2013). Annual Report, Department of Public Health, Kingston and St. Andrew.

Clayton, D.A., Griffith, C.J., Price, P., & Peters, A.C. (2002). Food handlers' beliefs and self-reported practices. International Journal of Environmental Health Research 12(1), 25-39. Doi: 10.1080/09603120120110031

Coolican, H. (2014). Research methods and statistics in psychology. (1st ed.) Hove: Routledge, 32-33, 105-107, 168-184, 276-282.

Consumer Affairs Commission, (2013). Annual Report, Ministry of Industry, Investment and Commerce, Government of Jamaica.

Cotterchio, M., Gunn, J., Coyll, T., Tormey, P., & Barry, M. A. (1998). Effect of a manager training program on sanitary.

Covello V.T. (2010). H1N1 risk and crisis communication: successes and challenges. Atlanta, GA: Centers for Disease Control and Prevention.

Cronholm, S., & Hjalmarsson, A. (2011). Experiences from Sequential Use of Mixed Methods. The Electronic Journal of Business Research Methods, 9 (2), pp. 87-95.

Crump, J.A., & Heyderman, R.S. (2014). Invasive Salmonella infections in Africa. Transactions of the Royal Society of Tropical Medicine and Hygiene, 108(11), 673–675.

Dasgupta, M.N., Roy A. (2014). Technical workshop on risk based approaches for food safety management. Toxicol Int. 21, 115-117.

Delgado, J., & Gutiérrez, J., (2007). Qualitative methods and techniques of social science research. Madrid: Editorial Síntesis.

De Jonge, J., Van Triip, H., Jan Renes, R., & Frewer, L. (2007). Understanding consumer confidence in the safety of food: its two Dimensional structure and determinants. Risk Analysis, 27(3), 729–739.

DEFRA (Department for Environment, Food and Rural Affairs) (2011). Guidelines for environmental risk assessment and management, Collaborative Centre of Excellence in Understanding and Managing Natural and Environmental Risks, Cranfield University, commissioned by DEFRA.

Denzin, N.K., & Lincoln, Y.S. (eds) (2011). The Sage Handbook of Qualitative Research, Thousand Oaks CA, Sage.

Denzin, N., & Lincoln, Y. (2017). Handbook of qualitative research (5th ed.). Thousand Oaks, Calif.: Sage Publications.

Devleesschauwer, B., Havelaar, A.H., Maertens de Noordhout, C., Haagsma, J.A., Praet, N., Dorny, P., Duchateau, L., Torgerson, P.R., Van Oyen, H. and Speybroeck, N. (2014). Calculating disability-adjusted life years to quantify burden of disease. International Journal of Public Health, 59(3),565–569.

Dike, D. W. (2012). Changes in the role of supervisors in managerial leadership theories: An historical perspective. International Journal of Management, 29, 189-194.

Dillion, M., & Griffith, C.J. (1996). How to HACCP: An illustrated guide. (2nd ed.) Grimsby, England: M.D. Association.

DiPietro, R.B. (2006). Return on investment in managerial training: Does the method matter? Journal of Foodservice Business Research, 7(4), 79-96.

D'Onofrio, B., Lahey, B., PhD, Turkheimer E., & Lichtenstein, P. (2013) Critical Need for Family-Based, Quasi-Experimental Designs in Integrating Genetic and Social Science Research.

Dodou, D., & De Winter, J.C.F., (2014). Social desirability is the same in offline, online, and paper surveys: A meta-analysis.

Downes-Le Guin, T., Baker, R., Mechling, J., & Ruylea, E. (2012). Myths and Realities of Respondent Engagement in Online Surveys. International Journal of Market Research 54(5), 1-21.

Dundes, L. 2002. Concealed kitchen conduct: Observations of restaurant kitchens by waitpersons. Journal of Associated Food and Drug Officials, 66: 114–119.

Eriksson, P. & Kovalainen, A. (2008). Qualitative Methods in Business Research. London: Sage.

Eiser, J.R., Miles, S., & Frewer, L.J. (2002). Trust, perceived risk and attitudes toward food technologies. Journal of Applied Social Psychology, 32(11), 2423–2433.

Euromonitor International, (2014). Statistics, market research and business intelligence Report, Germany.

European Food Safety Authority and European Centre for Disease Prevention and Control, (2010). The community summary report on trends and sources of zoonoses, zoonotic agents and food-borne outbreaks in the European Union in 2008. EFSA J. 8:1496.

Emmel, N. (2013). Sampling and choosing cases in qualitative research: A realist approach. London: Sage.

Fairman, R., & Yapp, C. (2004). Compliance with food safety legislation in small and micro-businesses: enforcement as an external motivator. Journal of Environmental Health Research 3, 44-52.

Fairman, R., & Yapp, C., (2005). Enforced Self-Regulation, Prescription, and Conceptions of Compliance within Small Businesses: The Impact of Enforcement, Law and Policy, 27(4), 491-519.

Fanning, F.E. (2011). Engaging learners: Techniques to make training stick. Professional Safety, 56(8), 42-48.

Fares, M., & Rouviere, E. (2010). The implementation mechanisms of voluntary food safety systems. Food Policy 35, 412–18.

Fair Trading Commission (2011). An Examination into the implementation to the participation of Micro and Small Enterprises (MSEs) in Public Procurement Tenders in Jamaica.

Fatimah, U.Z.A.U., Boo, H.C., Sambasivan, M., & Salleh, R. (2011). Food service hygiene factors, the consumer perceptive. International journal of hospitality management, 30(1), 38-45.

Fearne A., & Garcia Martinez, M. (2005). Opportunities for the co-regulation of food safety: insights from the United Kingdom Choices, 109–116.

Fenton, G.D., LsBorde, L.F., Radhakrishna, R.B., Brown, L.J., & Cutter, C.N. (2006).
Comparison of knowledge and attitudes using computer-based and face-to-face personal hygiene training methods in food processing facilities. Journal of Food Science Education, 5, 45-50.

Fielding, L.M., Ellis, L., Beveridge, C., & Peters, A.C. (2005). An evaluation of HACCP implementation status in UK SME's in food manufacturing, International Journal of Environmental Health Research, 15 (2), 117-126.

Fischer, A., De Jong, A., Van Asselt, E., De Jonge, R., Frewer, L., & Nauta, M. (2007). Food Safety in the Domestic Environment: An Interdisciplinary Investigation of Microbial Hazards During Food Preparation, Risk Analysis, 27(4), 1065-82.

Fletcher, S. M., Lewis-Fuller, E., Williams, H., Miller, Z., Scarlett, H. P., Cooper, C., & Thame, J. (2013). Magnitude, distribution, and estimated level of underreporting of acute gastroenteritis in Jamaica. Journal of health, population, and nutrition, 3(1), 69.

Floricel, M., & Ibanescu, S. (2008). Using Research and Development portfolio management to deal with dynamic risk Research and Development Management, 38, 452–467.

Food and Drug Administration. (2014). Operational strategy for implementing the FDA Food Safety Modernization Act (FSMA).

Food Storage and Prevention of Infestation Division, (FSPID), Annual Report. (2015). Ministry of Industry, Investment and Commerce, Government of Jamaica.

Food Storage and Prevention of Infestation Division, (FSPID), Annual Report. (2014). Ministry of Industry, Investment and Commerce, Government of Jamaica.

Food Storage and Prevention of Infestation Division, (FSPID), Annual Report. (2013). Ministry of Industry, Investment and Commerce, Government of Jamaica.

Francis, J. J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V.A., Eccles, M.P., & Grimshaw, J.M. (2010). What is an adequate sample size? Operationalising data saturation for theory-based interview studies. Psychology & Health, 25(10), 1229-1245. DOI:10.1080/08870440903194015

Fransesco, B. (2013). Innovation trends in the food industry: The case of functional foods, trends in food science and technology, 31(2), 118–129.

French, L. (2014). Survey shows that restaurants can reduce costs through better employment practices. Retrieved from http://www.clasp.org/.

Gain Report, (2016). Jamaica's HRI food service sector, USDA Foreign Agricultural Services, prepared by Cortland Grant, Agricultural Specialist, U.S Embassy, Kington.

Gale, N.K., Health, G, Cameron, E., Rashid, S., & Redwood, S., (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research.

Galvin, R. (2015). How many interviews are enough? Do qualitative interviews in building energy consumption research produce reliable knowledge? Journal of Building Engineering, 1, 2–12.

Garcia Martinez, M., & Poole N. (2004). The development of private fresh produce safety standards: implications for developing Mediterranean exporting countries: Opportunities for public-private partnerships. Food Policy.

Garcia Martinez, M., Fearne, A., Caswell, J.A., & Henson, S. (2007). Co-regulation as a possible model for food safety governance: opportunities for public- private partnerships, 32(3), 299-314.

Gary F. (2011). A Two-Step Approach for Transforming Continuous Variables to Normal: Implications and Recommendations for IS Research," Communications of the Association for Information Systems. 28, 4.

Ghezzi, S., & Ayoun, B. (2013). Food safety in the US catering industry: Empirical findings. International Journal of Contemporary Hospitality Management, 25(3), 365-382.

Gibb, H., Devleesschauwer, B., Bellinger, D., Bolger, P.M., Zeilmaker, M., Barchowsky, A., Oberoi, S., Wu, F., Ezendam, J., Zang, J., Carrington, C., Cliff, J., Verger, P., Pitt, J., Adegoke, G., Afshari, R., Baines, J., Bokkers, B., Mengelers, M., van Loveren, H., Rainis, H., O'Leary, K. and Liu, Y. (2015). World Health Organization estimates of the global and regional disease burden of four foodborne chemicals and toxins: A data synthesis. F1000 Research.

Gill, F., Leslie, G., Grech, C., & Latour, J. (2013). An analysis of Australian graduate critical care nurse education Collegian: The Australian Journal of Nursing Practice, Scholarship and Research, accepted.

