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Implementation of Food Safety Regulations in Food Service Establishments

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This is to certify that the doctoral study by

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2018

Abstract

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MS, Capella University, 2007

BS, Bethel University, 2001

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

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Abstract

Food service businesses in the United States have experienced millions of dollars in losses caused by foodborne illness outbreaks, which can lead to bankruptcy and business closures. More than 68% of all foodborne illness outbreaks occur in food service establishments. The purpose of this descriptive case study was to explore the strategies leaders of food service establishments use to implement food safety regulations. Force field analysis was the conceptual framework for this study. The population for the study consisted of 3 leaders of food service establishments located in the southeastern region of the United States. Data were collected using semistructured interviews and a review of the business policies and procedures that support compliance with critical food safety regulations. The methodological triangulation approach was used to assist in correlating the interview responses with company policies and procedures during the data analysis process. Yin's 5-step data analysis approach resulted in 3 themes: (a) organizational performance analysis for improvements in food safety, (b) strategies applied to improve food safety, and (c) stability of new strategies for food safety. The key strategies identified included adhering to the guidelines of food code and regulation, conducting employee training and awareness building, and working closely with food safety inspectors. The implications for positive social change include the potential to add knowledge to businesses, employees, and communities on the use of effective food safety strategies to minimize foodborne illnesses. Such results may lead to the improvement of service performance and long-term growth and sustainability of food service establishments.

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Dedication

I would like to dedicate this dissertation to my grandmother, Alice Cole. Throughout my life, my grandmother supported me and took good care of me. She has always supported me and motivated me to continue my education, and I love and thank her for that. I give thanks to God for allowing her to continue to encourage me even after calling her home. I love you, and I hope I have made you proud.

Acknowledgments

I would like to take this chance for thanking my committee members, facilitators, family & friends for the support they provided & their belief in me as well as guidance they provided without which I would have never been able to do this research.

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Section 1: Foundation of the Study

Restaurants in the United States account for more than half of all the foodborne-illness outbreaks (Centers for Disease Control and Prevention (CDC), 2015). Foodborne illness can occur when a person eats or drinks something that is contaminated. Foodborne illness can result from bacteria, viruses, parasites, molds, toxins, or contamination of water or food (World Health Organization (WHO), 2015). The CDC, as well as other organizations have taken actions to prevent foodborne outbreaks through training and inspections (CDC, 2015; Husain, Muda, Jamil, Hanafi, & Rahman, 2016).

Research related to the effects of implementing food safety programs within food service establishment varies. Harris, DiPietro, Murphy, and Rivera (2014) proposed that issues related to hygiene, equipment, temperatures, cooking, and the purchase and receipt of unsafe food sources play a significant role in foodborne illnesses. Wong et al. (2015) proposed that restaurant inspections help promote food safety and sanitary practices within restaurants. Many food service establishments have adopted programs that provide strategies which contribute to standardizing their practices.

Food safety programs play an influential role in the prevention of food pathogens that result in foodborne illness (Viator, Blitstein, Brophy, & Fraser, 2015). For this reason, many organizations and the United States Government designed a food safety program that specifies the least obligations for a suitable food safety managing system (Harris, Murphy, DiPietro, & Line, 2017). Despite the requirement to implement food-safety programs, business leaders lack the strategies to implement food-safety critical regulation to mitigate foodborne illnesses within their organizations. The central point of

this study is to understand the driving and restraining forces to implementing food safety programs within food service establishments.

Background of the Problem

According to the CDC (2015), there continues to be a lack of improvement in the prevention of foodborne illness in food service establishments. Foods processed within food service establishments are consumed in large quantities in the United States. In addition, foods prepared in businesses are becoming a need for most people and a cause of an increasing rate of illnesses and deaths (Brough, Davies, & Johnstone, 2016). Illnesses and deaths due to foodborne pathogens have become a significant challenge for public health. The CDC manages the reporting of illnesses and deaths associated with food. The United States Food and Drug Administration (FDA) and the Department of Agriculture (USDA) are two government agencies that oversee the food protection requirements within the United States. One of the requirements is that food safety programs are implemented within all U.S. food service facilities to prevent foodborne pathogens (Brough et al., 2016). Despite the food protection services and the implementation requirements of food safety programs to prevent food-borne illnesses, the United States continues to experience outbreaks.

Food safety programs play an influential role in the prevention of food pathogens that result in foodborne illnesses. Challenges to the implementation of processes and forces that facilitate the adoption of food-safety programs are contributing factors (Chen, Flint, M. Perry, P. Perry, & Lau 2015). Despite the requirements to implement food safety programs, the United States is still experiencing foodborne illnesses. The central

goal of this study is to understand the driving and restraining forces to implementing food safety programs within food service establishments.

Problem Statement

At least 68% of all foodborne illness outbreaks occur within food service establishments (Norton et al., 2015), which have resulted in significant financial losses (Scharff, 2015) as well as bankruptcy and business closures (Seo, Jang, Almanza, Miao, & Behnke, 2014). The implementation of food safety critical regulations would allow business leaders in food service businesses to decrease financial losses that result from foodborne illness outbreaks (Griffith, Jackson, & Lues, 2017). The general business problem is that business leaders' ineffectiveness with food safety practices negatively affects the organizations' long-term growth and sustainability. The specific business problem is that some business leaders lack strategies to implement food safety critical regulations within their organizations.

Purpose Statement

The purpose of this qualitative descriptive case study explored the strategies business leaders used to implement successful food safety critical regulations in their organization. The targeted population for this study consisted of business leaders located within the southeast region of the United States who were responsible for implementing food safety critical regulations within their organizations successfully. This study may contribute to positive social change by adding to the knowledge of individuals, communities, organizations, and cultures regarding the effective use of food safety strategies to minimize foodborne illnesses. As a result, food safety performance may

improve, and foodborne illness may decrease, enhancing the quality of life for community members.

Nature of the Study

I used the qualitative method to explore the strategies business leaders use to implement successful food safety critical regulations in their organizations. Morgan (2016) noted that qualitative research could be subjective because of the personal researcher's involvement in collecting data. Also, researchers using the qualitative research method strive to obtain a comprehensive understanding of a phenomenon. The qualitative research method was selected over the quantitative research method because the qualitative method provides for a systematic approach toward describing experiences where I was able to provide more profound meaning.

Conversely, the quantitative method determines the relationship between an independent and dependent variable (Morgan (2016). Quantitative researchers focus more on the investigation of properties and phenomena and their relationships. Also, numerical data and statistical models apply to the use of the quantitative research method (Yin, 2017). I did not use statistical data as part of the doctoral study. The mixed methods research methodology incorporates the use of both qualitative and quantitative research designs (Ahn & Ettner, 2014). The mixed methods research methodology, as opposed to the qualitative or quantitative research method alone, may provide a better understanding of the research problem (Sneison, 2016). Yin (2017) proposed that when using the qualitative research method, a focus on answering what, how, and why questions would be a useful approach. Because the qualitative research method closely aligns with the

viewpoint and design of this doctoral study, I focused on answering what, how, and why questions.

I selected a descriptive case study design that complemented the qualitative research method. The use of an in-depth description of the experience of people, families, groups, communities, or institutions compliments the case study design (Yin, 2017). Although I used the case study design, I considered other qualitative research designs, including phenomenological and ethnography research designs. The phenomenological design is more appropriate when describing the participants' lived experiences (Alfakhri, Harness, Nicholson, & Harness, 2018). The phenomenological research design would have been a proper selection if the goal of this study was to use only the lived experiences of the participants to understand the phenomenon. The case study design allows for a data-rich structural explanation through the identification of themes and patterns from the data. Therefore, the case study design was found to be more suitable.

The ethnography design is appropriate when a researcher seeks to describe and collect data on a culture's characteristics (Tobin & Tisdell, 2015). Many focuses were on individuals, not cultures. I used a qualitative case study research design to provide for an in-depth understanding of the strategies business leaders use to implement successful food safety critical regulations in their organizations.

Research Question

The central research question of this study was as follows: What are the strategies business leaders use to implement successful food safety critical regulations in their organizations?

Interview Questions

1. What strategies did you use to improve food safety performance of your organization?
2. What are the issues that require the implementation of these strategies?
3. How did you apply these strategies to improve the food safety performance of your organization?
4. How did you communicate these strategies to gain employee acceptance?
5. What challenges did you encounter when implementing these strategies?
6. How would these strategies benefit other organizations?
7. What additional information would you like to provide to help me understand how you use strategies to reduce food safety risks?

Conceptual Framework

The force field analysis model was the framework for this study. A force field is an issue held between two conflicting sides (Rosenbaum, More, & Steane, 2018). One force is the driving force towards change, and the other force pushes back the driving force, thereby restraining the desired change. The use of driving and restraining forces and application can help promote success toward achieving desired change (Hossan, 2015). Kurt Lewin established the theory of force field analysis in 1943. He was an American psychologist who lived in the early 20th century and received credit for popularizing the social psychology fields and pioneered work done in group dynamics and organizational psychology. Many scholars refer to Lewin as the father of the modern social psychology (Billig, 2015).

Lewin's theory is essential in identifying the forces driving the need to implement food safety rules to reduce cases of foodborne illnesses. Many managers lack the appropriate strategies to apply critical food safety regulations within their organizations adequately. The driving forces consist of critical food safety regulations, which meet stiff resistance from the lack of proper strategies and expert knowledge (restraining forces) towards proper implementation of the strategies. The force field analysis fits this study by providing a visual summary of the various factors of support and opposition to a particular idea, with all the data that have been collected on a possible decision to consolidate in a single graph.

Operational Definitions

The key terms I used in this study are as follows:

Fishbone Diagram: A diagram used to illustrate a cause and effect and used to visualize the potential causes of a problem to identify the root cause (Harel et al., 2016).

Foodborne illnesses: Foodborne illnesses are illnesses that are the result of foodborne pathogens within food products (Harris, Ali, & Ryu, 2018).

Food safety program: A food safety program is a documented system designed to identify, control, and provide strategies to prevent food hazards within a business (Webb & Morancie, 2015).

Food safety regulation: Food safety regulations are laws that are enacted by the U.S. government to shift the food safety focus from reactive to proactive (Riddick, Wallace, & Davis, 2016).

Assumptions, Limitations, and Delimitations

Research is a process of gaining knowledge and information about a phenomenon (Sanjari, Bahramnezhad, Fomani, Shoghi, & Cheraghi, 2014). Research is made with a general aim of filling a literature gap (Bambale, 2014). The current research also has the same goal of fulfilling a purpose and identifying the assumptions, limitations, and delimitations of this qualitative case study.

Assumptions

Assumptions are characteristics of beliefs assumed true (Merriam, 2014). Five assumptions served as a basis for this study. The first assumption was that food safety strategies continue to be important in food service establishments. The second assumption was that the use of semistructured interviews along with multiple sources of triangulated data such as company documents assisted in answering the research question. The third assumption was that the participants agreed to participate in this study voluntarily without being under any external pressure. The fourth assumption was that the number of participants and the knowledge among the participants selected was appropriate for the study and participants would respond to the interview questions without any bias and thoroughly understand the importance and context of implementing critical food safety regulations within a food service establishment. The fifth assumption was that the current research was valid and reliable and interview questions were valid and reliable for gathering data and information and providing authentic results.

Limitations

Limitations are an inevitable part of any research and considered potential weaknesses that may be out of the control of the researcher (Soilkki, Cassim, & Anis, 2014). The first limitation was the time. Based on the time required to complete the study, I limited the participants to three food service establishments, which might not represent other food service businesses domestically, regionally, or globally. Another limitation was bias, due to the extensive food safety experience of the researcher. Reducing bias involved providing participants with a copy of interview transcripts to validate their transcribed responses and allowing the data to determine the findings. Huberman and Saldana (2014) noted that the transcript review is a method used to validate what the participant stated during the interview process.

Delimitations

According to Marshall and Rossman (2015), delimitations are choices that a researcher makes that provide boundaries and narrow the scope of a study. Delimitation for this research study included the purposeful selection of the participants in the southeastern region of the United States. To narrow the scope, participants must have received an A grade on the food service establishment inspection report.

Significance of the Study

The purpose of this qualitative descriptive case study was to explore the strategies business leaders use to implement successful food safety critical regulations in their organization. This study may contribute to positive social change by adding to the knowledge of individuals, communities, organizations, and cultures regarding the

effective use of food safety strategies to minimize foodborne illnesses. The findings had implications for both business practice and social change.

Contribution to Business Practice

This study is of value to businesses because the findings of this research could be used by organizations to improve the strategies business leaders use to implement successful food safety critical regulations within their organizations. The building and strengthening of food safety strategies could lead to long-term growth and sustainability (Paiva, 2013). Additionally, the findings of this study could add value to organizations to help businesses meet the challenges of ensuring food safety.

The findings of this study may contribute to the effective improvement of business practices by helping managers and employees understand the strategies that promote safe food within organizations. Business leaders could use these strategies to avoid, minimize, or eliminate food safety hazards, improve food safety business practices, and support a more sustainable business. Additionally, business leaders may be able to understand the challenges faced with implementing food safety regulations within their organizations to mitigate unsafe food-handling practices, adulteration, and consumer complaints to maintain continuous growth and sustainability.

Implications for Social Change

Lahou, Jacxsens, Verbunt, and Uyttendaele (2015) noted that the safety of manufactured and processed food is the responsibility of everyone involved in the food chain, from the suppliers to producers and ending with consumers. The results of this study could contribute to positive social change by providing individuals, families,

communities, businesses, and countries with information concerning the strategies that protect against outbreaks of foodborne illness. Understanding the factors that contribute to successful food safety strategies could help influence and change safety of food processing of manufacturing companies in the food service businesses.

A Review of the Professional and Academic Literature

A literature review consists of a thorough analysis and synthesis of the works of different authors on a topic (Baker, 2016). The focus of this research was on the implementation of food safety critical regulations that would allow business leaders in food service businesses to decrease financial losses that result from foodborne illness outbreaks (Griffith et al., 2017). The general business problem was that business leaders' ineffectiveness regarding food safety practices negatively affects an organization's long-term growth and sustainability. The specific business problem was that some business leaders lack strategies to implement food safety critical regulations within their organizations. The purpose of this qualitative descriptive case study was to explore the strategies business leaders use to implement food safety regulations in their organization successfully. More than 68% of all foodborne illness outbreaks occur within food service establishments (Norton et al., 2015), which have resulted in significant financial losses (Scharff, 2015) as well bankruptcy and business closures (Seo et al., 2014). The implementation of food safety critical regulations would allow business leaders in food service businesses to decrease financial losses that result from foodborne illness outbreaks (Hussain & Dawson, 2013). Understanding the strategies business leaders use

to overcome challenges regarding the successful implementation of critical food safety regulations could help maintain business growth and sustainability.

For the literature review, I used the following databases: Google Scholar, Galilei Scholar, Ulrich, CrossRef database, SAGE Premier, Science Direct, ABI /Inform Complete, and government websites. The keywords include food safety, food service, legislative, government, regulatory, training, initiative, incentives, programs, audits, HACCP, contamination, foodborne illness, hygiene, approaches, controls, total quality management, health belief model, and force field analysis. I used these keywords individually or in combination with other keywords. I performed an in-depth evaluation of the references to ensure that the ratio of peer-reviewed articles met the literature review requirements. The total number of references is 213, of which 187 (87%) met the requirements of publication within five years of the study's estimated approval date by the Chief Academic Officer. The literature review section of this study consists of 117 peer-reviewed journals, 101 (86%) of which met the requirements of publication within five years of the study's estimated approval date by the Chief Academic Officer.

I divided the review of the literature into several sections detailing different aspects of the research phenomenon discussed in the extant literature. The review begins with a discussion of the conceptual framework of the study, the force field analysis model. The literature reviews include extensive discussions of existing literature on food safety hazards, food safety legislation, government and industry efforts regarding food safety, and challenges regarding enhanced food safety controls. The review ended with a summary and a transition to the next section.