Gill, M. J. (2014). The Possibilities of Phenomenology for Organizational Research. Organizational Research Methods.

Gill, S. P. (2008) Knowledge as embodied performance. Cognition, Communication and Interaction: Human-Computer Interaction Series, Pt I, 3-30.

Gkogka, E., Reij, M.W., Havelaar, A.H., Zwietering, M.H. and Gorris, L.G.M. (2011). Risk-based estimate of effect of foodborne diseases on public health, Greece. Emerging Infectious Diseases, 17(9), 1581–1590.

Goldberg, A. E., & Allen, K. R. (2015). Quantitaive research: some practical guide post for scholar. Journal of Marriage and Family, 77, 3-22.

Gormley, F., Little, C.L., Rawal, N., Gillespie, I., Lebaigue, S., & Adak, G. (2011).
A 17-year review of food borne outbreaks: describing the continuing decline in England and Wales (1992-2008), Epidemiology and Infection, 139(5), 688-99.

Gorton, M., Zarić, V., Philip, L., & Quarrie, S. (2011). Public and private agrienvironmental regulation in post-socialist economies: Evidence from the Serbian Fresh Fruit and Vegetable Sector." Journal of Rural Studies, 27, 144–52.

Government of India, (2010). National Productivity Council, Productivity and Competitiveness of Indian Manufacturing: Food Processing Sector. New Delhi.

Grbich, C. (2007). Qualitative data analysis: an introduction. London, Sage Publications.

Green, S. B., & Salking, N. J. (2011). Using SPSS for Windows and Macintosh: Analyzing and understanding data (6th ed.). Upper Saddle River, NJ: Pearson Education.

Griffith, C.J., Livesey, K.M., & Clayton, D.A. (2010). Food safety culture: the evolution of an emerging risk factor? British journal, 112(4), 426-438.

Gill, R. (2011). Theory and Practice of Leadership. London: Sage Publications. Guest, G. (2012). Applied thematic analysis. Thousand Oaks, California: Sage. Guest, G., MacQueen, N. (2012). Introduction to Thematic Analysis" Applied Thematic Analysis.

Guest, G, Bunce, A., and Johnson, L (2006). "How many interviews are enough? An experiment with data saturation and variability". Field Methods, 18(1), 59-82.

Guest, G and MacQueen N., (2012). Intriduction to Thematic Analysis. Applied Thematic Analysis.

Guest, G., Namey, E., & McKenna K. (2016). How Many Focus Groups Are Enough? Building an Evidence Base for Nonprobability Sample Sizes.

Guest, G. (2012). Applied thematic analysis. Yhousand Oaks, California: Sage.

Gubrium, J., & Holstein, J. (2009). Analyzing narrative reality. London, England: Sage.

Gleaner, (2005). Advent Edge Carb Control cause death in Jamaica. Kingston Jamaica.

Gleaner, (2014). Four Year Old Dies from Food Poisoning. Kingston Jamaica.

Haagsma, J.A., Polinder, S., Stein, C.E., & Havelaar, A.H. (2013). Systematic review of foodborne burden of disease studies: Quality assessment of data and methodology. International Journal of Food Microbiology, 166(1), 4–47.

Hall, A. (2013). Estimating the global burden of foodborne norovirus. 5th Meeting of the WHO Foodborne Disease Burden Epidemiology Reference Group. Geneva, Switzerland, WHO, Geneva.

Hall, B.H., Mairesse, J., & Mohnen, P. (2013). Measuring the returns to R&D. In: B.H. Hall and N. Rosenberg, eds. Handbook of the economics of innovation. Amsterdam: Elsevier, 1034-1076.

Hallebone, E. & Priest, J. (2009) "Business and Management Research: Paradigms and Practices" Palgrave Macmillan.

Harrington, R. J., Ottenbacher, M. C., Staggs, A., & Powell, F. A. (2012). Generation Y consumers key restaurant attributes affecting positive and negative experiences. Journal of Hospitality and Tourism Research, 36, 431-449.

Hammersley, M. (2015). On ethical principles for social research. International Journal of Social Research Methodology, 18(4), 433–449.

Hedberg, C.W., Smith, S.J., Kirkland, E., Radke, V., Jones, T.F., & Selman, C.A. (2006). Systemic environmental evaluations to identify food safety differences between outbreak and non-outbreak restaurants. Journal of Food Protection, 69, 2697-2702.

Henson, S., & Caswell, J. (1999). Food safety regulation: An overview of contemporary issues. Food Policy, 24, 589–603.

Henson, S., & Hooker, N.H. (2001). Private Sector management of food safety: public regulation and the role of private controls International Food and Agribusiness Management Review, 4(1), 7–17.

Henwood K., Pidgeon N., Parkhill K, & Simmons P. (2010). Researching risk: narrative, biography, subjectivity. Forum: Qualitative Social Research, 11(1), 1-22.

Heenink, M., Hutter, I., & Bailey, A. (2010). Qualitative Research Methods. Sage.

Hennink, M.M., Hutter, I. and Bailey, A. (2011), Qualitative Research Methods, Sage Publications, London .Jonker, J., & Pennink, 7(2), 118-137.

Herzfeld, T, Drescher Larissa S., & Grebitus, C. (2011). Cross-national adoption of private food quality standards. Food Policy, 36, 401–11.

Hodge, G., & Greve C. (2011). A Transformative Perspective on Public-Private Partnerships. In T. Christensen, and P. Lægreid (Eds.). The Ashgate Research Companion to the New Public Management, 18, 265-277.

Holstein, J. A., & Gubrium, J.F. (2012). Varieties of Narrative Analysis. London. Sage.

Henson, S., & Heasman, M. (1998). Food safety regulation and the firm: Understanding the compliance process. Food Policy, 23(1), 9-23.

Hobbs, J.E., Fearne, A., & Spriggs, J. (2002). Incentive structures for food safety and quality assurance: an international comparison Food Control, 13(2), 77–81.

Houghton, J.R., 2006. Consumer perceptions of the effectiveness of food risk management practices: a cross-cultural study. Health, Risk & Society, 8 (2),165–183.

Houghton, J.R., Van Kleef, E., Rowe, G., & Frewer, L.J. (2006). Consumer perceptions of the effectiveness of food risk management practices: a cross- cultural study. Health, Risk and Society, 8(2), 165–183.

Hussain, M.A. (2013). Economic implications of microbiological food safety scares. N. Z. Food Technol.48 (2), 33.

Hussain, M., & Dawson, C. (2013). Economic impact of food safety outbreaks on food businesses. Foods, 2, 585–589.

Hutter, B.M. (2004). Risk management and governance in Designing government: from instruments to governance. Eliadis, P. Hill, M.M.; Howlett, M. (eds) McGill Queen's University Press, 303-321.

Hutter, B.M., & Jones, C. (2007). From government to governance: external influences on business risk management. International Journal of Regulation and Governance, 1(1), 27-45.

Hutter, B.M., & Amodu, T. (2008). Risk Regulation and Compliance, Food Safety in the UK, London School of Economics, University of London.

International Electro technical Commission (IEC). (2008). Draft IEC 31010 Ed. 1.0, Risk Management – Risk Assessment Techniques.

International Food Information Council Foundation, (2014). More Americans choosing foods, beverages based on healthfulness. Retrieved from: http://www.foodinsight.org/articles/more-americanschoosing-foods- beverages-based-healthfulness, (accessed March 30, 2017).

ISO Guide 73. (2009). Risk Management Terminology. Geneva, Switzerland: International Organization for Standardization (ISO). U.S. Department of Homeland Security. DHS Risk Lexicon. Washington, D.C. U.S. Department of Homeland Security.

ISO, 31000, (2009). Risk Management – Principles and Guidelines, International Organization for Standardization, Geneva.

Jacob, S.A., & Furgerson, S.P. (2012). Writing interview protocols and conducting interviews: Tips for students new to the field of qualitative research. The Qualitative Report, 17(42), 1-10.

Jairath M.S., & Purohit, P. (2013). Food safety regulatory compliance in India: A challenge to enhance agri-business, Journal of Agricultural Economics, 68(3), 431-448.

JAMPRO Annual Report. (2013). Ministry of Industry, Investment and Commerce, Government of Jamaica.

Joint Committee of Structural Safety, (JCSS), (2008). Risk Assessment in Engineering, Principles, System Representation and Risk Criteria.

Jones, S.L., Parry, S.M., O'Brien, S.J., & Palmer, S.R. (2008). Are staff management practices and inspection risk ratings associated with foodborne disease outbreaks in the catering industry in England and Wales, Journal of Food Protection, 71(3), 550-557.

Jonker, J., & Pennink, B. (2010), The essence of research methodology: A consice guide for master and PhD students in management science. Heidelberg, Germany: Springers.

Jorgensen, D. L. (1989). Participant observation: Methodology for human studies. Newbury, CA: Sage.

Julien, D.M. (2010). Supplier safety assessment in the food supply chain. In Delivering Performance in the Food Supply Chains. Edited by Mena, C and Stevens, G. Cambridge: Woodhead Publishing Limited, 62–83.

Kassa, H. (2001). An outbreak of Norwalk-like viral gastroenteritis in a frequently penalized food service operation in Toledo, Ohio: A case for mandatory training of food handlers in food safety and hygiene, Journal of Environmental Health, 64(5), 9-33.

Kahlke, R. M. (2014). Generic qualitative approaches: Pitfalls and benefits of methodological mixology. International Journal of Qualitative Methods, 13, 37-52. Retrieved February 5 24, 2015, from http://ejournals.library.ualberta.ca/index.php/IJQM/article/view/19590/16141.

Khaw, L. (2012). Mapping the process: An exemplar of using situational analysis in a grounded theory study. Journal of Family Theory and Review, 4, 138-147.

Kalof, L., Dan, A. and Dietz, T. (2008), Essentials of social research. England: Open University Press.

Kamal, S., & Wilcox, G. B. (2014). Examining the relationship between advertising expenditures and sales of quick-service restaurants in the United States. Journal of Food Products Marketing, 20(1), 55-74.

Kvale, S., & Brinkmann, S. (2009), Interviews: Learning the craft of qualitative research interviewing (2nd ed.). Thousand Oaks, Ca, US: Sage Publications, Inc.

Keough, V. A., & Tanabe, P. (2011). Survey research: An effective design for conducting nursing research. Journal of Nursing Regulation, 1(4), 37-44.

Kim, K. (2015). Consumers' perception and acceptance of food risk. Journal of Consumer Policy Studies, 46(3), 123-141.

King, N. and Horrocks, C. (2010) Interviews in qualitative research. Sage, London.

Kirk, M., Ford, L., Glass, K., & Hall, G. (2014). Foodborne Illness, Australia, Circa 2000 and Circa 2010. Emerging Infectious Diseases, 20(11), 1857–1864.

Ko, W. H. (2013). The relationship among food safety knowledge, attitudes and self-reported HACCP practices in restaurant employees. Food Control, 29(1), 192-197.

Krystallis, A., Frewer, L., Rowe, G., Houghton, J., Kehagia, O., & Perrea, T. (2007). A perceptual divide? Consumer and expert attitudes to food risk management in Europe. Health Risks and Society, 9(4), 407-424.

Lake, R.J., Cressey, P.J., Campbell, D.M. and Oakley, E. (2010). Risk ranking for foodborne microbial hazards in New Zealand: burden of disease estimates. Risk Analysis, vol. 30, no. 5, pp. 743–752.

Lamuka. P.O. (2014). Challenges of developing countries in management of food safety. Encyclopedia of food safety, 4, 20-26.

Lapan S. D., Quartaroli, M.T., & Riemer F.J. (2012). Qualitative Research: An Introduction to Methods and Designs. Jossey-Bass publishing, 1thedition, San Francisco.

Lawrence, W. (2012). Coping with external pressures: A note on SME strategy. Social and Economic Studies, 61(1), 161-170.

Laughlin, R. (1995), Empirical research in accounting: alternative approaches and a case for middle-range" thinking".

Lee, J., Hwang, J., & Mustapha, A. (2014). Popular ethnic foods in the United States: A historical and safety perspective, comprehensive reviews in Food Science and Food Safety, 13(1), 2-17.

Leedy, P.D., & Ormrod, J. E. (2010). Practical research: Planning and design, 9th ed. NYC: Merril.

Lelieveld, H. (2009). Progress with the global harmonization initiative. Trends Food Science Technology, 20, 15–19.

Liu, Z., Zhang, H., Lu, L., Liang, J., & Huang, Q. (2015). Knowledge, attitude, and practices of food safety amongst food handlers in the coastal resort of Guangdong, China. Food Control, 47, 457-461.

Löfstedt R.E. (2008). What environmental and technological risk communication research and health risk research can learn from each other? Risk Research, 11, (1-2), 141-167.

Loosemore, M., & Adonakis, N. (2007). Barriers to implementing OHS Reforms – The experiences of Small Subcontractors in the Australian Construction Industry, International Journal of Project Management, 25(6), 579-588.

MacAuslan, E. (2001). Food hygiene training in the UK: Time for a radical re-think. Perspectives in Public Health, 121(4), 213-219.

Malhotra, R., Lal, P., Krishna, S., Prakash, M., Daga, K., & Kishore, J. (2008). Evaluation of a health education intervention on knowledge and attitudes of food handlers working in a medical college in Delhi, India. Asia-Pacific Journal of Public Health, 20(4), 277-286.

Martin, E., & Woodside, A. (2012), Structure and process modelling of seemingly unstructured leisure-travel decisions and behaviour", International Journal of Environment Health Contemporary Hospitality Management, 24(6), 855-872.

Manning, L. (2015). Determining value in the food supply chain, Royal Agricultural University, Gloucestershire, UK. British Food Journal, 117(11), 2649-2663.

Mathe, K., & Slevitch, L. (2013). An exploratory examination of supervisor undermining, employee involvement climate, and the effects on customer perceptions of service quality in quick service restaurants. Journal of Hospitality & Tourism Research, 37(1), 29-50.

Mather, A. E., Reid, S. W. J., Maskell, D. J., Parkhill, J., Fookes, M. C., Harris, S.R., & Thomson, N. R. (2013). Distinguishable Epidemics of Multidrug-Resistant Salmonella typhimurium DT104 in Different Hosts. Retrieved from Science: http://science.sciencemag.org/content/341/6153/1514, (accessed on April 18, 2017).

Mathias, R. G., Sizto, R., Hazelwood, A., & Cocksedge, W. (1995). The Vects of inspection frequency and food handler education on restaurant inspection violations. Canadian Journal of Public Health, 86(1), 46–50.

Marshall, C., & Rossman, G. (2006). Designing qualitative research (4th ed.). Thousand Oaks, CA: Sage.

Mason, Mark (2010). Sample Size and Saturation in PhD Studies Using Qualitative Interviews [63 paragraphs]. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 11(3).

May, P.J., & Wood, R.S. (2003). At the regulatory front line: Inspectors' enforcement styles and regulatory compliance. Journal of Public Administration Research and Theory, 13(2), 117-139.

McGrath, J. (2010). Costly Food Recalls. Retrieved from: http://money.howstuffworks.com/ 10-food-recalls.htm (accessed on March 10, 2017).

Mercer, M. (2017). To keep on trucking, states streamline food truck Licensing. Retrieved from http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2017/04/18/to-keepon-trucking-states-streamline-food-truck-licensing.

Marvin, H. J. P., Kleter, G. A., Frewer, L. J., Cope, S., Wentholt, M. T. A., & Rowe, G. (2009). A working procedure for identifying emerging food safety issues at an early stage: implications for European and international risk management practices. Food Control, 20 (4), 345–356.

Medeirosa, C.O., Cavallia, S.B., Salayb, E., &Pronencaa, R. P. C. (2011). Assessment of the methodological strategies adopted by food safety training programs for food service workers: A systemic review. Food Control, 22(8), 1136-1144.

Meyer, S.B., Mamerow, L., Henderson, J., Taylor, A., Coveney, J., & Ward, P.R. (2014). The importance of food issues in society: Results from a national survey in Australia. Nutrition and Dietetics, 71(2), 108-116.

Maxwell, J. (2012). Qualitative research design: An interactive approach (3rd ed.): Thousand Oaks, CA: Sage.

Middleton A., Bragin E., Parker, M. F. (2014). Finding people who will tell you their thoughts on genomics—recruitment strategies into social sciences research on genetics. J Community Genet 5(4), 291-302.

Mikecz, R. (2012). Interviewing elites: Addressing methodological issues. Qualitative Inquiry 18, 482-493.

Miles, M.B., Huberman, A.M., & Saldana, J. (2013). Qualitative data analysis: A methods Sourcebook. Sage Publications, Incorporated.

Ministry of Health Annual Report, (2010). Government of Jamaica.

Ministry of Commerce, (2015). Ministry paper #30. Government of Jamaica.

Ministry of Finance, (2014). Annual Report, Government of Jamaica.

Ministry of Health Annual Report, (2013). Government of Jamaica.

Ministry of Health Annual Report, (2015). Government of Jamaica.

Ministry of Labour Annual Report, (2016). Government of Jamaica.

Ministry Paper No.256, (1986). Ministry of Agriculture, Government of Jamaica.

Mohtadi, H., & Kinsey, J.D. (2005) Information exchange and strategic behaviour in supply chains: application to the food sector. American Journal of Agricultural Economics, 87(3), 582-599.

Mu, J., Peng, G., & MacLachlan, D.L. (2009). Effect of risk management strategy on NPD performance Technovation, 29, 170–180.

Muhr T. (1991). ATLAS.ti: A prototype for the support of text interpretation. Qualitative Sociology, 14(4), 349–371.

Naderer, G., & Balzer, E. (2007). Qualitative Marktforschung in Theorie und Praxis. Grundlagen, Methoden und Anwendungen. Wiesbaden, 2006: Gabler Verlag.

Narain, S. (2013). Changing Definition of Safe Food, Business Standards. Retrieved from: http://www.business-standard.com/article/opinion/changing definitions-of-safe-food 113032400355_1.html. (Accessed on June 26, 2017).

National Audit Office, (2000). Supporting Innovation: Managing risk in government departments. HMSO London. Retrieved from: http://www.nao.gov.uk/publications/nao_reports/9900864.pdf. (Accessed on April 15, 2017).

National Food Safety Policy Report. (2013). Cabinet Paper #57. Office of the Prime Minister, Government of Jamaica.

National Food Safety Coordinating Committee, (2015). Ministry of Agriculture, Government of Jamaica.

National Restaurant Association (NRA). (2011). Restaurant industry fact book: retrieved from http://resturant .org/pdfs/research/2011forecast_pfb.pdf. September 5, 2016.

Nee, O.S., & Sani, A., N. (2011). Assessment of knowledge, attitudes and practices among food handlers at residential colleges and canteen regarding food safety. Sains Malaysiana, 40(4), 403-410.

Neuman, W.L. (2011). Social Research Methods: Qualitative and Quantitative Approaches, (7th ed.), Pearson, Boston.

Neuman, W.L. (2006).Social Research Methods: Qualitative and Quantitative Approaches. Toronto: Pearson.

Nowell, L.S., Norris, J.M, White,D.E, & Moules, N.J. (2017) . Thematic Analysis: Striving to Meet the Trustworthiness Criteria. International Journal of Qualitative Methods, 16 (1), 1-3.

Nieto-Montenegro, S., Brown, J.L., & LaBorde, L.F. (2008). Development and assessment of pilot food safety educational materials and training strategies for Hispanic workers in the mushroom industry using the health action model. Food Control, 19(6), 616-633.