Conceptual Framework

The conceptual framework is the force field analysis model, in which a phenomenon exists between two conflicting sides (Card, 2013). One side in this conflict is the driving force towards change; the other force pushes against the changing force. The use and application of driving and restraining forces can help promote success toward achieving desired change (Hossan, 2015). In the context of this study, Lewin's force field analysis model is essential in identifying the forces driving to implement food safety rules to reduce cases of foodborne illnesses.

Although it is easier to recognize changes in behavior and organizations after they have taken place, it is hard to study if the new changes are implemented, and harder to affect the changes that are already taking place (Burnes & Cooke, 2012). Despite this, many physicians, educators, and healthcare workers within positions of leadership in their communities and organizations are not only required to monitor community health changes but also ensure the change is positive (Shirey, 2013). Lewin understood institutional and individual behavior regarding forces with a dynamic balance that works within the context of social and psychological fields that function in opposite directions (Savage & Silva, 2013). Such a field is made up of knowledge, beliefs, fears, events goals, and needs of social, economic, and political nature (Webster, 2014). Additionally, a force field also includes every factor that directly influences the company's behavior and results from the interaction between an employee and the work environment (Berthaume, Romoser, Collura, & Ni, 2014). The different forces are functioning within the fieldwork interdependently, influencing parts of the outcome.

Behavior, according to the model of Lewin's force field analysis, is maintained by a balance between economic, social, residual, and psychological forces that are in a position of dynamic equilibrium (Mitchell, 2013). When such equilibrium is no longer stable, change occurs (Bucciarelli, 2015). In the context of this study, such an equilibrium refers to health behavior, and the entity that is the center of the activity of the manufacturing companies that can affect the health of the consumer. Different health behaviors can be viewed as forces that resist and drive towards improvement (Livneh, Bishop, & Anctil, 2014).

In the context of this study, some forces lead to greater success in the implementation of food safety critical regulations, which can be called driving forces in the context of the force field analysis model. Other forces may lead to a decrease in the successful implementation of food safety critical regulations, which can be called restraining forces in the context of the force field analysis model. Based on the force field analysis model, changes in behavior occur due to an imbalance taking place between the sum of the driving forces and the restraining forces (Holloway Cripps, 2013). A change or movement takes place in the event of an imbalance, which continues until equilibrium between the forces is achieved once again.

The Lewin's force field analysis involves analyzing the negative and positive forces that drive change. Businesses within the food sector have used Lewin's theory to understand human behavior as it relates to food habits and change (Young, Junehee, & Wansoo, 2013). Some organizations believe that food moves through channels governed by forces that either resist or attract changes within the food domain. For instance, there

are detailed consideration of the level of contact between food, serving utensils, and dishes during the process of preparation and service (Jooyeon & SooCheong, 2013). Food processing businesses need proper maintenance of working dish machines for cleaning and sanitation and aiding smooth workflow during other phases of production. Frequent monitoring of machine temperatures by kitchen employees is crucial to enable regular preventive maintenance. Standard operating procedures (SOP) ensure specification of activities including steps to follow for purposes of ensuring that food served in the business is safe for consumption (South Plains Academy Charter District, 2015).

Many managers lack the appropriate strategies to apply critical food safety regulations within their organization adequately. The driving forces consist of critical food safety regulations, which meet resistance of employees due to the lack of proper strategies and expert knowledge (restraining forces) regarding the adequate implementation of food safety strategies (Maldonado-Siman et al., 2014). The FFA fits this study by providing a visual summary of various factors of support and opposition to the idea for change in food safety (Kaiser & Schulze, 2018). The FFA model is appropriate for research on the issues of food safety. Lewin noted research could be directed toward practical issues so long as it had the theory to guide it. Indeed, if the theory were good, there would be nothing more practical (Kaiser and Schulze (2018). The FFA model was designed to be relevant in the context of social issues. I used the FFA model to explore the experiences of participants to uncover the driving and restraining forces that contribute to implementing strategies critical to food safety.

Oktadiana and Pearce (2017) examined local Indonesian scholars in their contribution to international scholarly literature regarding Indonesian tourism. This research suggests an interest in adopting FFA as a theoretical framework in various fields and countries. Similar adoption is echoed in the work of Capatina, Bleoju, Matos, and Vairinhos (2017), who used the model as a framework to understand the process of organizational change in the context of the software industry and by Shirey (2013), Payne (2013), and Yager and Stichler (2015) in the context of nursing industry.

Other researchers have sought to extend the conceptual framework of FFA. Swanson and Creed (2013) constructed a methodology consisting of multiple tools based on consultancy literature and found that the FFA's linear representations of external and internal forces within the context of organizational applications do not entirely explain the change forces that have inconsistency between inverse vectors. The researchers highlighted the flexibility of the force field, which is essential for this research as this study is qualitative research in which the model used is based on the understanding of FFA in which the emphasis is on the agents of change and their perceptions.

Card (2013) used FFA in association with Fishbone diagrams to develop a new technique to address the limitations of Fishbone diagrams. Specifically, the researchers used analytical insights provided through the FFA model in the context of hazard analysis within healthcare organizations. Particularly, the FFA model was used by the researchers due to its insight into planned change. Planned change is also the focus of the study concerning food safety, as the force field analysis model provides an appropriate framework for understanding this phenomenon.

Multiple researchers have used the force field analysis model in the context of various domains. The closest application of the model to this study was by Sleet and Kohn (1979) to understand the prevention of fast food chain intrusion within the food service options at a campus. The researcher explained the model's primary concepts through the example of the students' cigarette smoking habits and noted that, if the goal desired was an improvement in health, then the environmental, social, and personal forces leading to the decrease of smoking would cause the attainment of the desired health improvement. Additionally, factors such as reduction in the advertisement of smoking and decreasing nicotine in cigarettes would lead indirectly to health improvement. The two different strategies to improve health would temporarily lead to a balance shift of forces which can lead to equilibrium between them. The outcome of this change would be improved health.

Sleet and Kohn (1979) introduced three primary strategies to achieve the desired change within the context of any situation or behavior. The first strategy consists of increasing the driving forces. The second strategy is decreasing the restraining forces. The third strategy involves a combination of the two approaches. The essential aspect inherent in all these strategies is the intentional unbalancing of the status quo, which leads to a new equilibrium. Using these strategies, Sleet and Kohn (1979) identified four steps in the strategy to decrease the intrusion of fast food company McDonald's in food services at campus: analysis of the current situation, determination of the required changes, executing the changes discovered through the analysis, and maintaining the new condition by stabilizing it.

In a study conducted by Endrejat, Baumgarten, and Kauffeld (2017), the researchers used the force field analysis model to explore the need to increase organizational energy-saving behavior. The researchers noted that Lewin's model is as relevant today as it was when the model was constructed. The researchers adopted the model on change by combining it with an approach for facilitation, motivational interviewing. The use of the theoretical framework, the researchers provided a guideline on how the energy-saving behavior of employees within an organization can be increased. A significant highlight of the findings that is also significant for the current study is the fact that the force field analysis is based on qualitative data. The success of implementing a food safety program depends on understanding the different factors that can contribute to the effective control of the program (Cripps-Holloway, 2013). The force field analysis model represents a description of the forces to the desired goal that assists in the explanation of the results that emerged during the interview process (Maldonado-Siman et al., 2014).

In the context of food supply chain, Soosay and Hyland (2015) noted that FFA provides a framework that highlights the need for business leaders to consider resisting and driving forces during the pursuit of collaboration. In the context of this study, this insight is applied to industry and government efforts regarding food safety that ultimately seek to provide safer food to customers through different strategies, with the resisting forces appearing at both the industry and government levels countering these efforts.

Food Safety Hazards

A food safety hazard relates to the business' procedures, condition, or circumstance that is reasonably likely to cause illness or injury in the absence of its control. Food safety hazards are the biological, chemical, and physical conditions of food that can impact an individual's health once the food is consumed (Rouviere & Caswell, 2012). These hazards include physical, chemical, allergens, and biological hazards.

Physical hazards. Physical hazards include any potentially harmful extraneous substance not usually found in food. When an individual mistakenly ingests a foreign substance or object, it is likely to bring about choking, injury, or other undesirable health effects. Physical hazards are the most frequently reported consumer grievances because the injury occurs during or soon after eating. In addition to that, the source of the hazard is often easy to diagnose (Smigic, Rajkovic, Djekic, & Tomic, 2015).

Chemical hazards. Chemical contamination takes place at any phase of food production and processing. Chemicals can be useful in some foods such as pesticides on fruits and vegetables. Chemicals are not necessarily hazardous when their application is correct or regulated. Potential risks to consumers arise when there is poor regulation of chemicals or negligence of prescribed treatment rates (Gil, Selma, Suslow, Jacxsens, Uyttendaele, & Allende, 2015). The presence of a chemical may not necessarily lead to health hazards. However, the quantity of the chemical establishes whether it is hazardous or not. Most require exposure for extended periods to bring about a toxic effect. These chemicals derive from different plants, animals, or microorganisms. In most circumstances, these naturally occurring chemicals exist before or during the process of

harvesting. Despite many naturally occurring toxins being biological in origin, the classification codes for food safety is traditionally under chemical hazards (Bokulich & Bamforth, 2013).

Intentionally added chemicals are chemicals placed deliberately in food at some phase during the food's growth and distribution. Intentionally added chemicals are safe in recommended amount but can be harmful at surpassed levels. Chemicals can gain entry into food by accident. Incidental chemicals may be inside of food ingredient when it is received (Gil et al., 2015). For instance, certain seafood may contain minute but legal residues of acceptable amounts of antibiotics. Packaging containers that come in direct contact with ingredients or the product itself is a potential source of the inclusion of incidental chemicals, including sanitizers or inks. Most incidental chemicals have little or no effect on food safety/quality. In cases where they are of concern, they are present significantly high amounts. Incidental chemicals may also result from accidental additions of illegal substances such as poisons or insecticides that thus disallowed at any given level (Kumar, Verma & Kumar, 2013).

Allergens. A food allergy is an adverse food reaction affecting the immune system. The body produces response referred to as an allergic, or immunoglobulin E (IgE), antibody response to food. Ingestion of certain types of food and subsequent binding with the IgE antibody, an allergic reaction follows (Kuperstock, Brook, Ryan, & Platt, 2018). While over 160 foods can bring about allergic responses in people with known food allergies, the Food Allergen Labelling and Consumer Protection Act (FALCPA) has singled out the eight most commonly reported allergenic foods. The

isolated eight foods account for more than 90 percent of food allergic reactions reported annually. These foods include milk, eggs, fish (such as bass, flounder, cod), crustacean shellfish (such as crab, lobster, shrimp), tree nuts (such as almonds, walnuts, pecans), peanuts, wheat, and soybeans (Gil et al., 2015). He listed foods, and any ingredient that constitutes proteins obtained from one or a combination is known as major food allergens by the FALCPA, adopted by Congress in early 2004 and affected as from March 2006 (Craig, Franca, & Irudayaraj, 2013).

Every food product made from two or more ingredients have to oblige the federal legislation to show an ingredients' statement containing all ingredients by common name in descending order of presidency. Also, FALCPA, passed by Congress in early 2004 became operational which is utilizable only regarding consumer, packaged foods controlled by the FDA (Prado, Boix, & von Holst, 2013). FDA regulates all foods except meat, poultry, and egg products, FSIS controls these food groups (Johnson, 2015).

Biological hazards. Having biological hazards present in foods is possible. These hazards mostly come from raw materials or from food-processing procedures used to come up with the final product. Microorganisms form part of the biological hazards (Tine & Dorte Lau, 2013). Microorganisms are too small and not seen by the naked human eye. Microorganisms are present all over: air, dirt, fresh and salt water, skin, hair, animal fur, and plants. The standard classifications of microorganisms include yeasts, molds, bacteria, viruses, and protozoa (Ryan, 2017).

Considering that microorganisms are thoroughly widespread, it is pertinent to understand how to handle them (Gil et al., 2015). Types of microorganisms exist in their

thousands; however, few pose significant dangers to humans. Other types of microorganisms such as yeast, molds, and bacteria are useful in the production of cheese, sour cream, yogurt, and other fermented dairy products (Ryan, 2017). Specific kinds of yeast used in the processing of beer, wine, and other fermented drinks produce desirable results. In this case, microorganisms are part of the processing of food without causing any harm. Studies have revealed continuously that some kind microorganisms are beneficial in enhancing good health (Van et al., 2013).

It is possible for people to encounter a high number of certain kinds of yeasts, molds, bacteria, viruses, and protozoa on a routine basis without ill effect. As such, when foods are processed and preserved, food manufacturers and regulators need to concern themselves with pathogens unlike in the case of beneficial ones (Kregiel, 2015). Despite being too small to see with naked eyes, microorganisms are living things and thus have needs for them to live and grow. A supply of enough food, water, and temperature, microorganisms can rapidly grow and increase in numbers. In the case of inadequacies, some die, others stop operating until they get the conditions they need (Van et al., 2013). Specific preservation methods, for instance, drying or smoking, regulate the water or nutrients in food, cutting the supply of essential elements to microorganisms (Van et al., 2013).

Different microorganisms show different responses to air. Like most other living organisms, many microorganisms need air to live and will die or perform at the optimal levels when growing in air-deprived conditions (Kregiel, 2015). Nonetheless, many

microorganisms can function without air and or poisoned by air. Pathogens exist in either of these conditions.

Despite the possible control of some microorganisms by way of regulating the amount of air supplied, it is not an optimal approach to controlling all pathogens (Gil et al., 2015). The multiplication of microorganisms takes place in various ways. The most popular method, particularly for yeasts, bacteria, and protozoa, is to increase the size and then divide. One microorganism splits into two, two into four, and the process repeats itself continuously. By increasing two-fold, the microorganisms multiply so fast. Under perfect conditions, some bacteria double their number after every 20 minutes. Potentially, a single microorganism can multiply to yield over 30,000 in five hours and to over 16 million less than eight hours. Luckily, a high number of microorganisms split at a slower pace than this, and the process can be slowed further slow by regulating the food, water, and temperature that is instrumental in supporting the growth and multiplication (Jahid & Ha, 2012).

When microorganisms grow, they mostly release by-products. The higher the growth, the more the by-products produced. Some of the by-products are highly desirable, particularly in the correct foods (Chalupová, Raus, Sedlářová, & Šebela, 2014). For instance, the growth of yeast in dough releases carbon (IV) oxide, acids, and desirable flavors (Rezaei et al., 2014). The rising of the dough is critical in bread making; however, the growth of the same yeasts in other foods (fruit juice), with the same by-products released, its act is undesirable, and this is spoilage (Gyawali & Ibrahim, 2014). Such spoilage is unwanted, and processors struggle to avoid it in such foods.

Additionally, some by-products given off by pathogens are harmful and can bring about diseases. Spoiled food does not necessarily appear, smell, or taste bad. However, only food spoiled by pathogens or contaminated through toxic microbial action can make an individual unwell (Handford, Campbell, & Elliott, 2015). Undesirable decomposition can necessitate food-safety problems and thus must be prevented or contained by a Hazard Analysis Critical Control Point (HACCP) program. In the processing of foods, the volumes and kinds of microorganisms can be raised, maintained, reduced or destroyed (Chalupová et al., 2014).

Overview of Food Safety Legislation

When the public dines outside of the household or purchases retail food products, the public does so with confidence and relies on the local health and regulatory officials for protection from foodborne illnesses for themselves and their families (Corby, Klein, Elliott, & Ryan, 2015). The environmental health professional's rapid detection of foodborne illness outbreaks through knowledge of possible etiological agents and risk factors responsible for foodborne illnesses is essential in this process (Coleman, 2015). Dissemination of a contaminated food product throughout an area, state, or country can happen within hours or days. When conducted properly, a foodborne illness investigation can influence the disease surveillance and hasten the control of the outbreak. A food-safety inspection program, although successful in protecting the public, is characterized by complexity and diversity (Carneiro & Kaneene, 2017). A noted drawback to the system is that regulatory authority is divided among federal, state, and local governments (Johnson, 2016). Another problem is that, from the farm to the consumer's dinner table,

the private sector has primary responsibility for ensuring the safety of the food that it produces (Johnson, 2016).