O¨stlunda, U., Kiddb,L., Wengstro¨mc,Y., Rowa-Dewa, N. (2011). Combining qualitative and quantitative research within mixed method research designs: a methodological review. International Journal of Nursing Studies, 48(3), 369-383. 10.1016/j.ijnurstu.2010.10.005.

O′Connor, G.C., & Rice, M.P. (2013). A comprehensive model of uncertainty associated with radical innovation J. Prod. Innovation Management, 30, 2–18.

Oehmen, J. and Seering, W. (2011). Risk-driven design processes – balancing efficiency with resilience in product design H. Birkhofer (ed.). The Future of Design Methodology, Springer.

Oehmen, J., Oppenheim, B.W., Secor, D., Norman, E., Rebentisch, E., Sopko, J.A., Steuber, M., Dove, R., Moghaddam, K., McNeal, S., Bowie, M., Ben-Daya, M., Altman, W., & Driessnack, J. (2012). The Guide to Lean Enablers for Managing Engineering Programs, Version 1. Ed. Joint MIT-PMI-INCOSE Community of Practice on Lean in Program Management, Cambridge, MA.

Olsen, P., & Borit, M. (2013). How to define traceability. Trends Food Science and Technology, 29, 142-150.

Olsen, R. B., Orr, L. L., Bell, S. H., & Stuart, E. A. (2013). External Validity in Policy Evaluations That Choose Sites Purposively. Journal of Policy Analysis and Management, 32(1), 107-121. DOI: 10.1002/pam.21660.

Olsen, S.J., MacKinnon, L.C., Goulding, J.S., Bean, N.H., & Slutsker, L. (2000). Surveillance for foodborne disease outbreaks-United States, 1993-1997, MMWR, 49(5501), 1-51.

Ohio State University Consumer Science Department, (2013) College of Food Agriculture and Environment.

Onwuegbuzie, A. J., & Leech, N. L. (2007). A call for qualitative power analyses. *Quality and Quantity*, 41, 105–121. doi:10.1007/s11135-005-1098-1.

Painter, J. A., Hoekstra, R. M., Ayers, T., Tauxe, R. V., Braden, C. R., Angulo, F. J., & Griffin, P. M. (2013). Attribution of Foodborne Illnesses, Hospitalizations, and Deaths to Food Commodities by using Outbreak Data, United States, 1998–2008. Emerging Infectious Diseases, 19(3), 407-415.

Panisello, P.J., Quantick, C.Q. (2001). Technical barriers to hazard analysis critical control point (HACCP). Food Control, 12, 165-173.

Palencher, M.J. (2008). Risk communication and community right to know: A public relations obligation to inform. Public Relations Journal, 2(1), 1-26.

Patton, M. Q. (2015). Qualitative Evaluation and Research Methods. Thousand Oaks, CA: Sage.

Park, Y.H. (2010). A study of risk management and performance measures on new product development Asian Journal on Quality, 11(1), 39–48.

Patton, M. Q. (2015). Qualitative Evaluation and Research Methods. Thousand Oaks, CA: Sage.

Pautz, M.C. (2009). Preceptions of the regulated community in environmental policy: The view from below. Review of Policy Research, 26(5), 533-550.

Pautz M.C. (2010). Front line regulators and their approach to environmental regulation in southwest Ohio. Review of Policy Research, 27(6), 761-780.

Petter, S., DeLone, W., & McLean, E.R. (2013). Information systems success: The quest for independent variables. Journal of Management Information Systems, 29(4), 7-61.

Pernecky, T. (2016). Epistemology and metaphysics for qualitative research. London, UK: Sage Publications. Journal of Management Information Systems, 29(4), 7–62.

Perez, J., & Mirabella, J. (2013). The relationship between leadership practices and restaurant employee turnover. International Journal of Accounting Information Science & Leadership, 6(18), 40-47.

Persson, J.S., Mathiassen, L., Boeg, J., Madsen, T.S., & Steinson, F. (2009). Managing risks in distributed software projects: an integrative framework IEEE Transactions on Engineering. Management. 56(3), 508–532.

Pest Control Authority (PCA), (2014). Annual Report, Government of Jamaica.

Pires, S.M., Vieira, A.R. Perez, E., Wong, D.L.F., & Hald, T. (2012). Attributing human foodborne illness to food sources and water in Latin America and the Caribbean using data from outbreak investigations. International Journal of Food Microbiology, 152(3), 129–138.

Phillips, M. L., Elledge, B. L., Basara, H. G., Lynch, R. A., & Boatright, D. T. (2006). Recurrent critical violations of the food code in retail food service establishments. Journal of Environmental Health, 68(10), 24-30.

Planning Institute of Jamaica, (2015). Annual Report, Government of Jamaica.

Potter, A., J. Murray, Lawson, B., & Graham, S. (2014). Trends in product recalls within the agri-food industry: empirical evidence from the USA, UK and the Republic of Ireland. Trends Food Science and Technology, 28(2), 77-86.

Raoul, B.A., Rodrigue, P.N., Sylvain, S.K., Victor, N.N., & Jean, J.E.N. (2014). Typology of the Cameroon traditional slaughterhouses based on hygiene practices. Advance Animal Veterinary S c i e n c e , 2(8), 487.

Rennie, D.M. (1994). Evaluation of food hygiene education. British Food Journal, 96(11), 753-770.

Restaurant of Jamaica, (2014). Annual Report, Kingston, Jamaica.

Rettie, R., Robinson, H., Radke, A., & Ye, X. (2008), CAQDAS: A supplementary tool for qualitative market research", Qualitative Market Research: An International Journal, Vol. 11 No. 1, pp. 76-88.

Ribera, L.A., Palma, M.A., Paggi, M., Knutson, R., Masabni, J.G., & Anciso, J. (2012). Economic analysis of food safety compliance costs and foodborne illness outbreaks in the United States. Hort Technology, 22,150–156.

Richard, L., & M., & Barrosos, J.M. (2012). Readme first for a user's guide to qualitative methods (3rd ed.) Thousand Oasks, CA: Sage.

Richards, L. (2014). Handling qualitative data: A practical guide (3rd ed.). Thousand Oaks, CA: Sage. (This edition includes on-line resources documenting 10 individual researchers' data analysis journeys available at: http://www.uk.sagepub.com/richards/).

Roberts, K.R., Barrett, B.B., Howells, A.D., Shanklin, C.W., Pilling, V.K. and Brannon, L.A. (2008). Food safety training and food service employees' knowledge and behaviour, Food Protection Trends, Vol. 28 No. 4, pp. 252-60.

Rosenblatt, P.C. (2012). One Interviewer versus Several: Modernist and Postmodernist Perspectives in Qualitative Family Interviewing. Journal of Family Theory & Review, 4, (2), 96-104.

Rosenthal, R., & Rosnow, R. L. (1991). Essentials of behavioral research: Methods and data analysis (2nd ed.). New York: McGraw Hill.

Rouvière, E., & Caswell, J.A. (2012). From Punishment to Prevention: A French Case Study of the Introduction of Co-Regulation in Enforcing Food Safety. Food Policy, 37(3), 246-254.

Rouvière, E., Soubeyran, R., & Bignebat, C. (2010). Heterogeneous effort in voluntary programs on food safety: theory and evidence from the French import industry of fresh produce. European Review of Agricultural Economics, 37, 479–99.

Roulston, K. (2010). Considering quality in qualitative interviewing. Qualitative Research, 10(2), 199-228.

Ruzante, J.M, Davidson, V.J., Caswell, J., Fazil, A., Cranfield, J.A., Henson, S.J., Anders, S.M., Schmidt, C., and Farber, J.M. (2010). A multifunctional risk prioritization framework for foodborne pathogens, 30(5), 724-742.

Rozin, P., Hormes, J.M., Faith, M., & Wansink, B. (2012). Is meat male? A quantitative multimethod framework to establish metaphoric relationships. Journal of Consumer Research, 39(3), 629-643.

Ryan, C., Ghazali, H., & Mohsin, A. (2011). Determinants of intention to leave a non-managerial job in the fast-food industry of West Malaysia. International Journal of Contemporary Hospitality Management, 23(3), 344-360.

Saldana, J. (2009). The Coding Manual for Qualitative Researchers. Thousand Oaks, California: Sage Publications.

Samapundo,S., Climat,R., Xhaferi, R., 7 Delieghere, F. (2015). Food safety knowledge, attitudes and practices of street food vendors and consumers in Port-au-Prince, Haiti. Food Control.

Saunders, M., Lewis, P., & Thornhill, A. (2012). Research Methods for Business Students, (4th ed.), Financial Times Prentice Hall, Edinburgh Gate, Harlow.

Sayre, S., (2001). Qualitative Methods for Marketplace Research, Thousand Oaks, CA: Sage Publications.

Schouten, J. W. (1991). Life among the Winnebago, in Russell W. Belk (ed.), Highways and Byways: Naturalistic Research From the Consumer Behaviour Odyssey, Provo, UT: Association for Consumer Research.

Scallan, E., Hoekstra, R.M., Angulo, F.J., Tauxe, R.V., Widdowson, M.A., Roy, S.L., Jones, J.L., & Griffin, P.M. (2011). Foodborne illness acquired in the United States– major pathogens. Emerging Infectious Diseases, 17(1), 7–15.

Schaeffer, P.V., & Loveridge, S. (2012). Toward an understanding of types of public-private cooperation. Public Performance and Management Review, 26(2), 169-189.

Scharff, R. L., McDowell, J. and Medeiros, L. (2009). The economic cost of foodborne illness in Ohio, 72(1), 128-136.

Scharff, R. L. (2012). Economic Burden from Health Losses Due to Food borne Illness in the United States. Journal of Food Protection, 75(1), 123-31.

Schmitt, J., & Jones, J. (2013). Slow Progress for Fast-Food Workers, Issue Brief. Washington, D.C., Center for Economic and Policy Research.

Schlosser, E. (2002). Fast Food Nation: The Dark Side of the All-American Meal. New York: Perennial Books.

Seidman, I. (2006). Interviewing as qualitative research: A guide for researchers in education and the social sciences. New York: Teachers College Press.

Sellnow T.L., Ulmer, R.R., Seeger, M.W., & Littlefield, R.S. (2009). Effective risk communication: a message-centered approach. New York: Springer.

Sena, M. (2017). Fast food industry analysis, cost and trends. Retrieved from franchisehelp.com: https://www.franchisehelp.com/industry-reports/fast-food-industry-report/ (accessed March 18, 2017).

Shan L. C., Panagiotopoulos P., Regan A., De Brun A., Barnett J., Wall P., & McConnon A. (2015). Interactive communications with the public: Qualitative exploration of the use of social media by Food and Health Organizations, Journal of Nutritional Education and Behavior,47(1), 104-108.

Sharif, L., Obaidat, M.M., & A;-Dalalah, M.R. (2013). Food hygiene knowledge, attitude, and practices of food handlers in the military hospitals. Food and Nutrition Sciences, 2, 245-251.

Shepherd, R., Barker, G. French, S., Hart, A., Mule, J., & Cassidy, A. (2006). Managing food chain risks: integrating technical and stakeholder perspectives on uncertainty. Journal of Agricultural Economics, 57(2), 313–327.

Silverman, D. (2011), Interpreting Qualitative Data: A Guide to the Principles of Qualitative Research, (4th ed.), Sage Publications.

Singh, S. (2004). Effect of structured teaching programme on knowledge and practices related to hand washing technique among food handlers. The Nursing Journal of India, 95(6), 125-126.

Singleton, R., & Strait, B. (2010). Approaches to Social Research, (5th ed.). New York: Oxford University Press.

Shim, M., You, M. (2015). Cognitive and affective risk perceptions toward food safety outbreaks: mediating the relation between news use and food consumption intention. Asian Journal of Communication, 25(1), 48-64.

Skandamis P. N., Andritsos N., Psomas A., & Paramythiotis S. (2015), New Risk Metrics and Mathematical Tool for Risk Analysis: Current and Future Challenges, in: Proceedings of the International Conference of Computational Methods in Sciences and Engineering, Simons T. E., Maroulis G. (ed.), Book Series AIP Conference Proceedings, 1642.

Skeete, Boodraj, Kiddoe, Lawla, Peart, Myers (2008). Global Entrepreneurship Monitor 2008 Jamaica Report.

Small Business Service. (2000). Think Small First: A national strategy for supporting small and medium sized enterprises in the UK. Department of Trade and Industry.

Smith, C.M., Hale L.A., Mulligan, H.F., & Treharne, G.J. (2013). Participant perceptions of a novel physiotherapy approach ('Blue Prescription') for increasing levels of physical activity in people with multiple sclerosis: A qualitative study following intervention. Disability and Rehabilitation, 35(14), 1174–1181.

Song, W., Ming, X., & Xu, Z. (2013). Risk evaluation of customer integration in new product development under uncertainty Computers and Industrial Engineering, 65, 402–412.

Soon, J.M., Baines, R., & Seaman P. (2012). Meta-analysis of food safety training on hand hygiene knowledge and attitudes among food handlers. Journal of Food Protection, 75(4), 793-804.

Statistical Institute of Jamaica, (STATIN), (2010). Annual Report, Government of Jamaica.

Statistical Institute of Jamaica, (STATIN), (2013). Annual Report, Government of Jamaica.

Statistical Institute of Jamaica, (STATIN), (2015). Annual Report, Government of Jamaica.

Statistical Institute of Jamaica, (STATIN), (2016). Annual Report, Government of Jamaica.

Sterrett, D. (2011). McDonald's faces teen labour shortage. Retrieved from http://www.workforce.com/.

Sparrow, M. (2000). The regulatory craft: controlling risks, solving problems, and managing compliance. Washington DC: Brookings Institution Press.

Sprenger, R. (1999). Hygiene training- is it working. International Food Hygiene,12, 25-29.

Tabbaa, D. (2010). Emerging zoonoses: responsible communication with the media- lessons learned and future perspectives. International J Antimicrobial Agent,36(1), 80-83.

Tang, O., & Musa, N. (2011). Identifying risk issues and research advancements in supply chain management: International Journal of production economics,133(1), 25-34.

Tashakkori, A., & Teddlie, C. (1998), Mixed Methodology: Combining Qualitative and Quantitative Approaches, Sage Publications, Thousand Oaks.

Tashakorri, A., & Teddlie, C. (2010) Handbook of Mixed Methods in Social and Behavioral Research, Second edition, Thousand Oaks, CA: Sage.

Tebbutt, G.M. (2007). Does microbiological testing of foods and the food environment have a role in the control of foodborne disease in England and Wales? Journal of Applied Microbiology, 102(4), 883–891.

Thamhain, H. (2013). Managing risks in complex projects Project Management. Journal, 44(2), 20–35.

The Economic Times, (2010). India loses $65 billion annually due to poor logistics. Retrieved from: http://articles.economictimes.indiatimes.com/2010-09-01/news/27619795_1_supply-chainindian-retail-sector-challenges (accessed on June 26, 2017).

Thomas, C.W, Vanderford, M.L., & Crouse Quinn, S. (2008). Evaluating emergency risk communications: a dialogue with the experts. Health Promotion and Practice, 9(4), 5-12.

Thomas H., Larissa S., Drescher, & Grebitus, C. (2011). Cross-national adoption of private food quality standards. Food Policy, 36(3), 401–11.

Thomas, M.K., Murray, R., Flockhart, L., Pintar, K., Pollari, F., Fazil, A., Nesbitt, A., &Marshall, B. (2013). Estimates of the burden of foodborne illness in Canada for 30 specified pathogens and unspecified agents, circa 2006. Foodborne Pathogens and Disease, 10(7), 639–648.

Torgerson, P.R., Devleesschauwer, B., Praet, N., Speybroeck, N., Willingham, A.L., Kasuga, F., Rokni, M.B., Zhou, X.-N., Fèvre, E.M., Sripa, B., Furst, T., Budke, C.M., Carabin, H., Kirk, M.D., Angulo, F.J., Havelaar, A., & de Silva, N. (2015). World Health Organization estimates of the global and regional disease burden of 11 foodborne parasitic diseases, 1, 20-26.

UNCTAD, (2007). Food safety and environmental requirements in export markets— friend or foe for producers of fruit and vegetables in Asian developing countries. United Nations Conference on Trade and Development, New York and Geneva.

United Kingdom Department for Environment, Food and Rural Affairs, (2014). Government response to the Elliott Review of the integrity and assurance of food supply networks. Retrieved from: https://www.gov.uk/govemment/uploads/system/uploads/attachment_data/file/350735/elliott-review-gov-response-sept-2014.pdf. (Accessed March1, 2017).

USDA, (2010). Food consumer price index and expenditures, US Department of Agriculture Economic Research Service. Retrieved from: www.ers.usda.gov/briefing/cpifoodandexpenitures. (Accessed on October 21, 2016).

Vally, H., Glass, K., Ford, L., Hall, G., Kirk, M.D., Shadbolt, C., Veitch, M., Fullerton, K.E., Musto, J., & Becker, N. (2014). Proportion of illness acquired by foodborne transmission for nine enteric pathogens in Australia: An Expert Elicitation. Foodborne Pathogens and Disease, 11, (9), 727–733.

Van der Meulen, B.M.J. (2010). Development of food legislation around the world." In Ensuring Global Food Safety: Exploring Global Harmonization. Edited by Christine E. Boisrobert, Aleksandra Stjepanovic, and Sangsuk Oh, Huub L.M. Lelieveld. London: Academic Press, 5–69.

Van Dijk, H., Houghtonb, J., van Kleefa, E., Rowe, G., & Frewer, L., (2008). Consumer responses to communication about food risk management. Appetite, 50 (2–3), 340–352.

Van Esch, P., Van Esch, L., & Cowley, J. (2013). The Dimensions of Religion as Underpinning Constructs for Mass Media Social Marketing Campaigns: An Emerging Concept. International Journal of Marketing Studies, 5(1), 96-106.

Vankova, D. (2015) Community-centered research in Bulgaria, a mixed-methods approach to health-related quality of life, European Journal of Public Health,
8th European Public Health Conference: Proceedings, 25(3), 291.

Vanschaik, B., & Tuttle, J. (2014). Mobile food trucks: California EHS-net study on risk factors and inspection challenges. Journal of Environmental Health, 76(8), 36-37. Retrieved from https://www.cdc.gov/nceh/ehs/docs/jeh/2014/april-food-trucks.pdf

Van Kleef, E., Frewer, L. J., Chryssochoidis, G., Houghton, J. R., Korzen-Bohr, S., Krystallis, T., Lassen, J., Pfenning, U., & Rowe, G. (2006). Perceptions of food risk management among key stakeholders: Results from a cross-European study. Appetite, 47, 46–63.

Venkatesh, V., Brown, S., & Bala, H., (2013). Bridging the Qualitative–Quantitative Divide: Guidelines for Conducting Mixed Methods Research in Information Systems, MIS Quarterly, 37(1), 21-54.

Vergne, J.P. (2012). Stigmatized category and public disposal of organization: A mixed methods study of the global arm industry. Academy of Management Journal, 22(5), 1027-1052.

Wang, J. Lin, W., & Huang, Y.H. (2010). A performance-oriented risk management framework for innovative R&D projects Technology Innovation, 30, 601–611.

Wansink, B. (2004). Environmental factors that increase the food intake and consumption volume of unknowing consumers, Annual Review of Nutrition 24, 455-479.

Webb, M., & Morancie, A. (2015). Food safety knowledge of foodservice workers at a university campus by education level, experience, and food safety training. Food Control.

Welman, J.C., Kruger, S.J., & Mitchell, B. (2005). Research Methodology. (3rd ed.). Cape Town: Oxford University Press Southern Africa.