Regulations of food by the United States (US) government takes place at the federal, state, and local levels. There are two federal agencies in the US tasked with the responsibility of overseeing the inspection of food establishments: United States Department of Agriculture (USDA) and the United States Food and Drug Administration (Wright, Richardson, Mahon, Rothenberg, & Cole, 2015). The USDA is obligated to inspect and ensure quality grading of meat and meat products, poultry and poultry products, and fruit and vegetables transported and consumed across states (Johnson, 2016). The state's USDA undertakes inspection if the food for food to consumed within the state. In the case of the United States Food and Drug Administration (FDA), it inspects all food-processing factories to ensure it meets the minimum requirements.

The FDA is a major contributor to the authorship of the *Food Code*, which is the basis of nearly all food protection certification training programs in the United States of America (Oshiro, 2015). The FDA also provides local food service regulations that affect the operations of the restaurants. Authorship usually takes place at the state level and implemented by local or state health officers. City, county or state health officers commonly referred to as sanitarians, health officials, or environmental health specialists perform food service inspections at the state levels (Amuquandoh, 2016).

Restaurants, including other food service establishments, require inspections to protect the public's health (Harris, Murphy, DiPietro, & Rivera, 2015). The inspection process is also helpful in ensuring that restaurant managements identify strategies to

implement food critical regulation to minimize possible food safety risks. When inspectors come into the restaurant to conduct routine inspections, they must evaluate whether the business leader's strategies towards ensuring minimum sanitation and food safety standards meet the minimum requirements (Leinwand, Glanz, Keenan, & Branas, 2017). The inspection officers require that the management of restaurants offer food that is safe, uncontaminated, and presented in the recommended manner (Leinwand et al., 2017). After the inspection process is over, the officers provide the restaurants and food outlets with written reports showing strengths and more importantly deficiencies, noted during the inspection, to bring the leaders into compliance with the minimum food safety regulatory standards (Condron et al., 2015).

Legislators enacted the Assembly Bill (AB) 1978 to emphasize the development, testing, and validation of microbial risk assessment and foodborne illness outbreaks as they relate to food handlers in a retail food establishment. The bill enhanced the awareness of consumer response to foodborne illness outbreaks (Arnade, Kuchler, & Calvin, 2013). Whether the response is improved surveillance plans, better prevention strategies, or stronger inspection models, the initiative's activities focused on developing models for improving microbial risk assessment, targeting the prevention of foodborne illness outbreaks by informing food handlers on the importance for HACCP based principles and educational programs to fill critical food-safety information gaps (Bailey & Garforth, 2014).

The Food Safety Modernization Act (FSMA) indicates the CDC to guide the capacity building process of the state and local health departments in readiness for

combating foodborne outbreaks (Doyle et al., 2015). The CDC also guides the training, coordination, and integration efforts to ensure proper surveillance systems and laboratory networks across the USA. In addition to developing a national strategy for food safety, CDC offers training to the FDA to aid in the implementation of new hazard analysis, prevention, and performance to meet the requirements of the legislation (Doyle et al., 2015).

The food code released in 2013 through the collaboration of FDA, USDA, CDC, and the United States Department of Health and Human Services (HHS) is one of the key models, which forms part of the efforts of safeguarding public health and making sure food is unadulterated (McSwane, Salfinger, Nummer, & Winslow, 2015). According to the United States Food and Drug Administration (2015a), the legislative food code of 2013 ensures the preparation of food honestly when prepared for consumers. The food code is part of what the FDA seeks to form system and regulate provisions that govern the safety of food provided to retail consumers and in food service establishments (Ahuja et al., 2013). The food code model gets adopted at the local, state, and federal levels of jurisdictions to regulate food safety by various departments, agencies, bureaus, divisions and more within every jurisdiction to fulfill assigned compliance responsibilities in the food service industry (Kang & Hustvedt, 2013). The food code indicates all alternatives that provide similar protocols for public health protection to ensure that retail food outlets and food service establishments are as safe as humanly possible (Slining & Popkin, 2013).

The food code legislation is necessary because the model code provides references for the state, city, county and tribal agencies whose obligation is to oversee operations in places such restaurants, retail food stores and food vendors (United States Food and Drug Administration, 2015a). Food service operations serve a broad population including institutions (restaurants, schools, hospitals, assisted living, nursing homes and child care centers) and as such without proper regulations, a significant portion of the population risks of food poisoning (Jones, Rosenberg, Kubota, & Ingram, 2013). Food safety legislation in these facilities plays a relevant role in business leaders' adoption of strategies toward reducing foodborne illnesses (Friedman & Lakier, 2013). The food code is a practical, science-based model for attenuating risk factors that cause or contribute to foodborne illness flare-ups common with retail and food service establishments (Lee & Hedberg, 2016). As such, the food code is a crucial component as far as strengthening America's food protection system (United States Food and Drug Administration, 2015a).

Government Efforts for Food Safety

There have been several efforts by the government bodies to reduce the risk and the subsequent financial loss from the contamination of food. From a food-safety perspective, the extension of food-safety standards appears like a prudent concept. However, this does not mean that most of the food is unsafe. Standardization enforces uniformities and equivalences among the diverse human race, places, and commodities. Standardization brings about ecological, socio-political, cultural, economic and health outcomes (Garde, Dimanche, & Lasseur, 2014). One can regard standardization as the primary enhancer of a globalizing food system because, as Ait Hou, Grazia, and Malorgio

(2015) noted, standards act as a kind of governance protocol. Standards provide order and discipline in relationships across time and space, imposing uniformity on the heterogeneity that exists between places, cultures, languages, political systems, and markets (Handford, Elliott, & Campbell, 2015).

State governments, international legal organizations, or corporations who regulate through food-related standards are not the only participants, but non-governmental organizations (NGOs) may use private agri-food governance systems to realize social and environmental positive results (Pillai & Chakraborty, 2017). There is no better fit between governance plans and practical outcomes. Critics of fair trade and organic standards, for instance, note that regulatory processes may occasionally reproduce the challenges intended to solve (Handschuch, Wollni, & Villalobos, 2013). The link between the new globalized food system and new types of food-safety governance is dialectical, thereby complementing one another (Young, 2014). The hurdles to ensuring trust and better management of new forms of risks in the globalized food system create new approaches to enhance confidence from a distance, hence the flourishing of programs, certification processes, accreditation of bodies and audits (Tran, Bailey, Wilson, & Phillips, 2013).

Nonetheless, as various scholars have argued, emerging food-safety governance is instrumental in the production of a food system with new types of food un-safeness and food-safety challenges (Young, 2014). Before taking into consideration the paradigms of new food safety governance, individuals and organizations may need to ask questions regarding agri-food governance, including food-safety, the actual workings and some of

the possible direct, indirect and unintended consequences (Young, 2014). The government may not consciously intend to put small-scale farmers out of certain types of businesses, for example, though many businesspersons may think otherwise (Bain, Ransom, & Higgins, 2013).

The primary food safety requirements encompass scientific, risk-based approach, hazard analysis, implementation regulating every food production joint and the verification of imports and accreditation of all third parties (Handford, Elliott, & Campbell, 2015). In this case, the FDA has a higher mandate to issue a mandatory recall and to detain merchandise that does not meet the standards (Johnson, 2016). The FDA is required to raise the frequency of inspection of domestic and foreign food dealings.

The mandate further encourages higher and well-coordinated integration between federal and state agencies. It also calls for direct integration in areas of standardization of laboratory accreditation protocols and reporting of test results, better communication systems using computer assisted technology and permissions for the exchange of such data. The governance protocols of Food Safety Modernization Act (FSMA) include a timeframe for its introduction and implementation legislation that were proposed which entered their second stage in 2015 (Wengle, 2015).

The protocols enter the third and fourth phases of implementation in 2016 and 2017 respectively. In preparation, the FDA has initiated the needed planning and has taken the first steps towards ensuring successful implementation in specific areas. Some of the areas of interest include modernization procedures, the hiring of technical staff, FDA/state staff training, and guidance development. Under the guidance of FSMA, the

FDA has been very instrumental in spearheading education and technical assistance for the industry for importers as well as new safety systems and risk analysis and evaluation of imported foods (Johnson, 2016).

Initially, the FDA had commented that the funding availed by the annual budgetary allocations would be a factor in the manner in which it conducts its operations, including the ways in that the FSMA operates (Johnson, 2016). The Congressional Budget Office has since found gaps between FDA's current food safety resources and minimal funding levels required to provide tangible results in the comprehensive implementation of the FSMA (FDA, 2015). There is a dire need for additional funding through the budgetary allocation of 2016.

USA governance. Federal governance entails an elaborately established system of food safety control and regulation in the USA. Provisions of the federal (interstate commerce and import) and regional (intrastate commerce) platforms guide FDA in regulating food issues. The parent agencies that operate at the federal level are the FDA and the Food Safety Inspection Service (FSIS) under the United States Department of Agriculture (USDA). The Food, Drug, and Cosmetic Act 1938 (FDCA) spells out the authority of the FDA while the Meat and Poultry Inspection Acts and the Egg Inspection Act guides the mandate of FSIS (Garcia, 2013).

The CDC, Environmental Protection Agency, and the United States Department of Homeland Security also tremendously contribute to the regulation and control of food safety in the United States. In a report produced in (2013), it showed that there was a reduction of foodborne illnesses by 9%, from the previous year of 2012, despite the

increase in Vibrio infections by 32% (Crim et al., 2015). However, the government did not report any statistical difference in pathogens, despite the rising concerns regarding the incidence of E. coli rates that had previously shown past progress. This process is an indication that none was able to meet the Office of Disease Prevention and Health Promotion 2020 targets as set by the governing bodies. From 2006-2008, the incidence of foodborne illnesses changed much. There have been some recent high rating food incidents related to both domestic and imported goods that have necessitated the introduction of new legislation – the Food Safety Modernization Act (FSMA) 2011. The act is undoubtedly a single valuable item of legislation in over seven decades and introduces a new angle to the regulation of food safety in the USA (Crim et al., 2015).

International governance. The FSMA affects the regulation of imported food by spelling out requirements for food importers and third-party auditing officers (Wengle, 2015). At the same time, FSMA leads to ongoing negotiations between the US and the European Union (EU) regarding the Transatlantic Trade and Investment Partnership (TTIP) in the context of making international trade easier (Kotsiopoulos & Arvanitoyannis, 2017). These requirements encompass regulatory cooperation, designing laws that do business in the EU and the US mirror each other (Young, 2014). There are growing concerns regarding the potential impacts on food safety in the two regions. Both the US and EU are proud of elaborate food safety control protocols and supporting laws. Nonetheless, the US, under FSMA, is assuming a risk-based approach to replicate the EU's approach (Garcia et al., 2013); however, differences still exist in some areas.

Of particular interest is the control and use of growth-promoting hormones and antibiotics for animals'as well antimicrobial rinses (Handford, Elliott, & Campbell, 2015); novel foods such genetically modified organisms, cloned organisms, and nanomaterials are issues of serious concern. Exact definitions provide to help bridge the gap between food additives and food allergens (Handschuch, Wollni, & Villalobos, 2013). Food labeling differs in that labels from one region are not acceptable in another.

Industry Efforts for Food Safety

There have been several efforts from the food service industry to reduce the risk and the subsequent financial loss from the contamination of food. The Global Food Safety Initiative (GFSI), coordinated by the International Committee of Food Retail Chains (CIES) began in early 2000. The GFSI Foundation Board is a retailer-driven body, with manufacturer advisory membership, offers the strategic direction and chaperons the daily management. Under the umbrella of the GFSI, seven giant retailers have joined efforts to support four food safety schemes measured by the GFSI yardstick (Driscoll, 2012).

The developed schemes are aligned to reflect common practice described by food safety gurus from the food business, with the primary aim of making food processing and manufacturing as safe (Dias et al., 2012). Consequently, these measures can promote cost reduction in the supply chain and do away with the repetition of food safety audits (Magnuson et al., 2013). The GFSI perception of once certified and accepted everywhere evolved globally. In addition to the initial businesses ventures Carrefour, Tesco, ICA, Metro, Migros, Ahold, Wal-Mart and Delhaize who saw it fit to reduce duplication in the

supply chain by adopting any of the GFSI benchmarked strategies, several other food services, retail, and manufacturing firms have now fully adapted this approach (Driscoll, 2012).

While GFSI conducts trade within the retail sector, food service and manufacturing firms have the freedom to make individual choices from the GFSI approved schemes. This process leads to the uneven implementation of the program. While choosing a GFSI accredited scheme is a significant investment for business in the initial stages, the number of food safety audits reduces substantially upon implementation. Furthermore, an outside customer may demand audits, but as directed by the GFSI framework only one scheme is good enough. With profound keenness about food safety matters due to high recalls, consumers are increasingly showing more desire for safer food supply chain assurances (Powell et al., 2013).

Consequently, many food producers, manufacturers, transporters and storage firms, retailers, food service providers, and those conducting business in food packaging, cleaning equipment and sanitizing agents, flavor enhancers and supplements within the food supply chain, need to envisage implementation of globally recognized GFSI, food safety, and quality assurance schemes to warrant brand protection and inspire consumer confidence (Hatanaka, Bain, & Busch, 2015).

The GFSI certification process. Because of complex obstacles in the contemporary food supply chain, many of the world's biggest food retailers are obligating supplier certification under the GFSI schemes. Powell et al. (2013) noted that the GFSI include schemes such as safe quality foods (SQF), British retail consortium (BRC), the

international features standard (IFS), and the food safety system certification (FSSC). The National Science Foundation (NSF) is the leading world certifier to GFSI accredited standards, with excellent technical competence, consistently calibrated by auditing officers and capacity building personnel to track fast the certification process. GFSI's mandate is to inspire confidence in the delivery of un-adulterated food to consumers while ensuring continued for the improvement of food safety in every part of the supply chain. These global benchmarks address food, packaging, packaging materials, storage, and distribution for primary producers, manufacturers, and distributors (Hatanaka et al., 2015).

Food and water hygiene programs. Business leaders play a significant role in food service establishment to ensure contamination does not interfere with water usage (Kosa, Cates, Hall, Brophy, & Fraser, 2014). Water plays a significant part in food service establishment for cleaning food contact surfaces, utensils, equipment, and used to prepare food and drinks. Also, workers in food service establishment use water to washing hands to remove potential contaminants that may adulterate the food.

To mitigate the risk of contamination using water, some humanitarian non-governmental organizations such as World Health Organization (WHO) and United Nations Children's Fund (UNICEF) has made significant contributions to the water supply around the globe through funding mega water projects. Business leaders should continue enacting policies that can ensure the effective use of water. Water sustainability programs ensure that uses of water in a manner that suits the present and future needs to meet the food hygiene needs (Kosa et al., 2014).

Hazard analysis critical control points program. The globally accepted practice for managing food safety is the Hazard Analysis Critical Control Point (HACCP) system developed by Pillsbury in the 1960s for the United States Army and the National Aeronautics and Space Administration (NASA) program (Cuihua, 2014). HACCP is an internationally recognized, science-based food safety system, designed to prevent, reduce, or eliminate potential biological, chemical and physical food safety hazards and widely acknowledged as the best method of assuring product safety.

The HACCP system is outcome based and has as its goal zero defects in the food product. Zero-risk, however, is unattainable, and so HACCP systems prevent, reduce, or destroy hazards (Trafialek, Lehrke, Lucke, Kolozyn-Krajewska, & Janssen, 2015). The HACCP system usage analyzes the process at each stage of production to determine where hazards could enter the system and then designs the system to prevent these hazards from occurring rather than remove these hazards after they have happened. A logical system refers to it as essentially common sense, and it is particularly useful for managing biological hazards as it is impossible to conduct sufficient microbiological sampling to obtain the necessary degree of assurance that the product is safe (Tran, Bailey, Wilson, & Phillips, 2013).

HACCP involves seven principles; Principle #1 hazard analysis; Principle #2 identify critical control points (CCPs); Principle #3 establish critical limits; Principle #4 monitor the CCPs; Principle #5 establish corrective action; Principle #6 record keeping; Principle #7 verification (Mortimore & Wallace, 2013). Principle #1 hazard analysis: the hazard analysis assesses potential hazards associated with food. For example, the hazard

may be biological (e.g., Campylobacter jejuni in poultry), chemical (e.g., pesticides on produce) or physical (e.g., metal in ground beef) (Tran, Bailey, Wilson, & Phillips, 2013). Once the hazard is identified, the food handler implements control measures.

Principle #2 identifies critical control points (CCP): Critical Control Points identifies the locations in the food process where a preventative measure can exist and are determined through a structured decision tree. CCPs are a point or a step at which a control measure applied and the hazard prevented, eliminated, or reduced to an acceptable level (Wilcock et al., 2011). A prevention step may be location specific, for example, control of pesticides in fresh produce at the farm level, an elimination step could include cooking food to kill pathogens, and a reduction step would be a sifter that removed foreign materials larger than 2.0 mm.

Principle #3 establishes critical limits: critical limits are criteria that separate acceptability from unacceptability in the food product and confirm the safety of the product if properly maintained. The United States Food and Drug Administration (2015b) provide guidance on foreign material between 7 mm – 25 mm, which may cause illness, injury, or choking. However, studies have shown that organization use 2.0 as the critical limits for foreign material and any foreign material larger than 2.0 mm are absent from the food.

Principle #4 monitor the CCPs, and Principle #5 Establish Corrective Action; the CCP must be monitored at all times to ensure the conformance of the process to the critical limit, and the facility must take corrective actions to prevent the unacceptable product from reaching the consumer should a process fail to meet the critical limit. If a

chicken was cooked in a restaurant, and the temperature was found to be 68°C, the critical limit would not have been met (poultry must be cooked to 82°C for 15 seconds as per the Ontario Regulation 562) and could not be served to the customer (Agyei-Baffour et al., 2013). The appropriate corrective action is to continue cooking the chicken until it meets the critical limit.

Principle #6 record keeping and Principle #7 verification; the measurement of a critical limit must be recorded. This record ensures that the facility can prove, should a foodborne illness occur, that the food served was microbiologically safe for the consumer to eat. Finally, one must verify the system to ensure it is functioning as required (Paiva, 2013). The progress of the HACCP depends on the periodic review, and the outcomes of the measurements and actions were undertaken serve as the basis for modifications and adjustments of the system. The verification step and this review act to ensure that the program is based on scientific evidence that proves to produce safe food. Each manufacturer must provide documented evidence that the critical limits are effective through legislation, scientific papers or in-house testing results (Johnson, 2016). HACCP is strongly supported by both the World Health Organization and the Food and Agriculture Organization of the United Nations through the Codex Alimentarius Commission (Milios, Zoiopoulos, Pantouvakis, Mataragas, & Drosinos, 2013). These organizations mentioned above recommend that both the federal and provincial governments in the USA require the HACCP system principles, as a means of promoting food safety.

In the context of industry leaders and their efforts towards food safety, the conceptual framework of force field analysis as expanded by Swanson and Creed (2013) is of particular importance. The agents of change in the food industry that are the focus of this research are business leaders. Swanson and Creed (2013) highlighted the flexibility of the force field. This understanding was one of the reasons for the use of a qualitative methodology for this study. In this study, the model used is based on the understanding of force field analysis in which the emphasis is on the agents of change and their perceptions.

Adoption and Challenges for Enhanced Food Safety Controls

Uncertainty abounds in regards to projections of the number of instances of foodborne illnesses on an annual scale. Health statistics relies heavily on reporting by clinicians and medical laboratories, but most cases of foodborne go unreported. According to the Center for Disease Control and Prevention (2012) estimates, that for many pathogenic microorganisms, only 1 in 38 cases of foodborne illnesses gets reported.

There is higher uncertainty existing in regards to the food origins sources of foodborne illness. Food-safety management teams and public health enforcement need to be knowledgeable about the type of pathogens either in or on which foods are making people sick (Johnson, 2015). Physicians can establish which pathogen microbe made a patient sick by making an order of the lab, but that ideally does not happen considering that such tests are more helpful for public health surveillance systems than for patient treatment. Even in cases where clinicians think that illness is foodborne, it is sometimes difficult to single out the exact cause. Individuals' ability to remember what they

consumed is notoriously vague (Johnson, 2016). Occasionally, a few days may elapse between infection and signs of the illness, and then it is a typically a guess as to what food that associated with the illness with precision. Additionally, there is usually no clinical reason to conduct further investigations into the issue (Johnson, 2016).

In the absence of actual data, judgment-based estimates are commonly used. Execution of this practice is informal. Present estimates relating to the incidence of foodborne diseases to particular pathogens depend near entirety on the expert opinions of a group of researchers at the CDC to take care of gaps in the literature. More formal guidelines are being designed; for instance, evidence based medicine has come up with a set of criteria for conducting evaluations of studies through systematic literature reviews that are instrumental in identifying standard clinical practices. These practices are to reduce the long overdue overreliance of risk analysis in environmental and safety policy on structured analysis expert opinion as far as subjective estimates of missing parameters are concerned (CDC, 2012).

Imbalance in food production information. The quest for perpetual improvement of the performance in organizations faces significant challenges and so do business managers in the contemporary businesses world. In the food processing industries, these challenges link to the quality of the services management systems and food safety delivered (Handford, Elliott, & Campbell, 2015). This challenge is because there is a need for production and marketing to be in tandem with the product perceived quality to meet the needs and aspirations of the final consumer. The companies are also keen on preventing harm to the health of customers; it is a prerequisite for the firms to

ensure that they remain competitive, make profits, grow and develop its medium and long-term agendas.

The global food business is growing annually. In many ways, this contributes to the risk of the spread of pathogenic microorganisms across national borders bringing about new problems for the governments and increasing the need for global sharing information regarding food safety (Tran, Bailey, Wilson, & Phillips, 2013). The quality and safety of foods that consumed on a daily basis by every human on the planet are a significant input in maintaining the health of their health. Contaminated food is likely to cause acute and terminal diseases, ranging from diarrheal diseases to certain types of cancer (Pillai & Chakraborty, 2017).

Incentives for adoption at firm-level. In getting a grasp of the incentives required for adoption of impeccable food safety controls it is paramount to pay cognizance to the optimal safety of food offered to consumers and is reflective the collective contributions of actors along agro-food supply chains (Ait Hou, Grazia, & Malorgio, 2015). Consequently, the interest of any reviewer is an incentive for producers, food manufacturers, retailers and caterers (collectively referred to the supply chain) because their contributory efforts in implementation get felt in the final product (Tran, Bailey, Wilson, & Phillips, 2013).

In ideal circumstances, a company's supply chain supports its mission and vision. A business leader designs products and services to contribute directly to consumers' health. It is important for the management to support supply chain supplies' players to purchase equipment to ensure delivery of uncontaminated merchandise at every stage.

When seeking agreements with suppliers and other members of the supply chain, food companies should make sure that food safety standards get communicated. Some food companies chose to have a variety of suppliers that ensure that their products have been thoroughly vetted and authenticated. Since the globalization, efforts have borne many fruits it is possible for companies to source suppliers from both local and international arenas; it requires observation of international food safety standards (Chkanikova & Mont, 2012).

Factors influencing adoption of enhanced food safety controls. Governments have not managed to work alone to promote successful HACCP adoption and times designed regulations without prior willingness and support of companies to implement food quality and regulate. The motivation of employees and the management also plays a fundamental role in implementing food quality and control (Chkanikova & Mont, 2012). According to Duffy, Bott, Allan, Torrey, and Dik (2012), increased job satisfaction is associated increased psychological and even physical well-being of the employees, eliciting much positivity from employees towards their job performance. Employee job satisfaction means merely the attitude the workers have towards their jobs, and by extension, their employers, or organization.

Numerous studies have indicated that job satisfaction, influenced by a variety of factors, within the organization including remunerations, brings about job autonomy and security, the flexibility of workstations and leadership styles, which happens to of focus to the current study. The researchers believe that the leaders within an organization can apply leadership and management styles that promote employee satisfaction and

commitment that will, in turn, have a positive ripple effect on the productivity as far as adapting of better quality control mechanisms is concerned.

Barriers to the adoption of enhanced food safety controls. Global trade in food is growing, presenting consumers with access to a broader year-round assortment of foods at reduced prices. Growing trade has brought into focus the deviation among countries' food safety controls and standards. The divergences may echo differences among their populations' tastes and preferences, the capacity to produce, transport and safe food, and readiness to compensate for risk-reducing technology. Developing standards ground for food safety regulation through the public and private partnership is helping to realize the simultaneous aim of remodeling food safety and bettering trade (Fernando & Yusoff, 2014).

Heterogeneities in food safety regulations and standards among importing and exporting nations can occasion friction and at times disagreements that impede global food trade. Countries are, however, dealing with food safety and trade concerns by learning from one other's accomplishments in handling food safety to confine regulatory differences, colluding to adopt common or international standards set by an independent player, or reaching concessions on clashing standards. SME food safety initiatives, including independent quality assurance schemes, are also committing to the resolution of divergences across borders (Escanciano & Santos-Vijande, 2014).

National tastes and preferences display an uncommon set of exposure and cultural traditions. Some states may view a food safety risk as completely not agreeable while others may rank it low. Imported foodstuff cherished in one country may not be

permissible to another. For instance, many countries in the EU do not seem to care more about the risks associated with Listeria in cheese processed from unpasteurized milk and particular processing standards to lower these risks. Other countries do not allow such imports (Yang, 2013).

Additionally, different countries have different food safety encounters and food safety risks in their domestic food chain (Robinson, Holland, Leloup, & Muilerman, 2013). Risk levels differ internationally, due to differentials technologies available (including refrigeration), plant and livestock host factors (plants with varying degrees of contamination or herds with fluctuating infection rates), food production traditions (for instance use of veterinary drugs), cultural differences (such as routine consumption of raw seafood), and topographical or climatic conditions (such as coldness which is associated with reduced certain pathogens such as Aflatoxin).

These risks are also common to see in countries differing by both in their capability and readiness to purchase for state-of-the-art technology to minimize food safety risks as well as in the most favorable ways to reduce these risks (Leighton, 2015). For instance, public understanding of Salmonella risks in poultry differs as do engagements and preferred choices for its regulation (Leighton, 2015). Consequently, standards for Salmonella in poultry imports fluctuate exceedingly across countries (Leighton, 2015). For instance, only poultry product imports that are wholly cooked and canned comply with procedures that efficiently kill Salmonella. These procedures indicate that a zero-tolerance for Salmonella risks in imported uncooked poultry products. Other nations, such as Japan, reserve the mandate to screen poultry shipments for

Salmonella and to turn down any shipments testing positive. Others do test for ready-to-eat but not raw poultry products whereas others do not particularly mention or target Salmonella in their import specification.

Moreover, rivalry emanating from country differences listed above; there is some growing concern that as trade grows, some countries may apply food safety regulations as an avenue to limit imports or to require more regulatory procedures than needed to make sure a particular level of food safety risk. Some countries might also use different standards to regulate imports but not to domestic products (Kirezieva, Jacxsens, Uyttendaele, Van Boekel, & Luning, 2013).

Some antagonism last for a considerable period thereby needing continued efforts to overcome. One such example regards poultry exports from the United States to Russia. Russia from the time and again has voiced concerns that U.S. poultry exports do not conform to Russia's stringent zero-tolerance for Salmonella. Russia also asserts that some drugs (antibiotics) are used not acceptable for use in Russia. In 2002, Russia briefly suspended imports of U.S. poultry, making it difficult for U.S. poultry exports enter Russia for a couple of months and bringing down the price for some U.S. poultry products (Kirezieva, Jacxsens, Uyttendaele, Van Boekel, & Luning, 2013).

Despite the substantial gains of the HACCP method, the studies have indicated that various factors have limited fruitful implementation (Ryu, Park, Yang, & Bahk, 2013). The reward for developing, installing, monitoring, and authenticating a successful HACCP system involves overcoming a complex mix of managerial, organizational, and technical challenges. Even the big food processing factories may face some hurdles in the

implementation of a HACCP system in its full scale. As such, a small or medium-sized enterprise (SMEs) may have a feeling that the hurdles of HACCP are insurmountable (Sozen & Hecer, 2013). Some of the hurdles raised include time, money and lack of enough skilled personnel. Some studies conducted list factors as common impediments to HACCP implementation, particularly in SMEs (Dzwolak, 2014).

The implementation hurdles differ from country to country or from business enterprise to business to enterprise. Some may stem from internal factor operations, such as the knowledge level or allocated resources, or some associated with poor management. In some other cases, the HACCP implementation obstacles are external. Some of the examples that given include inadequate access to governing authorities and lack of industry support. As Maldonado-Siman, Bai, Ramirez-Valverde, Gong, and Rodriquez (2014) noted, there are over 20 possible barriers to implementation of HACCP. The hurdles revealed with those statements may include implementation of HACCP impeded by in-house budgetary restraints, problems in getting external funding, current food safety regulations regarded sufficient, insurmountable changes to the production processes needed before HACCP could be established. Some studies have included the things needed to implement HACCP, and they are overwhelming; other investments are prioritized because they are considered important, and the breadth of upgrading of the factories required before HACCP implementation will be put in place are too big (Maldonado-Siman et al., 2014).

In a survey done by Petkovska and Gjorgjeska (2014), the researchers made mention of the fact HACCP implementation calls for a complex interrelation and

cooperation among governments, industries, and consumers but unluckily; this responsibility continues to remain poorly accomplished. Neal (2013) noted that a lack of trust in food safety regulation and enforcement officers is also contributing to the overall challenges of HACCP uptake. Rouviere and Caswell (2012) found that institutional food service managers singled out time to start a HACCP program, time to operationalize the plan, and labor expenses as being the three most significant hurdles.

Additionally, inadequate training resources, time to get accustomed to running the HACCP program, and industry obstacles were the other identified impediments. There is a big challenge in isolating the prerequisite programs from HACCP plan, their relations and as well as its supervision (Milios, Zoiopoulos, Pantouvakis, Mataragas, & Drosinos, 2013). The main obstacle to implementing an HACCP-based food safety management system is the lack of prerequisite programs as concluded by this study.

Makwanda and Woyo (2014) conducted a national study and documented three types of barriers: poor resource management, lack of employee motivation, and lack of employee confidence. Employees were not confident enough to undertake food-safety certification tests and were uncomfortable with the preparations required for implementation of a program of the magnitude HACCP. Various other studies have attested to socio-psychological factors as significant influences on the slowed implementation of HACCP programs (Ball, Wilcock, & Aung, 2010). Marques, Oliveira Matias, Teixeira, Dos, and Ribeiro Proenca Brojo (2012) outlined other psychological barriers including lack of agreement and lack of self-efficiency. Similarly, in the study of Jeon, Choi, Lee, Joen, and Lee (2015), it was revealed that attitude barriers due to a lack

of educative courses, sessions or meetings, making it harder for workers to comply with this system.

Knowledge of the staff has instrumental for HACCP implementation (Jeon et al., 2015). This study indicated that 46.6% of respondents claimed to have an outstanding knowledge of HACCP plans while 6.6% admitted to having inadequate knowledge. Another study has attested that an increase in the skills of food handler does not automatically translate to improved food handling behaviors, but instead it heavily relies on their attitude (Raspor, 2013). Marques et al. (2012) indicated in their study that 91% of food business managers acknowledged that employees needed retraining to improve food safety practices. These findings were consistent with those of (Raspor, 2013) that indicated that HACCP adversely affects inadequate time, expertise, training, motivation, commitment, and funding for SMEs. Ryu et al. (2013) study results also revealed that the availability of sanitation training had a positive correlation to implementing HACCP.

Wallace, Holyoak, Powell, and Dykes (2014) took into consideration the hiring of experienced, technically qualified food employees as the most critical factor prompting the implementation of HACCP systems. Wang, Ting, and Ip (2013) singled out the lack of employee training as one of the most significant employee barriers. Lack of financial resources to invest in food safety was the most vital resource barrier.

The survey results of Agyei-Baffour et al. (2013) in SME food producers underpinned the lack of knowledge. Only half of the producers kept proper records. Their further results, based on questioning of management, revealed that the basic lack of hygiene knowledge and understanding is likely to be a major restraint on the effective

implementation, overall future, and some HACCP principles that may increase from seven to ten or even higher. According to this study, additional HACCP principle would cover the educational and training that is missing.