WHO. (2013). WHO methods and data sources for global burden of disease estimates 2000–2011.

Woolhouse, M., & Rocheleau, M. (2017). A major issue for some Boston Food Trucks Hand-washing. Boston Globe.

World Economic Forum (WEF). (2008). A Global Risk Network Report. Cologny/Geneva.

Wilkinson, J. (2013). The Food Processing Industry, Globalization and Developing Countries, electronic Journal of Agricultural and Development Economics, International Food and Agribusiness Management Review, 12(1), 1-18.

William E., Nganje, R., Hughner, S., & Patterson, P.M. (2014). Perception of risks and preferences for locally grown produce: A marketing system approach. Journal of Food Products Marketing, 20(2), 196-214.

Wyld, D. C. (2014). Research briefs: Do happier employees really stay longer? Academy of Management Perspectives, 28(1), 1-3.

Yapp, C., & Fairman, R. (2006). Factors affecting food safety compliance within small and medium-sized enterprises: implications for regulatory and enforcement strategies. DOI: 10.1016/j.foodcont.2004.08.007

Yin, R.K. (2016). Qualitative Research from Start to Finish, Second Edition. New York: The Guilford Press. 44(3), 386.

Yu, S.C., Tan, F., Zhou, M.G., Liu, S.W., Zhu, X.J., & Zhu, Y.L. (2014). Global burden of disease, injury and risk factor study 2010: Its policy implications for China. Biomedical and Environmental Sciences, 27(1), 45–48.

Y. Le Guen, V., Meyer, O., Poupard, E., Houdu, R., & Chammas, (2009), A Risk-Based Approach for Well Integrity Management over Long Term in a CO_2 Geological Storage Project, SPE paper # 122510.

Zachariadis, M., Scott, S., & Barrett, M. (2013). For Mixed methods Research. Management Information Systems Quarterly, 37, 855-879.

Zentis, T., & Schmitt, R. (2013). Technical risk management for an ensured and efficient product development on the example of Medical Engineering M. Abramovici, R. Stark (ed.), Smart Product Engineering, Springer, Berlin Heidelberg, Berlin, Heidelberg, 387-398.

Zwikael, O. & Ahn, M. (2011). The effectiveness of risk management: an analysis of project risk planning across industries and countries Risk Analysis, 31, 2-37.

7 APPENDIX

7.1 Invitation letter to participants in the study

Invitation cover letter for research study sent to fast food restaurant owners. (Copy)

Roy McNeil

15 Gordon Town, Kingston 6.

Dear Participant,

I invite you to participate in a research study entitled: Investigating Regulatory Compliance: Key Issues in the Management of Risk in the fast food industry in Jamaica. The objective of the study is to determine how the management of food safety risk can enhance compliance.

I am currently enrolled in the DBA program at Edinburgh Napier University, and in the process of writing my DBA Thesis. The purpose of the research is to determine the level of compliance with national regulations in fast food restaurants. Privacy and confidentiality of all the participant will be protected.

I hereby ask that you grant permission of your staff/manager to participate in the study.

Your company's participation in this research project is completely voluntary. Therefore you may decline. There are no known risks associated with your participation. Data from this research will be kept under confidential cover and reported only as a collective combined total. No one other than the researcher will know your individual responses to this interview.

If you have any questions about this project, feel free to contact *Roy McNeil* at *876-977-6816*

I have read the above information regarding this research study and consent to participate in this study.

Name   _____

Signature   _____

Date   _____

Thank you for your assistance in this important endeavour.

Sincerely yours,

Roy McNeil

7.2   Research Consent Form

Research consent form sent to the participants at the fast food restaurant (copy**).**

Name of Researcher: Roy McNeil
Title of study : Investigating Regulatory Compliance: Key Issues in the Management of Food Safety Risk in the Fast Food Industry in Jamaica.

Please read and complete this form carefully. If you are willing to participate in this study, circle the appropriate responses and sign and date the declaration at the end. If you do not understand anything and would like more information, please ask.

- I have had the research satisfactorily explained to me in verbal and / or written form by the researcher.
- I understand that the research will involve interview, audiotaping and notes taking. Each interview will last for approximately 30-45 mins.
- I understand that I may withdraw from this study at any time without having to give an explanation.
- I understand that all information about me will be treated in strict confidence and that I will not be named in any written work arising from this study.
- I understand that any audiotape material of me will be used solely for research purposes and will be destroyed on completion of your research.
- I understand that you will be discussing the results of the research with others at Edinburgh Napier University.

Privacy and confidentiality of all the participants will be protected.

I freely give my consent to participate in this research study and have been given a copy of this form for my own information.

Signature: ………………………

7.3   Interview Question Guide

Interview Question Guide for Fast food Restaurant Managers / Owners.

The following questions guided the interview discussions. Additional questions with a similar focus were asked in response to the information shared by the participants.

Background

1.   What type of business do/did you work in? (e.g. large/small)

2.   What tasks do/did you do?

3.   What is/was the nature of your employment? (i.e. casual, permanent part- time, permanent full-time)

Sense of knowledge

4.   What food safety training have you had?

5.   What type of information was included in the training?

6.   What did you think of the food safety training?

Attitudes and experience

7.   Were there any instances that you observed when food safety was compromised? How was that situation dealt with?

   a. Follow-up questions regarding whether they felt pressure to function in a certain way.

Culture regarding food safety

8.   How would you describe the culture of the business where you work/worked in relation to food safety?

9.   Do you think food safety is a priority?

   a. Follow-up   questions   regarding   significance   of   food   safetyfor management, co-workers, themselves.

10. What do you think are the main barriers to food safety compliance?

Perceptions of food safety

11. What does 'food safety' mean to you?

12. As a business owner/manager, what do you consider to be the top priorities for ensuring food safety in your business?

13. What do you consider to be less of a priority to food safety?

14. Do you think food safety is a serious issue for business like yours? Do you think it is likely that a food-borne illness/food poisoning outbreak could happen in a business like yours? Why?

15. What are your priorities as a business owner/manager (e.g. profit, safety, having enough non-work time with family, etc.)?

16. Where does food safety fit with your priorities in owning or managing a business?

17. What are the consequences or risks to yourself or to your business if you don't comply with all of the food safety laws?

Food safety

18. Thinking about food safety laws and regulations, which is relatively easy to comply with (e.g. cleaning, appropriate work environment, etc.) and why?

19. What is more challenging to comply with and why?

20. Do you think it is important to comply with all of the food safety laws? Why?

21. What types of things get in the way of compliance (e.g. cost, time, staff, etc.)?

22. Do FSI's feedback make it easier for you to understand and implement all food safety requirements in your business?

Strategies to support the economic context

23. In the past, who or what has helped you to understand and implement the correct food safety procedures in your business (e.g. training, information given during inspections, newsletter and other information sent out by government, information from a professional association, information on the Internet, etc.)?

7.4 Respondents Profile

Respondents Profile

Respondents	Gender	Profile
Respondent A	Male	Manager of an International recognized Fast Food Outlet based in Kingston, 6years experience.
Respondent B	Male	Owner of a local Fast Food Restaurant based in Kingston, 5years experience.
Respondent C	Female	Manager of a local Fast Food chain in Jamaica, 5 years' experience.
Respondent D	Female	Manager of an international recognized Fast Food outlet based in Kingston 7years experience.
Respondent E	Female	Owner of a local Fast Food Restaurant based in Kingston 5yrs experience.
Respondent F	Male	Owner of a local Fast Food Restaurant based in Kingston 5yrs experience.
Respondent G	Male	Manager of an international recognized Fast Food outlet based in Kingston, 5years experience.
Respondent H	Male	Manager of an International recognized Fast Food outlet based in Kingston, 7years experience.
Respondent I	Female	Manager of an International recognized Fast Food outlet base in Kingston, 7years experience.
Respondent J	Female	Owner of a local Fast Food Restaurant based in Kingston, 5years experience.
Respondent K	Male	Manager of an International recognized Fast Food outlet based in Kingston, 5years experience.
Respondent L	Male	Manager of a local Fast Food chain in Jamaica, 5 years' experience.
Respondent M	Female	Owner of a local Fast Food Restaurant based in Kingston, 5years experience.
Respondent N	Female	Owner of a local Fast Food Restaurant based in Kingston, 7years experience.
Respondent O	Male	Manager of a local Fast Food chain in Jamaica, 6 years' experience.

7.5   Interview Data- Respondent Comments

Interview data – Respondent Comment

ISSUES	INTERVIEWEES COMMENTS/REMARKS
Background What type of business do/did you work in? What tasks do/did you do? Operational challenges	*Manager of an International recognized Fast Food Chain (Respondents A,D,G,H,I,K).* *Manager of a Local Fast Food Chain (Respondents B,C,E,F,J,L,M,N,O).* *Respondents A-G and J-N see organizational challenges as a major concern in being compliant. All the respondents reported challenges with staff turnover, suppliers, increasing cost burdens and working long hours.*
Sense of knowledge What food safety training have you had? What type of information was included in the training? What did you think of the food safety training?	*"I agree that once we take the required training then government officials need to inform us when to do it again."* (Respondent K) *"...the day class that Public Health puts on is time consuming its losing a whole day."* (Respondent O) *"I wish we have an app, this would make training much easier. We could study food safety materials from anywhere. Also we could download the regulation, so when we are not sure of something we could easily check it out."* (Respondent M) *"Training methods such as the use of a manual to study, shadowing, role playing, the use of computer software programs and one-on-one instruction are predictors of higher food safety knowledge and compliance."* (Respondents M and O). *"Pictures can remind staff of what to do, they also visualize handwashing."* (Respondent K) *"In all our restaurants, the company ensure that posters are up with food safety tips. ... Wash hands after using the bathroom, don't come to work if you have a*

Methods of training	*cold. ... With Dos and Don'ts in all the different section of the kitchen and some rooms." (Respondent C)* *"Managers do not have time to train all the time, so new staff; they're thrown in the deep end and told to ask the other staff. That's hard when you still have your job to do as well." (Respondent E)* *"You would learn as you go from other employees that work there, not from the boss." (Respondent I)* *"... If training was ongoing or had follow-up... I would be able to retain it a lot more. I'm sure there is stuff I don't remember. ... more of a long- term program it would be more effective." (Respondent N)* *"To keep up to date we need more training sessions but not for an entire day. Make short sessions regularly. This is necessary since restaurants tend to have a high staff turnover." (Respondent E)*
Attitudes towards food safety compliance	*"Food safety must not be disregarded. It must be at the fore front of everything we do. Proving safe food is number one." (Respondent M)* *"For a small fast food restaurant, food safety is very important for us. We take it very seriously as it can affect all aspects of the business." (Respondent A)* *"Head office – focus on food safety issues. They hold managers accountable, and personally responsible for all matters related to food safety." (Respondent G)* *"As a large chain, we are required to keep up with any changes in the industry even though this can be time consuming. Our company see food safety as one of our goals."(Respondent D)*
Culture regarding food safety How would you describe the culture of the business where you work/works in relation to food safety?	*"Because there are just four of us in our restaurant and we work very long hours, we finish late at nights. We find the cleaning and closing down process at times very challenging. We are pressed for time to deal with food safety matters." (Respondents D and F).* *"Even though we are a large restaurant with quite a few staff, we still find it pressuring to keep up with food safety issues. We don't have enough time to keep up with all matters related to food safety." (Respondent L)* *"If the managers are more laid back, they will be more lenient with some things. You learn how far you can go and how far you can't with different managers. The*

Do you think food safety is a priority?	*attitude of the managers towards food safety is really important." (Respondent D).* At my restaurant we are very strict on following rules. Everyone is encouraged to follow the procedure when cleaning the equipment. The cleaning log sheet have to written up, otherwise you get a demerit point. Overtime this can lead to dismissal." (Respondent O) "On a regular basis, they inspect all work areas to ensure that the standards are being upheld and that all health and safety procedures are being followed. Employees who do not observe the rules and guidelines are likely to be fired." (Respondent J).
What do you think are the main barrier/s to food safety compliance?	*Financial -* "Restaurants paying rent are forced ...regarding building repairs and renovations which often impedes progress in meeting compliance requirements. ... Meeting building code and food safety regulations can be challenging as requirements may be dissimilar and sometimes counter to each other." (Respondents C and I). "We also have to satisfy the requirements of the Fire Department, Building Codes, Ministry of Health and the Food Storage Division in order to be compliant." (Respondents H and J) "We sometimes modify the equipment, especially when they malfunction, because we don't have the money to repair them." (Respondent B) "Sometimes we are short on funds to call in the exterminators or even to pay for the collection of our garbage. When this is not done the restaurant is at risk of infestation." (Respondent C) "... we sometimes we do the pest control work ourselves. Sometimes the treatment is not as effective as when the pest control company does it. They have the right spraying equipment and chemicals."(Respondent F) "We have food spoilage when our freezer breaks down because it sometimes takes a long time for repairs to be done due to shortage of funds." (Respondent H) "Some of our freezers need changing, but right now the new ones are so expensive ...by next year in the new budget we can change maybe the two small ones."(Respondent G) Keeping up with changes in the regulations (Respondents A-G).

	Understanding the technical aspects of the regulations (Respondents A-O).
Roles of/relationship with food safety inspectors.	*"We have had some really nice officers come out and give us ideas about free training that we can provide to staff for their food safety supervisors course. One officer told us about the free online training."(Respondent H)*
	"It all depends on the safety officer. There are nice ones and there are not nice ones. Everything that he said ... we would try and do it. ... Things
	that were hard to do he gave us very good advice. If there was something noticeable he ... give us some ideas on what to do to fix it. ... It was less time-consuming for us ... when he came back and saw that we had fixed it he was very happy." (Respondent M)
	The Food Safety Inspectors are okay, they are after the same things as we are. We want a clean work environment. We want everything to move smoothly." (Respondent H)
	"If everything is on track and right it makes it easier for the inspector to do their job and our job ... we stay on top of things. At the end of the day we know the inspectors are doing their job to ... and we do our job to keep people safe, it's good to have a good relationship with him."(Respondent F)
	"Sometimes what the Food Safety Inspectors tell me ... seems challenging at first, but after discussing it with my staff we usually comes up with ways of how to approach it. The last time the Inspector praised up for job well done." (Respondent L)
	"I have had a good relationship with the Food Safety Inspector. ...Writing to him recently, seeking advice. He has always been there to help us and support us. It has to be a partnership ... things can go wrong. We want to do things right. ... open to discussing if something is wrong and we can fix it so." (Respondent K)
	"I think they understand what they study but they don't understand what the people who work in the restaurant are trying to do. ... Officers, don't understand that people work very hard to keep the restaurant in good order. It can be very tough". (Respondent J)
	"Some of the things like moving the stove off the wall, cleaning the vents that might have a bit of dust on them but not create an issue for food can be seen as trivial". (Respondent D)

"I think the main thing is for inspectors not to come in with such a negative attitude. ... They come in with an attitude of wanting to help the restaurant instead of just wanting to beat down the business. If you have a concern or worry about something in your restaurant and the inspector is not helpful ... you're more likely to try and hide an issue." (Respondent I)

"People get scared when inspectors come into your restaurant you know that everything will be wrong, nothing will be right, trust me!" (Respondent K)

"I think the Food Safety Inspectors are okay, they give you time to be heard. They have tried to explain and spend time with us." (Respondent K)

"For the last few inspections we have had the same inspector ... he remembers things and checks up on things that may have occurred during the last visit." (Respondent C)

"We have the same officer come in for all our checks. We know each other. It's all about the relationship. This ensured that there weren't any contradictions ... That inconsistency can be a problem in any industry." (Respondent G)

"Having the same officer each time ... build up a relationship. That would be really helpful. Consistency in approach is really important so that we know that we are complying with, what we have to do, not just based on a personal preference of ..." (Respondent H)

"... it can become difficult is when you are dealing with the personal opinion of the Food Safety Inspectors. ...to be compliant with the laws ...have to bend to different officers opinions. There are some grey areas there that relate to the personal opinion of the safety officer." (Respondent I)

"In the past we didn't see the same officer each time. We have been given different advice about some things which can be very confusing." (Respondent A)

"They send different people all the time, some are tougher than others ..., but we make sure everything is clean whenever they come." (Respondent C)

"I notice difference between younger and older inspectors...have more experience and tell you why you have to do things. The younger ones just walk...Young people need to understand that they have to tell people what they need to be doing and why." (Respondent F)

"I remembered things mostly about microorganisms and then the inspector

explained to me again how quickly microbes can grow and that it can cause people to die. That scared me a bit, but I did not really understand before she told me what a big problem it can be." (Respondent N)

"Inspectors come and visit every six months ... it is stressful you always think something is not good enough. Normally we get through pretty easily. They have a look around they tell us to clean this ... we just do it. We have to comply ... and make sure everything is clean."(Respondent K)

" We are probably due for an inspection soon, and it's always stressful. We just have to do what they tell us to do." "Sometimes I cry when he comes ... I sit outside and cry, it's very stressful and I was very worried." (Respondent G)

"It's been on the cleanliness of the environment and whether or not you comply with their regulations." "Just walked through and looked things over – looked at the walls and ceilings – nothing to do with the food I was preparing ...." (Respondent N)

"They have never looked at our food logs. ... Focus on equipment and the general upkeep of the restaurant. ... Whether or not this is because we've never had an issue or a complaint. ... all conversations with them have been in regards to equipment, extra dishwashers, sinks or signage it's never about ...." (Respondent K)

"... Is trivial stuff – like one time they were looking in the office and not in the kitchen? They were looking at ..., not the things that we thought they should have been looking at." (Respondent D)

"Some of the rules and regulations might be bit odd but obviously they are qualified and have done the training ...expect that they know what to do." (Respondent G)

"They do not tell us why they are looking at some things and not others. They just come in and don't really explain what they are looking at things for."(Respondent B)

"The inspector ... I had to write down temperatures of food but we don't worry, it's okay. I check the temperatures, not usually with a probe, just rely on the cooking of the oven and make sure the display cabinet is at the right temperature."(Respondent D)

	"They don't look at the big picture ....to always find something wrong. It's a good idea to keep an eye on food safety. There will always be some small things wrong. We have fly screens we have security doors we have air conditioning but we can't keep flies out and keep the place clean ....It's impossible." (Respondent L) *"Twice a year they come, they were here in April, they will come back in three months' time and after that I will get a new license."(Respondent M)* *"... coming, give us some notice, they don't really understand what it's like when you have such a small staff group. The priority is on getting customers in and food out; other things can sometimes slip because of this". (Respondent L)* *"...random checks would be a good, just to keep everyone on top of the game. ... Just walk in and tell us that they here for a health inspection we don't get any prior warning. If no one's complained it will be a general health inspection if someone has complained they will sit down with us and show pictures and notes and thoroughly discuss it." (Respondent G)* *"When you close them, at that time you will find that they comply, that's what they usually do." (Respondent A)* *"... Should not have to wait until we get a citation for us to keep the restaurant clean. Keeping the restaurant means less chances of contamination ... After three citations you are likely to be prosecuted."(Respondent E)* *"There is too much leniency on the part of some Food Safety Inspectors."(Respondent J)* *"It is rather unfortunate restaurants have to be closed for them to take food safety serious. Inspectors must follow up on notices." (Respondent A)*
As a business owner/manager, what do you consider to be the top priorities for ensuring food safety ?	*"The ultimate goal of food safety is to prevent such outbreaks. Surveillance systems allow authorities to better understand major food safety risks and to refocus prevention efforts. It also allows early detection of adverse food safety events and prompt and effective response." (Respondents D-I)* *"All involved (e.g. (food industry personnel, regulators, educators, the general public) must be properly educated with regard to food safety. Proper resources must be provided with regard to promoting food quality. "(Respondents Q and R)*