In Turkey, the obstacles were seen to simulate those reported worldwide (Tunalioglu, Cobanoglu, & Karaman, 2012). The study of Karaman (2012) revealed that the most pertinent impediments for food safety systems implementation in the Turkish dairy industry mainly associated with insufficient funds, factory conditions, and gaps in knowledge about HACCP SOPs. In another recent study, Martins and Rocha (2014) found that food temperatures, food storage, training, and handwashing were some of the failures seen in food establishments.

Measures to increase firm level adoption of enhanced food safety controls. The management of food companies can embrace sanctions for non-compliance among its workforce and empower the later on the need for adherence to food safety. The widely accepted assumption that is providing essential food safety standard controls/hand hygiene facilities and materials such as sinks, running water and soap on the premises can translate to improved safety is mostly misleading. After the provision of hand hygiene requirements, ensuring staff compliance is always advisable. As in this report, we recommend that food companies can raise their compliance requirements to more than the internationally recommended 80% (Sampers et al., 2012).

Companies also need to revise its food safety policy to bind all employees, both handlers, and technical staff. The policy can be used as a tool to teach the staff on proper approaches to maintaining hygiene, especially on how to properly clean the fingernails.

The policy needs to be clear that aims at cutting or reducing the transmission of harmful microorganisms; consequently, reducing the infections and losses necessitated by this transfer. Thirdly, the revised policy needs to reflect the need for compliance with fingernail recommendations, and hand hygiene is tandem with the CDC's requirements for hand hygiene in food factory settings.

The policy needs to spell out that following of the CDC's guidelines is mandatory to uphold the highest possible food safety standards. The management needs to be clear on the possible punitive measures undertaken if an employee chooses to disobey the guidelines. For instance, the CDC is very clear on the need for short fingernails and banning of artificial nails among people participating in food processing. These requirements ensure that there is little room for contamination during product chain handling. Every employee awareness that he or she has a role to play in upholding improved food standards by paying attention to specific infection control practices (Lee, Gereffi, & Beauvais, 2012).

Grooming of nails is extremely critical for proper food safety standards. As such, all employees involved in direct food processing do not wear false fingernails and shellac. The preparation and dispensing of material, ingredients, and equipment for food processing do also require short and hygienically washed fingernails. In addition to that, procedures of food and beverage handling require that employees' fingernails be as short as less than ¼-inch long. Also, the elimination of nail polish minimizes food safety risk because polish or shellac promotes the transfer and growth of pathogenic bacteria. As such, it is a requirement to have fingernails in good condition (not chipping) use gloves if

the fingernails are either long, chipping, artificial or polished (Abdul-Mutalib et al., 2012).

Gloves form a protective barrier thereby cutting the transmission of pathogenic bacteria from staff to consumers' food. Gloves do not replace hand washing and never reused or washed that contact food. Gloves are not required when there is no need to curtail the transfer of microorganisms. It is possible that some employees suffer from skin irritations or use hand lotions, ointments and creams to calm their illnesses. Employees need to discuss with the management about their condition for arrangements made for them to use institutionally allowed medication when within food service settings. Consequently, there is a need for continued monitoring of the critical control points by applying approaches such as independent direct observations, self-direct observations peer and reporting it in the quality assurance after everyone's perusal (Abdul-Mutalib et al., 2012).

Borrowing from the CDC's hand hygiene policy, food factories can incorporate the following statements into its policy:

- All food factory workers are obligated to comply with proper hand hygiene protocols before, during, and after contact with food.
- If the hands are visibly dirty, soap and water will be needed for the solubilization of any organic matter, followed by friction generated by rubbing the hands together and then rinsing the hands with running water to wash away the organic matter from the hands.
- Providing every workstation with hand hygiene products.

More studies are required to investigate food safety standards to document the role of senior management and the board trustees in maintaining such standards. Considering management has tremendous potential in endorsing and rejection of food safety standards, it is recommended that they be a part, as well as a parcel of the team (Abdul-Mutalib et al., 2012).

In addition to this, debates have been done to discuss food contamination control, in which a possible shift of focus from a system's perspective to hold individual employees responsible for hand hygiene in the factories. Critiques hold the belief that the systems have not succeeded in eliciting optimal compliance, and individuals are sub-parts of the system that join to build the system (Abdul-Mutalib et al., 2012).

To improve food safety and hygienic practices every company management needs to institute a team to which meets the food safety regulatory requirements. The team must be multidisciplinary. The team must have representation from all departments. Diversity makes the team heterogeneous in composition by homogenous in the mindset and goals that they intend to realize (Manzoor, 2012).

The significance of having a diverse group together holds a significant stake given to every department represented, thus ensuring that the set goals achievable. Equal participation makes it possible for the stakeholders to the implement the food safety standards agreed upon by the entire group, thereby enhancing much cooperation. That is to say; it is discouraging for all the other teams (senior) to meet without inviting the junior most departments (Manzoor, 2012).

There is a high likelihood that influence to a commitment from employees is by the level of participation and commitment from the management. As such, every company is encouraged to align its leadership without excluding the board, executives, and heads of various departments as well as the food safety committees. Additionally, the management is encouraged to be a leading example for realizing or even surpassing set expectations, iron out all the possible barriers and recognize and awards employees who excel. In addition to that, the leadership will have to raise the level continually because there is always room for improvement (Manzoor, 2012).

Adopting a zero tolerance approach can help minimize food safety risks. The approach emphasizes the performance of every element of good hygiene practice to improve food safety standards in the recommended way, which makes it possible for the realization of the highest level of performance. Identification of a process owner is critical to maintaining the highest standards. The individual assumes responsibilities of notifying and correcting everyone once they do something contrary to expectations of the standard practice (Manzoor, 2012).

Critical analysis and synthesis of the literature will be an important piece of the review. The review of the literature is not to be a regurgitation of what you have read. It is also not to teach about a topic; rather, it is to show your mastery of the research on your topic and provide a comprehensive up-to-date literature review of your topic. Start with an introductory section and then report the literature. This should be an exhaustive review of the literature using the chosen theoretical/conceptual framework and consist of the key and recent writings in the field. Repeat this approach if you are using more than

one theory or conceptual framework. In addition, there must be a critical analysis and synthesis for each variable in quantitative studies.

Transition and Summary

Section 1 for the research established the foundation of the study. The section consisted of an introduction to the research, the background of the problem, the problem statement, the purpose statement, the nature of the study, research and interview questions, conceptual framework, operational definitions, assumptions, limitation, and delimitations for the study, the significance of the research findings, and a comprehensive review of existing literature on the topic. Despite the food protection services and the implementation requirements of food-safety programs to prevent food-borne illnesses, the United States continues to experience foodborne illness outbreaks. More than 68% of all foodborne illness outbreaks occur within food service establishments (Norton et al., 2015), which have resulted in significant financial losses (Scharff, 2015) as well bankruptcy and business closures (Seo et al., 2014). The purpose of this qualitative descriptive case study was to explore the strategies business leaders use to implement successful food safety critical regulations in their organization. I used the qualitative case study method to explore the strategies business leaders use to implement successful food safety critical regulations in their organization. The central research question of this study was what are the strategies business leaders use to implement successful food safety critical regulations in their organizations? The conceptual framework of this study was based on the force field analysis model, which consists of the description of a force field in which a phenomenon is held between two conflicting sides (Card, 2013). The findings

of the study include significance for both businesses and society. The review of literature included extensive discussions on the existing literature on the conceptual framework, food safety hazards, food safety legislation, government efforts for food safety, industry efforts for food safety, and industry efforts for food safety, adoption and challenges for enhanced food safety controls.

Section 2: The Project

Section 2 includes a discussion of the business project purpose, the role of the researcher in the data collection process, participants included in the research, and the research method and design. Also, Section 2 includes a description of the population and sampling scheme, data collection instrument and techniques, and ethical research, as well as reliability and validity concerning the instrument and data collection processes.

Purpose Statement

The purpose of this qualitative descriptive case study was to explore the strategies business leaders used to implement successful food safety critical regulations in their organizations. The targeted population for this study consisted of business leaders located within the southeast region of the United States who were responsible for implementing food safety critical regulations within their organization successfully. This study may contribute to positive social change by adding to the knowledge of individuals, communities, organizations, and cultures regarding the effective use of food safety strategies to minimize foodborne illnesses. As a result, food safety performance may improve, and foodborne illnesses may decrease, enhancing the quality of life of community members.

Role of the Researcher

The role of the researcher in the data collection process involves selecting and contacting participants from the population selected for the research, initiating a dialogue, organizing and conducting the research, data collection, and data analysis (Kornhaber, de Jong, & McLean, 2015). In this qualitative case study, my role was to collect data from

multiple participants to gain a qualitative understanding of the strategies business leaders use to implement successful food safety critical regulations in their organization. Due to my role as the primary research instrument for the study, I was responsible for controlling every stage of the research, including definitions of concepts, data collection from multiple sources, execution, and transcription of interviews, analysis of the collected data, and data collection through the development of themes and codes. I sought to explore the relevant context and associations relevant to the research through open-ended questions and semistructured interviews that allowed detailed descriptions from the participants. For data collection to be comprehensive, I also used a document review. The research process involved my collaboration with business leaders located in the southeast region of the United States who were responsible for implementing food safety critical regulations within their organization successfully. I was responsible for conducting the interviews, recording the interview sessions, transcribing the audio of participants' responses, and analyzing the themes that emerged from the raw data. Additionally, I ensured that there was saturation during data collection.

I brought 30 years of experience working within the food industry. Working within the food industry in different positions such as a quality technician, quality systems coordination, quality supervisor, quality manager, auditor, and inspector widened my approach towards a broad variety of variables and situations. My experiences assisted me not only in framing the research problem but also developing research questions that were relevant to the purpose of the research. Finally, my experience working in the food

industry also helped me identify the most relevant population and select an appropriate sample of participants from food service establishments.

As a researcher, ethical considerations to be considered were based on various guidelines, regulations, and codes enforced by review boards and professional associations. It is the moral obligation of researchers to ensure that the study is conducted ethically and in alignment with Belmont Report protocols (U.S. Department of Health & Human Services [DHHS], 1979). Fundamental ethical principles for research that involve humans include justice, beneficence, and respect for persons (U.S. DHHS, 1979). A significant research factor involves ensuring the autonomy of the participants. The principle of beneficence means ensuring that no one participating in the study is brought to any harm and benefits to the participants are maximized as part of the research (U.S. DHHS, 1979). Finally, the principle of justice will be applied by ensuring fair treatment of every participant concerning the possible burdens and benefits of the research (U.S. DHHS, 1979).

The application of these principles is ensured by using an informed consent form signed by the participants. Informed consent for this study included information disclosure regarding the voluntary nature of participation in the research as well as the nature and process of the research (U.S. DHHS, 1979).

It was my responsibility as the researcher to ensure that this study conformed to the requirements of the Institutional Review Board (IRB), the principles for ethics as described in the Belmont Report protocol, and other requirements from the ethical perspective of the organization whose members participated in the study. I also ensured

that the study was initiated only after obtaining IRB permission. Additionally, the ethicality of the study was ensured by obtaining signed informed consent forms from the participants after explaining the principle of informed consent. I also made sure that each participant was treated fairly, every participant was reminded of the voluntary nature of their participation, their data remained confidential, and they could withdraw from the research process at any stage.

The role of the research also involves avoiding researcher bias as the beliefs of the researcher may hinder obtaining objective evidence (Berger, 2015). Confirmation bias refers to the research favoring evidence that supports the subjective beliefs of the researcher over contrary evidence. To ensure that I avoided such bias, I used the process of member checking. Member checking is a process where researchers provide participants with a copy of interview transcripts to validate their transcribed responses.

The interview protocol assists researchers in the consistency throughout the interview, which provides for reliable data (Grover, Chopra, & Mosher, 2016). It consists of information such as the introduction and conclusion script, interview procedures, information on obtaining participant consent, and interview prompts and questions (see Appendix B). I used the interview protocol as a procedural guide throughout the research process.

Participants

Before initiating the data collection process, researchers must identify the participants. In a qualitative case study, defining criteria of the members who will participate is necessary to ensure adequate knowledge of the topic (Heimer, 2013). A

significant factor the researcher defines before initiating the data collection process is the participant eligibility criteria that must align with the research question. Challenges at this stage in the research include identifying an appropriate organization to study, gaining access to it, and getting participant agreement for participation in the study. The criteria for eligibility are specific parameters established by the research that ensure the qualifications of the participant for the study. A potential participant is considered eligible in general when they meet expectations regarding knowledge and experience of the identified research phenomenon.

In this research, the eligibility criteria for the participants was based on their experience as business leaders involved in overseeing food-safety programs within a food service establishment located in the southeastern region of the United States. Business leaders were required to have at least one-year experience in the line of work of implementing critical food safety programs. To meet the IRB requirements, the participants were required to be the adult age of 18 years or older. As a final criterion, business leaders had to have demonstrated success in implementing food-safety critical regulations as evidenced by a grade A issued by the Department of Health (Jeffery, McKelvey, & Matte, 2015). The sample for the study consisted of three business leaders of food service establishments located in the southeastern region of the United States.

It is a challenge to gain access to the organization and the participants for the research. Researchers have suggested various methods to overcome this challenge, including building collaboration with key personnel in the organization, studying the target population, and using recruitment tools. To overcome this challenge, I accessed

business leaders using the Tennessee Department of Health (Tn.gov) website to gain information on the organizations to petition participation. Additionally, I discussed the purpose of the research with suitable organizations' executive team members. After obtaining IRB approval, I contacted the business leaders by personally visiting, phoning, or emailing and asking for their voluntary participation in the research study. Nadal et al., 2015) proposed that establishing a working relationship can consist of providing participants with information concerning the purpose and background of the study. Once an agreement was made to participate, I delivered the consent form to the participant. I discussed each section of the consent form to build trust. All participants were required to sign and date the form to confirm voluntary participation. The selection of the appropriate participants provided in-depth information on the experience with the phenomenon under study (Palinkas, 2015). Ensuring that the participants met the requirements and discussing elements of the informed consent form provided a working relationship with the participants. The eligibility criteria described helped ensure the participants were able to provide information relating to the strategies used to implement successful food safety critical regulations.

Research Method and Design

I used the qualitative method and case study design for this research. The qualitative method is appropriate for this study because I explored possible strategic directions for implementing food safety regulations within food service establishments. I used the qualitative research method to obtain an in-depth understanding of the phenomenon under study.

Research Method

I used the qualitative method for this study to understand the factors that contribute to implementing food safety critical regulations within a food service establishment. The use of the qualitative method provides for a researcher to analyze data that are subjective and not numerical (Hays & Wood, 2016). Conversely, the quantitative method incorporates the use of numbers for data for analysis, does not explore human behavior, and provides for the generalization that is not suited for this study (McCusker & Gunaydin, 2015). The qualitative method provides for open-ended questions to obtain a comprehensive understanding of the phenomenon, whereas the quantitative and the mixed method provide for closed-ended questions that limit the breadth and depth of understanding the experience (Flick, 2016). Guetterman, (2015) proposed that mixed method research consisted of a combination of qualitative and quantitative methods within research, which is not the aim of this study.

Research Design

I used the case study design for this study. In a case study, the researcher investigates processes, activities, and events, which does not focus on lived experiences (Lewis, 2015). The case study research design is suitable because the case study design involves observations of an individual or groups over time in a real-life setting to build theories (Singh, 2014). I collected data from participants in their natural environment using semistructured interviews that consisted of open-ended questions. Carter and Baghurst (2014) suggested that interview questions within a qualitative study include

open-ended questions to allow the participant to provide more detail than just one-word answers.