How can food safety be ensured?	*"It can be maximized by properly educating and empowering , manufacturers, store houses, transporters and consumers. Also, regulators must be competent, properly resourced, organized and vigilant. All must be proactive and not reactive. Recall programmes must be in place." (Respondent W)*
Do you think food safety is a serious issue for business like yours? Do you think it is likely that a food-borne illness/food poisoning outbreak could happen in a business like yours? Why?	*"Very serious." (Respondent I)* *"Worst case scenario, it can result in deaths." (Respondent U)* *"Also loss of reputations, business, jobs, livelihoods." (Respondent K)* *"Can affect whole industries." (Respondents A –O)*
Feedback from FSIs	*"This helps to learn what you're doing wrong and enable to judge whether question has been answered and interpreted properly. It also distinguish purpose and use, improve inspection grade and improve the structure." (Respondent B)* *"Reluctance to admit difficulties to FSIs or approach FSIs to discuss feedback because of fear of unspecified disadvantage and FSIs variability in framing feedback, while some are approachable and give better advice than others" (Respondents E-G)* *"To improve inspection grade and to receive limited feedback…..improving structure improves inspection grade." (Respondent T)* *"Usually read feedback then refer to it if focusing on same area to improve compliance. Example: using feedback to improve food safety; while others forget about feedback until next inspection even when applicable to similar inspection. Also, generic feedback on food safety is widely applicable and is focus on inspections." (Respondent X)*

"Like to get feedback but reluctant to hear criticism even if constructive because feedback can be taken personally initially therefore feedback is requested in private as emotional response is difficult to manage in public" (Respondents W-Z)

"Wording doesn't make much difference because of FSIs variability in framing feedback. It can also be framed in a supportive way." (Respondents C-H)

"Useful feedback helps when having difficulties judging own work and can explain what went wrong. Feedback explains inspection grade and how to improve on it. It also allows for more dialogue even though it can be a bit time consuming. Feedback should be constructive while understanding at the same time and about the work and not the individual." (Respondent O)

'Actually if you had to tell me how I got a 75 or 87, how I got that grade, because I know every time I'm due to get my result for an inspection, I kind of go 'oh I did so bad, I was expecting to get maybe 40 or 50', and then you go in and you get in the high 70s or 80s. It's like how did I get that? What am I doing right in my restaurant?' (Respondents D).

' I think also the thing that, you know... the fact that someone has sat down and taken the time to actually tell you this is probably, it gives you an incentive to do it. It does mean a bit more.' (Respondents X)

'The regulations thing I've tried to, that's the only… that's really the only feedback we have gotten back ,I have tried to improve, but everything else it's just kind of been 'well done', I don't… hasn't really told us much.' (Respondent X).

'I think also the thing that, you know... the fact that someone has sat down and taken the time to actually tell you this is probably, it gives you an incentive to do it . It does mean a bit 'more ' (Respondents X).

"I think the Food Safety Inspectors are okay, they give you time to be heard. They have tried to explain and spend time with us."
(Respondent K)

"People get scared when inspectors come into your restaurant you know that everything will be wrong, nothing will be right, trust me!"
(Respondent K)

	"In the past we didn't see the same officer each time. We have been given different feedback about some things which can be very confusing."(Respondent A)
	"I notice difference between younger and older inspectors…have more experience and tell you why you have to do things. The younger ones just walk…Young people need to understand that they have to tell people what they need to be doing and why." (Respondent F)
	"I remembered things mostly about microorganisms and then the inspector explained to me again how quickly microbes can grow and that it can cause people to die. That scared me a bit, but I did not really understand before she told me what a big problem it can be." (Respondent N)
	"Inspectors come and visit every six months … it is stressful you always think something is not good enough. Normally we get through pretty easily. They have a look around they tell us to clean this … we just do it. We have to comply ... and make sure everything is clean." (Respondent K)
	"We are probably due for an inspection soon, and it's always stressful. We just have to do what they tell us to do." "Sometimes I cry when he comes … I sit outside and cry, it's very stressful and I was very worried." (Respondent G)
What are the consequences or risks to your business if you don't comply with the food safety laws?	*Illness of consumers (Respondents A- O).)* *Death of consumers (Respondent Y)* *Loss of productive man-hours (Respondent N)* *Loss of the food itself (Respondent L)* *High cost of food recalls (Respondent S)* *Loss of business and reputation to food company (Respondent M)* *Loss of business and reputation to whole industries (Respondent D)*

	Cost to regain a presence in the market (Respondent L)
Do you think it is important to comply with all of the food safety laws? Why?	*To mitigate against foodborne illnesses and deaths (Respondent J)* *Prevent punitive action by the state and consumers (Respondent R)* *To enhance companies' reputations and improve businesses(Respondent H)*
How do you obtain information on food safety How do feedback from FSIs helped you to understand and implement correct food safety procedures in your business	*Training courses (Respondents A-F),* *Information given during inspections, newsletter and other information sent out by government (Respondents A-O).* *Information from a professional association, information on the Internet (Respondents G,H,K).* *'Actually if you had to tell me how I got a 75 or 87, how I got that grade, because I know every time I'm due to get my result for an inspection, I kind of go 'oh I did so bad, I was expecting to get maybe 40 or 50', and then you go in and you get in the high 70s or 80s. It's like how did I get that? What am I doing right in my restaurant?'(Respondents x).* *' I think also the thing that, you know... the fact that someone has sat down and taken the time to actually tell you this is probably, it gives you an incentive to do it. It does mean a bit more.'(Respondents)* *'The regulations thing I've tried to, that's the only... that's really the only feedback we have gotten back ,I have tried to improve, but everything else it's just kind of been 'well done', I don't... hasn't really told us much.' (Respondents).* *'I think also the thing that, you know... the fact that someone has sat down and taken the time to actually tell you this is probably, it gives you an incentive to do it . It does mean a bit 'more '(Respondents).* *"I think the Food Safety Inspectors are okay, they give you time* *to be heard. They have tried to explain and spend time with us."* *(Respondent K)*

What would make it easier for you to implement food safety requirements?	*More training, especially on the job (Respondent A - O)*
	The availability of resources (C - H)
	More support from top management (B)
What are some of the roles of managers in ensuring food safety compliance?	*Managers must be well educated in the importance of food safety (Respondents A -O).*
	Must be competent and kept abreast what is happening in the industry (Respodents B – M)
	Must be examples to the staff they supervise (Respodents A - O).
	Must ensure that workers are properly trained. Managers are good at doing training (Respodents A-O)
	Must be vigilant, especially when it comes on the regulations (Respondents A-O).

7.6   Interview Extract/ Transcript

Interview Extract

"This helps to learn what you're doing wrong and enable to judge whether question has been answered and interpreted properly. It also distinguish purpose and use, improve inspection grade and improve the structure." (Respondents B-G)

"Reluctance to admit difficulties to FSIs or approach FSIs to discuss feedback because of fear of unspecified disadvantage and FSIs variability in framing feedback, while some are approachable and give better advice than others" (Respondents E-G)

"To improve inspection grade and to receive limited feedback…..improving structure improves inspection grade." (Respondents M-O)

"Usually read feedback then refer to it if focusing on same area to improve compliance. Example: using feedback to improve food safety; while others forget about feedback until next inspection even when applicable to similar inspection. Also, generic feedback on food safety is widely applicable and is focus on inspections." (Respondents B-K)

"Like to get feedback but reluctant to hear criticism even if constructive because feedback can be taken personally initially therefore feedback is requested in private as emotional response is difficult to manage in public." (Respondents A-H)

"Wording doesn't make much difference because of FSIs variability in framing feedback. It can also be framed in a supportive way."(Respondents C-H)

"Useful feedback helps when having difficulties judging own work and can explain what went wrong. Feedback explains inspection grade and how to improve on it. It also allows for more dialogue even though it can be a bit time consuming. Feedback should be constructive while understanding at the same time and about the work and not the individual."(Respondents O-A)

'Actually if you had to tell me how I got a 75 or 87, how I got that grade, because I know every time I'm due to get my result for an inspection, I kind of go 'oh I did so bad, I was expecting to get maybe 40 or 50, and then you go in and you get in the high 70s or 80s. It's like how did I get that? What am I doing right in my restaurant?'(Respondent D).

' I think also the thing that, you know... the fact that someone has sat down and taken the time to actually tell you this is probably, it gives you an incentive to do it. It does mean a bit more.'(Respondents F-K)

'The regulations thing I've tried to, that's the only… that's really the only feedback we have gotten back ,I have tried to improve, but everything else it's just kind of been 'well done', I don't… hasn't really told us much.' (Respondent I).

"I think the Food Safety Inspectors are okay, they give you time to be heard. They have tried to explain and spend time with us when giving feedback." (Respondent K)

"People get scared when inspectors come into your restaurant you know that everything will be wrong, nothing will be right, trust me! …feedback is never clear" (Respondent K)

"In the past we didn't see the same officer each time. We have been given different feedback about some things which can be very confusing."(Respondent A)

"I notice difference between younger and older inspectors…have more experience and give feedback to you why you have to do things. The younger ones just walk…Young people need to understand that they have to tell people what they need to be doing and why." (Respondent F)

"I remembered things mostly about microorganisms and then the inspector explained to me again how quickly microbes can grow and that it can cause people to die. That scared me a bit, but I did not really understand before she told me what a big problem it can be." (Respondent N)

"Inspectors come and visit every six months … it is stressful you always think something is not good enough. Normally we get through pretty easily. They have a look around they tell us to clean this … we just do it. We have to comply … and make sure everything is clean." (Respondent K)

"We are probably due for an inspection soon, and it's always stressful. We just have to do what they tell us to do."…anyhow I appreciate their feedback" (Respondent G)