The ethnography design focuses on understanding the values and behaviors of a cultural group (Lichterman & Reed, 2014). When studying a cultural group, people have the same characteristics such as religion and race. The ethnography design was not suitable for this research based on the design characteristics. The ethnography design shows a comparison of cultural and social characteristics (Lewis, 2015). Cultural and social characteristics were not the focus of this research study. The use of the phenomenological approach aims to examine and understand human phenomena as lived and experienced (Lien, Pauleen, Kuo, & Wang, 2014). I selected the case study design because it allowed for the exploration of what and how questions to understand how business leaders implement strategies to comply successfully with food safety critical regulations within their organization.

Fusch & Ness (2015) defined data saturation in the interviewing process as to reach the limit where no new ideas emerge. The sample size should not be a means to decide data saturation, it is more important to realize the achievement of saturation (Malterud, 2016). I achieved data saturation by recognizing that no new data, themes, and coding emerged indicating replication. Interviewing started with three participants and data saturation existed upon completion of the third interview.

Population and Sampling

The population for the research study consisted of six business leaders of food service establishments located in the southeastern region of the United States. A

researcher must be certain about the selection of the population to ensure the participants can provide information about the phenomenon (Etikan et al., 2016). I used purposeful sampling as a mean to select three participants from the population, which was representative of the population to warrant an accurate generalization. Researchers use the purposeful sampling method to assist in the obtainment of sufficient information and experience that supports the research problem and research question (Robinson, 2014).

Obtaining a small size of participants assisted in a more in-depth analysis and understanding of the research problem (Yin, 2017). Yin (2017) reasoned that three cases could provide adequate and reliable data in a qualitative case study than large numbers. Fush & Ness, 2015) argued that the achievement of data saturation should determine the sample size. When conducting qualitative research, data saturation is the goal with the size of the sample and typically depends on the broadness of the study (Malterud, 2016). I started with three business leaders, and data saturation existed upon completion of the third interview.

HO (2012) explained that food service establishments that receive a 90 or above on the environmental health inspection report receive an A letter grade. One criterion for selecting participants included that the establishment must have obtained an A grade (90 or above) on the environmental health inspection report issued by the department of health. Business leaders were required to be over 18 years of age, with at least one year of experience in implementing critical food safety regulations and located in the southeastern region of the United States. The interview setting consisted of an agreed upon the location that allowed for the encouragement of open, honest, and in-depth

responses, as well as provide for minimal distractions. Participation in the study was voluntary with no incentives.

Ethical Research

Informed consent is a process that involves providing individuals with information to make an informed decision of whether to participate in the study (Marrone, 2016). Participants decided to take part in the study by free choice without force. Schrems (2014) stated to obtain signatures of participants on the informed consent form before interviewing as documentation of approval to participate in the research study. I obtained a signature on the informed consent form from each participant before the interview process. The informed consent form included information relating to the informed consent, participants' withdrawal, incentives, and the protection rights of the participants. I requested that the participants keep a copy of the consent form (see Appendix B).

After a participant decided to join the study, a participant could still change their mind later. A participant may stop or withdraw from the study at any time (Harris & Atkinsou, 2015). I explained withdrawal from the study could occur at any time (before, during, or after the interview) by notifying the researcher during the interview or emailing the researcher. There were no incentives provided for participation in this study; however, at the request of the participant, I would provide an electronic summary of the completed study upon request. Through the IRB process, I received the approval number 02-13-17-0169184 before collecting data.

Researchers should establish a means for participants' privacy to protect the participants from improper disclosure (Department of Health and Human Services, National Institutes of Health, 2016). I ensured the confidentiality of the participants, business, and data at every stage of the research. To ensure confidentiality, I coded the names of the participants and the business using an alphanumeric pseudonym. An individual participating in the study is a person, and I always respected the participant as a person. I stored the data in a safe place (i.e., password protected computer file and or locked cabinet) for 5 years to protect the confidentiality of the participants. Reardon, Basin, and Capkum (2014) proposed the use of shredding and incineration to destroy data. After 5 years, I plan to destroy the data utilizing a method that prevents retrieval, such as shredding and incineration. The final doctoral manuscript included the Walden IRB approval number.

Data Collection Instruments

Hancock & Algozzine (2017) proposed that the researcher is the primary instrument to collect data in qualitative research. I used two data sources (interviewing and company documents) for this research study. I was the primary instrument to collect and analyze data in this doctoral study. Bredart, Marrel, Abetz-Webb, Lasch, and Acquadro (2014) explained that semistructured interviews with the open-ended questions could provide for the collection of essential data. De Massis and Kotlar (2014) proposed that in case study research, the use of interviews could help to prevent bias. As the primary instrument to collect and analyze data, I conducted semistructured face-to-face interviews with open-ended questions (see Appendix A) that assisted in the rich data

obtainment from the participants. Also, I reviewed company documents (i.e., policies and procedures) as another means of data collection of the food service establishments under study to gain a better understanding of the strategies used to comply with critical food safety regulations. Triangulation involves the use of multiple data sources (Campbell, Corpus, Wussow, Plummer, Gibbs, & Hix, 2015). I used company documents to triangulate the results obtained from the interviews to help produce a deeper understanding of the strategies used to implement critical food safety regulations within food service establishments.

I provided each participant with similar interview question and use member checking to enhance the reliability and validity of the data collection instruments. Campbell et al. (2015) articulated triangulation and member checking as two strategies used to ensure reliable and valid data. Member checking is a process a researcher uses to allow participants to review their interview statements to validate findings (Harvey, 2015).

Yin (2017) proposed the use of an interview protocol to guide the researcher from the beginning to the end of the interview process. I followed an interview protocol (See Appendix B) as a guide to ensure the conveying of all necessary elements during the interview process and to support consistency throughout the collection of data. I asked each participant the same interview questions (see Appendix A) in the same order as outlined in the interview instrument.

Data Collection Technique

I used semistructured interviews and company documents (i.e., policies, and procedures) to explore and obtain data from a purposeful sampling of three food service establishment business leaders. I scheduled in person interviews with participants at a time and place convenient to the participants. Open-ended questions during the interview process provided an in-depth responses needed from the participants (Brédart, Marrel, Abetz-Webb, Lasch, & Acquadro, 2014). I used an audio recorder to capture the entire interview process for later transcription, following the interview protocol (See Appendix B) mitigating bias and contributing to the reliability of the information. Before the interview, I review associated policies and procedure while scheduling a second meeting for member checking. The advantages of using semistructured interviews include the ability of the researcher to capture verbal and nonverbal cues, allow the researchers to maintain control while keeping the interview on track and can provide reliable, comparable qualitative data (Biasutti, 2015). The disadvantages of using semistructured interviews include cost, the time it takes to conduct the interview and analyze the data and having a propensity to bias based on what the participant thinks the researcher wants to hear (Doody & Noonan, 2013).

The use of more than one source to collect data could reduce bias reduction, provide for a mixture of data, and provide for a more comprehensive representation of the phenomenon under study (Battistella, 2014; Heale & Forbes, 2013). Therefore, I also review company policies and procedures documents that support complying with critical food safety regulations. I then triangulated the information from the documents with the

results of the interviews. Methodological triangulation is the use of two or more sources of data instead of a single source of data (Yin, 2017). The advantages of methodological triangulation include providing a more comprehensive picture of the phenomenon (Marshall & Rossman, 2016). The disadvantages of methodological triangulation include the use of more data, and an increase in time compared to the use of a single source (Joslin & Muller, 2016).

I incorporated changes before data interpretation and subsequent member checking. Member checking is a form of participant verification, whereas researchers allow participants to review the transcript for clarity, accuracy, and to provide any additional feedback (Elo, Kaariainen, Kanste, Polkki, Utrianen, & Kyngas, 2014). After conducting methodological triangulation, I presented the initial data interpretation to participants in the scheduled meeting allowing for any clarification before final data analysis.

Data Organization Technique

I inputted, scanned, and stored all data on a password-protected computer to keep track of the information. Documentation includes the consent form, interview audio recordings, field notes, transcriptions, data analysis, and any other pertinent information that was involved in the process of this study. Also, I used the NVivo 11 software for Windows to organize, analyze, and keep track of the data. I stored a second set of the data on an external password protected drive. I stored all physical copies of documentation maintained within a locked cabinet.

Reardon et al. (2014) proposed that researchers should include a secure method that provides for secured storage of data to protect the identity participants. All data remains in a locked file cabinet for 5 years upon completion of the doctoral study. After 5 years, I plan to destroy the data utilizing a method that prevents retrieval, such as shredding and incineration.

Data Analysis

Data analysis involves organizing, interpreting, and making sense of the data systematically to discover meaning (Davidson, Paulus, & Jackson, 2016). The process of compiling the data involves organizing the data. To get to know the data, I transcribed the audiotaped interviews and handwritten notes for analysis. Theory triangulation, data triangulation, investigator triangulation, and methodological triangulation are four types of triangulation for a case study research (Yin, 2017). Carter & Baghurst (2014) proclaimed that triangulation assists in the building of confidence in the result. The appropriate data analysis process for this qualitative case study research design consisted of the methodological triangulation. Methodological triangulation is the process of utilizing two or more sets of data sources for researching a question (Fusch & Ness, 2015). I used the methodological triangulation approach to assist in correlating semistructured interview responses and company policies and procedures during the data analysis process. Yin (2017) proposed a five-step process for data analysis that includes: (a) compiling the data, (b) dissembling the data, (c) reassembling the data, (d) interpreting the data, and (e) concluding the data. I used Yin's five-step data analysis method for this study.

Compiling the Data

Computer-assisted qualitative data analysis software (CSQDS) aids researchers as they collect, record, and handle data (Zamawe, 2015). CSQDS facilitates the coding and theming of research topics (Woods, Paulus, Atkins, & Macklin, 2016). Further, Sinkovics and Zamawe (2015) suggested CSQDS programs, such as NVivo, allow researchers to manage data efficiently. Researchers can use the NVivo systems to identify word-frequency to look for themes (Castleberry, 2014). I organized and prepared the data for analysis into a database using the NVivo 11 software for Windows.

Disassembling the Data

I continued the process of analyzing the data utilizing the dissembling process. Park, Ok, and Bongsug (2016) used the dissembling process to uncover the frequency of words. The process of dissembling involves going back and forth with the data to determine data significance as it relates to the topic. I separated and grouped the data into codes and labels using the NVivo 11 software for Windows.

Reassembling the Data

I reassembled the data by repeating the identification of grouping of the collected data into themes. I used the NVivo 11 software for Windows to assist in the reassembling the data process. The process of reassembling the data allowed me to uncover the repetition of the topic similarities.

Interpreting the Data

Yin (2017) proposed that the next step in data analysis involve the interpretation of themes into discussions and narratives. After coding the data, I sub coded the data and

synthesized the data into themes and subthemes. The use of themes and subthemes provided for the transparency concerning the worth and knowledge that I can obtain from the data.

Concluding the Data

I used the concluding process to focus on the key themes to describe the outcome. This process provided for a profound understanding of the themes as it relates to the central research question. I correlated the key themes with the conceptual framework and literature to include new studies published before the completion of the study.

Computer Software

Computer-assisted qualitative data analysis software (CSQDS) aids researchers as they collect, record, and handle data (Zamawe, 2015). CSQDS facilitates the coding and theming of research topics (Woods et al., 2016). Further, Woods et al. (2016) suggested CSQDS programs, such as NVivo, allow researchers to manage data efficiently. Researchers can use the NVivo systems to identify word-frequency to look for themes (Castleberry, 2014). I organized and prepared the data for analysis into a database using the NVivo 11 software for Windows. I continued the process of analyzing the data utilizing the dissembling process by separating and grouping the data into codes and labels using the NVivo 11 software for Windows. I reassembled the data by repeating the identification of grouping of the collected data into themes.

Key Themes

Yin (2017) proposed that the final step in data analysis involves the interpretation of themes into discussions and narratives. I used the concluding process as a final step to

focus on the key themes to describe the outcome. I correlated the key themes with the conceptual framework and literature to include new studies published before the completion of the study.

Reliability and Validity

The reliability and validity of research are important concepts in research (Noble & Smith, 2015). Reliability focuses on the ability to replicate the study based on the procedures, findings, and results (Dube et al., 2014). Validity involves the checks for the accuracy of the data by such protocols as member checking and bracketing (Vance, 2015). In qualitative research, as opposed to quantitative studies, dependability, creditability, transferability, and confirmability determines the reliability and validity of research (Dube, Schinker, Strasser, & Lightfoot, 2014).

Dependability

Dependability relates to the consistency of the findings and repeatability of the data (Darawsheh & Stanley, 2014). Elo et al. (2014) argued that dependability is a validation process that other researchers can follow. I ensured dependability by carefully documenting the research process from start to finish. Hays, wood, Dahl, & Kirk-Jenkins, 2016) indicated that dependability enhancement exists with the use of the triangulation method. Harvey (2015) proposed that member checking improve the reliability and validity of data. I used member checking to confirm information supplied by the participants.

Creditability

Thomas and Yin (2017) proposed that creditability surround the confidence in the truth of the findings. The process of member checking helps validate the study by utilizing the participants to determine the accuracy of the themes and descriptions identified by the researcher (Elo, Kaariainen, Kanste, Polkki, Utriainen, & Kyngäs, 2014). I ensured the quotes from the findings display according to the intent of the participants. Participants had the opportunity to review the findings to ensure the findings are true to their experience.

Transferability

The achievement of transferability in qualitative research the findings must have relevance in another context (Hays et al., 2016). I provided a thick description of the phenomena by generating and comparing different data and participants' viewpoints. Providing enough description of the phenomena included conclusions that are transferable to readers and other times, settings, situations, and people.

Confirmability

Confirmability in qualitative research involves findings that are from the respondents' point of view and not of a researcher's bias, motivation, or interest (Pozzebon, Rodriquez, & Petrini, 2014). I used member checking to confirm the participant point of view. Member checking occurs when a researcher provides participants with the findings and interpretations to confirm accuracy. I checked and rechecked the data throughout the study to verify confirmability.

Data Saturation

Hennink, Kaiser, & Mareoni (2016) indicated that data saturation occurs when a researcher realizes during the interview process that no new data exist than already collected. Galvin (2014) agreed that during the interview process, data saturation exists when data becomes repetitive. I started with three participants and continued the interview process until no new information surfaced.

Transition and Summary

In Section 2, I expanded on the research method and research design. Other sections included population and sampling, ethical research, data collection instrument, data collection technique, data organization techniques, data analysis, and reliability and validity. In Section 3, I present the findings from the study. Other parts of section 3 include the presentation of findings, application to professional practice, implications for social change, recommendation for actions, recommendations for further research, reflections, and the conclusion.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative descriptive case study was to explore the strategies business leaders use to implement successful food safety critical regulations in their organizations. Section 3 contains the findings from qualitative thematic analyses of interviews with three business leaders involved in overseeing food safety programs within a food service establishment located in the southeastern region of the United States. A qualitative thematic analysis was employed to analyze the three interviews. The research centered on the identification and reporting of the most common patterns of responses among participants. Upon completion of the analysis, themes were generated to address the main research question.

Presentation of the Findings

Participants in the study were three business leaders responsible for food safety programs within a food service establishment located in the southeastern region of the United States. Participant 1 (P-1) had 19 years of experience, and the company's health inspection score was 99%. Participant 2 (P-2) had 10 years of experience in the food industry, and the company had a 100% health inspection score. Finally, Participant 3 (P-3) had 5 years of experience with a score of 98%.

The main research question was: What are the strategies business leaders use to implement successful food safety critical regulations? From the analysis, a main thematic category was formed to thoroughly discuss the strategies employed by business leaders to achieve success regarding food safety. The three emerging themes were

organizational performance analysis for improvements in food safety, strategies applied to improve food safety, and stability of new strategies for food safety. The next part of the study contains the results from each thematic category supported with tables and verbatim texts to better understand the established themes.

The main thematic category of the study had three underlying themes about the strategies that business leaders use to develop and improve their food safety performance. From the analysis, three main themes pertained to the FFA. Most of the participants believed in the effectiveness of adhering to food code and regulation guidelines and conducting employee training and building awareness. Another strategy discovered was working closely with health inspectors.

Theme 1: Organizational Performance Analysis for Improvements in Food Safety

All three business leaders believed in the requirements to adhere to the guidelines of the FDA and strictly provide safe food for their business or organization. The finding substantiated the need for the food code model released in 2013. The food code is a model for safeguarding public health when offered to the consumer. It represents FDA's best advice for a uniform system that addresses the safety and protection of food offered for retail and in food service (Angelo et al., 2016). Angelo et al. (2016) described the food code regulated by the FDA contains provisions that control the safety of the food served and provided to retail customers. Kambhampati (2016) noted that the food code also specifies public health protections to guarantee that commercial food outlets and food service establishments are as safe as possible. From the responses of the participants, it was evident that they offer much value and significance to the food code

regulations as implemented by the different government agencies and local authorities. Furthermore, food codes and regulations are used by business leaders as the framework that all their stakeholders must follow to achieve their desired state of having the ability to handle and serve their food products safely.

From the analysis, the importance of using thermometers and the food is stored properly ensures compliance with the food safety protocols. Participant 2 emphasized the importance of using thermometers. The importance of using a thermometer ensures the food is properly cooked. As Martins and Rocha (2014) reported, food establishments have been unsuccessful in implementing strategies for recommended food temperatures, food storage, proper training, and even handwashing. Therefore, business leaders are now willing to implement stricter food handling practices and consider the first step to successfully adhering to the FDA guidelines.

Table 1 contains the participants' statements about the Organizational Performance Analysis for Improvements in Food Safety between the employees and management to improve their business practices.

Table 1

Theme 1: Organizational Performance Analysis for Improvements in Food Safety

Participant	Participant's Comments
P-1	The key strategies that they use in improving their organization's food safety performance was ensuring the understanding of each employee on the food codes and regulations. The participant indicated that the knowledge of employees and their ability to follow the guidelines are vital to mitigate the food safety risks. Some of the strategies the business use for food safety performance include understanding the food code and food regulations. The food code is a hazard-based

(table continues)

Participant	Participant's Comments
	protocol that focuses on chemical, biological and physical aspects of food safety. Although the company does not implement a complete HACCP plan, we do use HACCP as a guide.
P-2	The different procedures needed to be followed in ensuring food safety, formal policies and regulations are in place to guide staff members and employees. The business made sure food thermometers were used, and the refrigeration was kept at the correct temperature for hand washing and made sure to follow the food codes to ensure safe food practices. Because the business has strict policies and procedures that we must adhere to and they have to follow to ensure the safety of the food. The business makes sure food thermometers are used, and the refrigeration is kept at the correct temperature. The business uses thermometers in the refrigeration to make sure the refrigeration is kept at the correct temperature according to food guidelines and regulations. We also have food thermometers that we use to maintain the correct temperature of our cooked food. It has to reach a certain degree in order to ensure the safety of the food.
P-3	The business needs to continuously learn and develop the knowledge and skills in adhering to the food safety codes. To support the employees, postings and other printed signage were provided to encourage all members of the organization to be more competent with regard to the food safety regulations. The business needs to familiarize themselves with food safety codes through local and state inspectors, as well as reading new and updated printed materials through the internet and other social media. Making sure we understand what health officials are looking for as far as their reports and what to expect. This includes postings, permanent signage, and other signs, and to continuously encourage employees to gain knowledge of food safety codes and be mindful of all changes that may come about the areas that they are working in, to include preparing food, storage, or whether it be cleaning. It is always stressed that it is a drug free area. These signage areas must be posted properly and ensure the proper work ethics.

Theme 2: Strategies Applied to Improve Food Safety

The second main theme was conducting different pieces of training for employees. Participants explained that they focused on creating and building various

training sessions and programs to equip their employees with adequate knowledge and skills regarding successful food safety regulations. Wallace et al. (2014) reported the importance of hiring experienced and technically qualified food employees as the most critical factor prompting the implementation of HACCP systems. Grover, Chopra, and Mosher (2016) also identified how the lack of employee training could be considered as one of the most vital employee barriers in the food industry. Therefore, it was emphasized in the analysis of data that business leaders must commit themselves to provide periodic training and educational programs to their employees and staff members. Like the previous theme, Lewin's framework was again embodied in this strategy as education or knowledge regarding food policies are used to fight the challenges of successfully implementing the desired procedures. Lewin's force field analysis indicates that when such equilibrium is no longer stable, change occurs (Bucciarelli, 2015). Therefore, continuous education of the employees is essential to implement the correct procedures for food safety and policies. The three participants in the study indicated the importance of conducting periodic employee training and education.

Participant 1 highlighted that on-the-job training on the different food service rules and regulations are vital. On-the-job training, enforcement of food service rules, and what employees know and do not know concerning food, critical regulations, and inspections. In addition, Participant 2 expressed the importance of training and instilling to the employees the rule of handwashing. All employees are expected to wash their hands when they come in the building, as well as leaving the food area. They must wash

their hands before they enter back in the food area. Lastly, Participant 3 shared that they have periodic meetings and training for their employees.

Two of the three participants observed that working closely with health inspectors is also helpful in improving their food safety requirements. For the participants, food establishment leaders must cooperate and collaborate with the health inspectors to be knowledgeable of the changing needs and requirements of the food regulations. The third theme was also reported in the literature where Leinwand, Glanz, Keenan, and Branas (2017), explained that the roles of the inspection officers or inspectors is to conduct periodic examinations to evaluate the effectiveness of the business leaders' ability to ensure sanitation and implement the food safety standards and requirements. Participant 1 stated that one strategy that they practice is working closely with the health inspectors to be constantly updated and aware of the needed food handling practices. Working with health inspectors to achieve safe and sanitary food handling practices. Participant 3 echoed that the local and state inspectors play a vital role in aiding the organization and their members to become aware of the food safety codes. The participant emphasized that the constant communication with the inspectors allow them to improve and develop their strategies through feedback.

The analysis of the interviews also led to the discovery that strategies were established to address several reported issues that encumbered the business leaders from successfully implementing the food safety regulations. The main issue discovered was the need for employees' understanding of the purpose of the said safety regulations. All three participants agreed that the issue on the employees' understanding of the importance of

food safety regulations is greatly related to the implementation of the strategies. This is because under Lewin's force field model, these issues also serve as barriers or the restraining forces that deter the positive changes being pushed forward by the business leaders (Capatina, Bleoju, Matoa, & Vairinhos, 2017). For the participants, the strategies suggested can help in improving the practices on handwashing, temperature control, storage, labeling, proper hygiene, and sanitation. Through the comprehension and realization of the employees, these issues may improve over time, and the success on the food safety regulations may be achieved going forward. Similarly, and as previously reported, the FDA has already started the preparations towards ensuring successful implementation of the modernization of several policies and procedures such as the hiring of well-trained staff and other guidance advances on food safety.

One important strategy focuses on the issue of constant handwashing by employees. Participant 1 stated that the previous strategies are important to address the issue on handwashing. As highlighted, employees need to ensure that their hands are always clean especially as they handle the food products. Participant 3 added that practice of hand washing is not as simple as the employees perceive them to be. Under the food safety regulations, hand washing is a critical practice that must be done correctly; and must constantly be taught and instilled to the employees.

Under the food safety regulations, employees must also be aware of the correct reheating processes, cooling time, and temperature for storage. The importance of food storage is another concern. Food needs to be stored in a container with a tight seal to prevent leakage or cross-contamination with another food item in the refrigeration. The

importance of employee health and overall sanitation of the area is important for proper hygiene when handling food products. Furthermore, it is important to make sure that the equipment and area are appropriately cleaned and well-sanitized. Participant 1 shared that the strategies identified must be employed to address the issue of temperature control. Under the food safety regulations, employees must also be aware of the correct reheating processes, cooling time, and temperature for storage. Participant 1 also shared that food storage is another concern. The participant then explained how the food products are received and stored; while emphasizing the need to separate the products and protect them accordingly. Participant 3 insisted on the importance of temperature in food safety. Employees must be well-trained and aware of the proper temperatures in food service. Participant 2 added that storage and labelling are two of the other protocols that they have. With the importance of such practices, employees must have to proper knowledge on to store the food and label them with the needed information.

All participants reported that they conduct close monitoring of their employees. This is to certify that their employees are being trained; and at the same time, are applying the knowledge and skills from the training accordingly. Other strategies included were the strict training and knowledge building of employees, conducting routine inspections to ensure that procedures are followed, and reviewing the health inspection reports for improvement. Again, the findings under the thematic category highlighted the education and skills of the employees to develop the food safety implementation of the establishments.

All participants believed in the need to closely monitor their employees. The participants emphasized that food establishment leaders must take the time to observe and evaluate their employees to ensure that they are following the rules and guidelines accordingly. As Bailey and Garforth, (2014) implied, the growth in the skills of food supervisors and handlers do not necessarily and readily pertain to improved food handling actions as the change heavily depends on their attitude. Close monitoring of their employees ensures that the employees are indeed applying their learnings from the training or programs. The monitoring of employees is done to examine and determine if they are duly following the correct food regulations and guidelines. By monitoring the employees in services, businesses must oversee the techniques used and reviewing the previous health inspection reports. The importance of constant monitoring the employees in their daily work assures the businesses are applying the correct food sanitation and hygiene as instructed by the policies of improving food safety.

Another strategy applied was the perception of all three participants in the effectiveness of employing strict training and knowledge building of the employees to improve their food safety performance. Bailey and Garforth (2014) and Doyle et al. (2015) substantiated the said theme. The employees participate in a strict training process, as well as classes on educating the employees of food safety practices. The strategies the businesses apply are the job training, monitoring, inspections, and regular attendance of the food safety training offered by the local health department. The free class, offered every month, focuses on educating and food safety practices for preventing food borne illnesses. During the training sessions, employees are educated about the food

safety regulations and are provided with the opportunity to ask questions to understand how a task is to be performed and educating them on the significant risks involved in the tasks they are not properly followed.

Education is vital in making sure that they are adhering to the proper food handling protocols. In addition, the need to guarantee that the employees are willing and comfortable in observing the rules and regulations. The communication of these strategies to gain employee acceptance by periodic trainings, posting hand washing techniques, as well as using hands-on approach. Also, by going over scenarios and role-playing to get employees' feedback. It ensures that employees understand the proper techniques to ensure sanitizing. Employees must choose to be attentive of any health inspectors, work with them, learn, and better understand their expectation. Only one participant conducts routine inspections as a method or strategy. However, this practice is interrelated to the constant review and inspection of the employees. With the use of the inspection forms and the overall factors needed for food safety. The business conducts a weekly inspection using the health inspection form to check if all procedures and guidelines are being adhered to. Finally, one participant shared the importance of reviewing the health inspection reports constantly for improvement. The business collaborates with the health inspectors to assist them in the improvement of their food safety management and implementation. The use of the health inspection reports to determine the areas that they need to improve on. Only one participant conducts routine inspections as a method or strategy. However, this practice is interrelated to the constant review and inspection of the employees by combining the use of the inspection forms and

the overall factors needed for food safety. Participant 1 stated that they have a weekly inspection using the health inspection form to check if all procedures and guidelines. They also use the health inspection form to ensure our procedures are followed properly. Finally, another one participant shared the importance of reviewing the health inspection reports constantly for improvement. The theme can be connected to the participants' collaboration with the health inspectors to assist them in the improvement of their food safety management and implementation. Participant 2 also makes use of the health inspection reports to determine the areas that they need to improve.

From the analysis, it was discovered that the successful implementation of strategies was chiefly hindered by the employees' lack of willingness to participate and comply to food safety regulations. Meanwhile, two other significant challenges were reported, the employees' lack of knowledge; and their lack of proper understating of the risks involved in food handling. These challenges can be considered as the restraining factors faced by the business managers and leaders from properly implementing the food safety codes and regulations.

Table 2 contains the participants' statements about the Strategies Applied to Improve Food Safety of the employees and management to improve their business practices.

Table 2

Theme 2: Strategies Applied to Improve Food Safety

Participant	Participant's Comments
P-1	The business provides on-the-job training for the different food

(table continues)

Participant	Participant's Comments
	service rules and regulations. We conduct close monitoring of the employees. This is to certify that their employees are being trained and at the same time apply the knowledge and skills from the trainings. The employees have been trained and monitored to ensure that they were properly trained through our on-the-job training. The emphasis of on-the-job training, enforcement of food service rules, and what employees know and do not know concerning food, critical regulations, and inspections is an on-going process. One strategy we practice is working closely with the health inspectors to be constantly updated and aware of the needed food handling practices. Working with health inspectors to achieve safe and sanitary food handling practices is an on-going procedure. The employees need to ensure that their hands are always clean especially as they handle the food products. Some of the issues that require the implementation of these strategies include, the understanding, the intent behind the critical food safety regulations such as proper hand washing, good hygiene practices, temperature control, storage, labeling. Cleaning and sanitizing of food contact equipment, and surfaces. Employees must ensure their hands are clean and properly washed. Employees must not use bare hand contact with ready-to-eat food, unless there is an approved alternative procedure. Proper cook time and temperature must be attained. Employees must follow the proper reheating procedures for hot holding, proper cooling time, and temperature. Proper cold and hot holding temperatures, proper date marking and disposition. Controls, procedures, and records of all activities must be maintained. All foods are received from approved suppliers and properly stored. When applicable, temperatures are checked. The food is inspected to ensure that the food is in good condition, safe, and unadulterated. Food must be separated and protected. For example, raw versus cooked foods. All foods must have proper label referencing the contents and dates. The proper rotation of first in and first out must be adhered to. Any food determined to be unsafe will be disposed of, such as expired or returned food. Employees must report to the manager of any sickness that could jeopardize food safety and follow the business policies on the restrictions and exclusions based on employee health. Employees must not work if they are sick, to include but not related to, no discharge from eyes, nose, mouth or even diarrhea. We do routine inspections once a week. The business also uses the health inspection form to ensure our procedures are followed properly.

(table continues)

Participant	Participant's Comments
P-2	We conduct close monitoring of their employees. We monitor the employees, making sure that they are adhering to the guidelines and regulations of the health inspector. Continuously monitoring of the employees from the time they enter the facility, and the first steps that they do to go toward their daily work. As far as washing their hands properly, we continually watch and monitor restroom facilities, and that type of thing to ensure that they are doing what they should be doing. Education is vital in making sure that they are adhering to the proper food handling protocols. In addition, the need to guarantee that the employees are willing and comfortable in observing the rules and regulations. The business conducts training every six weeks to make sure that the employees are comfortable with the techniques and abiding by the rules and regulations as well as understanding and comprehending what they are supposed to be doing. This is to certify that their employees are being trained and at the same time apply the knowledge and skills from the trainings. The importance of training and instilling the rule of handwashing is mandated for all employees. All employees are expected to wash their hands when they come in the building, as well as leaving the food area. They must wash their hands before they enter back in the food area. The business uses proper storage of food by labeling and cleaning of the equipment, making sure proper containers are used, and the expiration dates are labeled upon those containers. Food needs to be stored in a container with a tight seal to prevent leakage or cross-contamination with another food item in the refrigeration. The business labels all food that's going into storage with an expiration date, so they know what needs to be used first. The business instills new policies and procedures, posting diagrams showing how to clean the equipment and what to clean the equipment with. It is usually cleaned with a premix at the end of the day. By reviewing the health inspection report, the business learns of areas to make improvements in order to increase inspection scores and the proper way of doing things. The health inspector also gives tips on how to improve with time management and making sure that the food is kept at the correct temperature.
P-3	The business conducts periodic meetings and training for their employees. In addition, the company conducts practical tests to guarantee that all employees are equipped with the knowledge and

(table continues)

Participant	Participant's Comments
	skills on food sanitizing and safety and closely monitors the employees. This is to certify that their employees are being trained and at the same time apply the knowledge and skills from the trainings. The individuals are asked to attend weekly meetings, reiterate basic and fundamental practices of hand washing. It is not limited to just that. Physical drills and testing. It is to ensure that employees understand the proper techniques to ensure sanitizing. Employees must choose to be attentive to any health inspectors, work with them, learn, and better understand their expectation. The local and state inspectors play a vital role in aiding the organization and their members to become aware of the food safety codes. The participant emphasized that the constant communication with the inspectors allow them to improve and develop our strategies through feedback. The business must continuously familiarize themselves with food safety codes through local and state inspectors, as well as reading new and updated printed materials through the internet and other social media, making sure of what the health officials are looking for what to expect. The expectations include postings, permanent signage, and other signs, and to continuously encourage employees to gain knowledge of food safety codes and changes to the areas they are working in, including preparing food, storage, or cleaning. It is always stressed that it is a drug free area. These signage areas have to be posted properly and ensure the proper work ethics. The practice of hand washing is not as simple as the employees perceive them to be. The business follows the food safety regulations, whereby hand washing is a critical practice that must be done correctly; and must constantly be taught and instilled to the employees. The employees must understand the good practice of proper hand washing. There is a difference whether it is just a simple rinse or a proper washing. The business continues to discuss the hand washing procedure and physical training in every company meeting. When it comes to hand washing, it is very critical that employees know exactly when this should be done. The business stated that employees must be well-trained and aware of the proper temperatures in food service. Upon entering the facility, prior to handling all materials, following restroom facility visits, as well as following smoke breaks, and using computer equipment or mobile devices. All employees must understand that proper temperatures of water, and sinks for dishwashing, as well as proper cooking temperatures, are very essential in food safety.

Theme 3: Stability of New Strategies for Food Safety

All three business leaders observed that there is a willingness from the employees regarding participating and adhering to the food safety regulations. Another challenge in implementing the food safety strategies is the lack of willingness and cooperation of the employees. Jeon et al. (2015) highlighted in their study that indeed, the employees' attitudes are affected by the lack of educative courses and orientations which then make it more difficult for the workers to observe rules and policies. Therefore, the participants ensured that enough training and programs are offered to manage the employees' work attitudes and ethics. From observation, some employees are hesitant in following the procedures, showing their unwillingness to perform their duties at work properly.

Participant 2 added that indeed, there are employees who would instead take "shortcuts" and not participate in the goals and vision of the organization. Participant 3 echoed that there will always be employees who are not willing to participate and cooperate with the rules being implemented as they do not see the significance.

Another challenge or issue supported in the literature and reported by Jeon et al. (2015) was the employees' lack of knowledge as shared by the two participants. Participant 1 believed that one of the issues in implementing the food safety strategies was the general lack of knowledge by the employees. He explained how some employees do not have a background in the food industry, making it more complex to instill the food safety regulations., Participant 2 echoed how the lack of knowledge and experience in the food industry is a hindrance in fully implementing the food safety strategies. However, to

address the issue, the participant stated that careful communicates with the employees to shows support which hopefully leads to the cooperation of the employees.

One participant indicated that another issue in the implementation was the lack of the proper understating of the risks involved in food handling. Participant 1 explained that another challenge coming from the lack of knowledge is the lack of understanding and realization of the risks when the regulations and safety strategies are not followed.

Table 3 contains the participants' statements about the Stability of New Strategies for Food Safety of the employees and management to improve their business practices.

Table 3

Theme 3: Stability of New Strategies for Food Safety

Participant	Participant's Comments
P-1	The number one issue is lack of an employee willingness to comply. The business voiced a major concern about the employees' reluctance towards performing a job properly. The lack of willingness to comply has been seen based on other factors such as lack of knowledge, prior experience, even understanding the risks associated with not following procedures. Some of the challenges encountered when implementing strategies include, lack of knowledge. Some employees have never worked within a food establishment or have never been educated on the importance of food safety. When employees lack an understanding of the risk involved with food handling, proper serving, preparing, and the storage of foods, employees do not understand what could happen because of not complying with procedures and why procedures in place.
P-2	Some employees would instead take "shortcuts" and not participate in the goals and vision of the organization. Some of the employees have a short attention span. Others wanted to take shortcuts and do not want to conduct the correct procedures. The business thinks when an employee does not want to participate, many times the employee is subjected to being ridiculed by the other workers if they do not know all the guidelines, rules, and regulations.

(table continues)

Participant	Participant's Comments
	Some employees have never worked in the food industry and they might feel intimidated or feel like they cannot do a good job, but we try to take time out for training. They must learn these things and allow them to practice. The business gives all employees the opportunity to learn the procedures and perform their job correctly.
P-3	There will always be employees who are not willing to participate and cooperate with the rules being implemented as they do not see the significance. Sometimes the employee may have short attention spans, a lack of interest, or do not understand the importance of food and facility safety. In return, a basic lecture may not be too effective, but employee participation sometimes works a lot better. The business tries to engage the employee by asking questions, watching them closely, and require them to understand the procedures. The business leaders pull the employee aside to go over what is expected of them and their job description, allowing them a chance to redeem themselves and make sure they know the importance of the expectations of the importance of food safety. It is important the employee understands the standards of food safety.

Findings Related to Kurt Lewin's FFA

Lewin's FFA model encompasses an effective procedure in the food retail and food service industry. The participants' responses focused on their actions and imposed practices that would allow the change and increase of all stakeholders' knowledge and skills to achieve the main goal of having successful food safety critical regulations. Participants reported that they are faced with the "restraining forces" or obstacles to achieving their desired change. The business leaders shared from experience that they have issues on the employees' understanding of the purpose of food safety regulations regarding handwashing, temperature control, storage, labeling, and proper hygiene and sanitation. Furthermore, they found that in general, employees tend to have the lack of

willingness to participate and comply with food safety regulations as they also lack the display of proper understating of the risks involved in food handling.

Meanwhile, to address these issues, positive forces have been applied and practiced by the leaders to achieve equilibrium and attain their desired results. To fight the negative forces, participants mainly reported that they work to adhere to guidelines of food code and regulations. Participants then shared that they: conduct strict employee trainings and awareness building on food service rules and regulations (e.g. washing of hands); work closely with health inspectors; conduct a routine review of the health inspection reports for improvement; and lastly, practice the use of printed materials containing the food safety requirements to ensure employees' notice and obedience.

Applications to Professional Practice

The purpose of this qualitative descriptive case study was to explore the strategies business leaders use to implement successful food safety critical regulations. The study aimed to help the business leaders involved in the food industry to be able to derive applicable methods to their business to ensure that food safety critical regulations will always be applied and offered to the customers. In this way, the customers shall be able to trust how food establishments cater to the needs of the customers and render great service. The targeted population for this study consisted of business leaders located within the southeast region of the United States, who were responsible for implementing food safety critical regulations within their organization. Due to the location of the study, the results of the study are most applicable among business professionals in the southeast region of the United States. This is because the consumers in the southeast region of the

United States may have the commonalities, which may not be present among the consumers in other areas of the United States.

This study may contribute to positive social change by adding to the knowledge of individuals, communities, organizations, and cultures of effective food safety strategies toward minimizing foodborne illnesses. Thus, the business professionals involved in the field of food business will be able to have tips and ideas regarding the prevention of illnesses and tragedies that are caused by food contamination. As a result, food safety performance may improve, and foodborne illness may decrease providing for positive long-term growth and sustainability. The professional practice of being involved in the food business will be able to continuously evolve and make sure that the desires and expectations of the customers will all be satisfied.

The main thematic category of the study had three underlying key themes about the strategies that business leaders use to develop and improve their food safety performance. Most of the participants believed in the effectiveness of adhering to guidelines of food code and regulations; and conducting employee training and awareness building. All three of the business leaders believed in the need to adhere to the guidelines strictly to achieve success in the food safety aspect of their business or organization. Adhering to the codes and standards would be beneficial and efficient because there will be a systematic way of running food business establishments. Further, food code and regulations are often deliberated by policy-makers who are skilled in the field of food establishments. Thus, several factors have already been considered. Thus,

the ability of food establishment leaders and managers to comply with the rules set by the standard would improve the food safety performance of food business establishments.

The three participants also indicated the importance of conducting periodic employee training and education. The results of the study found that it is important to have regular training for the employees. From the training programs, employees will have enough knowledge of what is new about the trend now. Further, education and training will allow the staff and employees to be educated on the current codes and regulations involved in food regulations. Food contamination and foodborne illnesses shall then be prevented. Two of the three participants observed that working closely with health inspectors is also helpful in improving their food safety requirements. Health inspectors would be able to provide a more reasonable and experience-based guidelines on how to properly run a food business establishment. One participant emphasized the importance of using thermometers. This can be attributed to the fact that the temperature has a direct effect on the spread of foodborne illnesses.

Heterogeneities in food safety regulations and standards among importing and exporting nations can occasion friction and at times disagreements that impedes global food trade. Countries are, however, dealing with food safety and trade concerns by learning from one other's accomplishments in handling food safety to confine regulatory differences, colluding to adopt common or international standards set by an independent player, or reaching concessions on clashing standards. SME food safety initiatives, including independent quality assurance schemes, are also committing to the resolution of divergences across borders (Ali & Suleiman, 2016).

From the responses of the three participants, the main issue discovered was the need for employees' understanding of the purpose of the food safety regulations being implemented. In particular, handwashing, temperature control, storage, labeling, proper hygiene, and sanitation. It is of utmost importance to always follow the rules provided in the food safety regulations. Thus, the staff and employees of a food business establishment should always ensure that sanitation measures are always implemented by performing actions such as washing hands. The proper hygiene inside the food establishment should also be given priority. All three participants agreed that the issue on the employees' understanding of the importance of food safety regulations is greatly related to the implementation of the strategies. For the participants, the strategies can help in improving the practices on handwashing, temperature control, storage, labeling, proper hygiene, and sanitation.

Another category was how the strategies were applied or implemented. All participants reported that they conduct close monitoring of their employees. This is to certify that they are employees are being trained; and at the same time, applying the knowledge and skills from the training accordingly. Other strategies included were the strict training and knowledge building of employees, conducting routine inspections to ensure that procedures are followed, and reviewing the health inspection reports for improvement. All participants believed in the need to monitor their employees closely. Only one participant conducts routine inspections as a method or strategy.

The management in food companies can embrace sanctions for non-compliance among its workforce and empower the later on the need for adherence to food safety. The

widely accepted assumption that is providing basic food safety standard controls/hand hygiene facilities and materials such as sinks, running water and soap on the premises will translate to improved safety is mostly misleading. After the provision of hand hygiene requirements, ensuring staff compliance is always advisable (Deyneko et al., 2016). Being able to comply with the requirements of the regulations will have a significant impact on the current practice.

Companies also need to revise its food safety policy to bind all employees, both handlers, and technical staff. The policy can be used as a tool to teach the staff on proper approaches to maintaining hygiene, especially on how to properly clean the fingernails. The policy needs to be clear that aims at cutting or reducing the transmission of harmful microorganisms; consequently, reducing the infections and losses necessitated by this transfer. Thirdly, the revised policy needs to reflect the need for compliance with fingernail recommendations, and hand hygiene is tandem with the CDC's requirements for hand hygiene in food factory settings.

From the analysis, it was discovered that the implementation of strategies was chiefly hindered by the employees' lack of willingness to participate and comply with food safety regulations. Meanwhile, two other significant challenges were reported, the employees' lack of knowledge; and their lack of proper understating of the risks involved in food handling. It bears noting that the necessary adjustment does not only pertain to what will be done within the food establishment but what will be done to the staff and employees. All three business leaders observed that there is a lack of willingness from the employees regarding participating and adhering to the food safety regulations. Another

challenge in implementing the food safety strategies is the lack of willingness and cooperation of the employees. Another challenge or issue was the employees' lack of knowledge as shared by the two participants. One participant indicated that another issue in the implementation was the lack of the proper understating of the risks involved in food handling.

The quest for perpetual improvement of the performance in organizations faces significant challenges and so do business managers in contemporary businesses worldwide. In the food processing industries, these challenges link to the quality of the services management systems and food safety delivered (Lahou, Jacxsens, Verbunt, & Uyttendaele, 2015). This is because there is a need for production and marketing to be in tandem with the product perceived quality to meet the needs and aspirations of the final consumer. The companies are also keen on doing no harm to the health of customers; it is a prerequisite for the firms to ensure that they remain competitive, make profits, grow and develop its medium and long-term agendas.

The global food business is growing annually. In many ways, this contributes to the risk of the spread of pathogenic microorganisms across national borders bringing about new problems for the governments and increasing the need for global sharing information regarding food safety. The quality and safety of foods that are consumed daily by every human on the planet are a significant input in maintaining the health of their health. Contaminated food is likely to cause acute and terminal diseases, ranging from diarrheal diseases to certain types of cancer (Lahou et al., 2015).

Implications for Social Change

Foodborne illness outbreak has led to bankruptcy and business closures (Seo et al., 2014). The phenomenon of food illness outbreak and food contamination has affected business leaders and consumers. The business leaders suffered losses. The consumers lost the sense of security that the food offered by business establishments are always safe to eat. More than 68% of all foodborne illness outbreaks occur within food service establishments (Norton et al., 2015) that have resulted in significant financial losses (Scharff, 2015). The results of this study showed to minimize the losses brought by foodborne illness outbreak and food contamination. The general business problem is that business leaders' ineffectiveness toward food-safety practices negatively affects the organization's long-term growth and sustainability. The results of this study may benefit both the food establishments and the consumers by ensuring that the relationship between these groups are sustainable and both parties may benefit from each other.

From a food-safety perspective, the extension of food-safety standards appears like a prudent concept. However, this does not mean that much the food is unsafe. Standardization enforces uniformities and equivalences among the diverse human race, places, and commodities. Standardization brings about ecological, socio-political, cultural, economic and health outcomes. One can regard standardization as the primary enhancer of a globalizing food system because, as Wengle (2015) revealed, standards act as a kind of governance protocol. Standards provide order and discipline in relationships across time and space, imposing uniformity on the heterogeneity that exists between places, cultures, languages, political systems, and markets. In this study, three thematic

categories were formed to fully discuss the strategies employed by the business leaders to achieve success regarding their food safety regulations. The categories focused on the following: organizational performance analysis for improvements in food safety; strategies applied to improve food safety; and the stability of new strategies for food safety.

Lahou et al. (2015) noted that the safety of the manufactured and processed food is the responsibility of everyone involved in the food chain starting from the suppliers to producers and the end consumers. Thus, the results of the study may benefit not just the food suppliers and producers but also the consumers. The consumers can suffer from the improper preparation of the food which can result in illness. The results of this study could contribute to positive social change by providing individuals, families, communities, businesses, and countries with information concerning the strategies that protect against outbreaks of foodborne illness. It can be inferred that stopping foodborne illness is important to make sure that the food establishments remain credible and reliable in being the source of everyday nutrients of the end consumers. Understanding the factors that contribute to successful food safety strategies could help influence and change behaviors across food service businesses.

State governments, international legal organizations, or corporations who regulate through food-related standards are not the only participants, but non-governmental organizations (NGOs) may use private agri-food governance systems to realize social and environmental positive results. There is no better fit between governance plans and practical outcomes. Critics of fair trade and organic standards, for instance, note that

regulatory processes may occasionally reproduce the challenges intended to solve. The link between the new globalized food system and new types of food-safety governance is dialectical thereby complementing one another. The hurdles to ensuring trust and better management of new types of risks in the globalized food system create new approaches to enhance trust from a distance, hence the flourishing of programs, certification processes, accreditation of bodies and audits. Nonetheless, as various scholars have argued, emerging food-safety governance is instrumental in the production a food system with new types of food un-safeness and food-safety challenges (Hatanaka et al., 2015). Being able to link the situation in the setting of the study to the general and overall experience across the world shall have significant implication for the business of food establishments.

Recommendations for Action

This study is of value to businesses because it could provide organizations the specific strategies that business leaders use to implement successful food safety critical regulations within their organizations. It is recommended that the business leaders involved in the food business strictly follow the guidelines issued by the agencies on health to make sure that the protocols on food business are always followed. The building and strengthening of food safety strategies could lead to long-term growth and sustainability (Raab et al., 2017). It is recommended that food business establishments also create investment for the long-term growth and sustainability of business and not just the short-term ones. In this way, there may be enough facilities to address the concerns of food contamination and foodborne illnesses in businesses. Also, this study could add

value to organizations to help businesses meet the challenges of ensuring safe food. The food business establishments must perceive the presence of foodborne illnesses as challenge which should be addressed for the welfare of the consumers.

The food code legislation is significant and important because the model code provides references for the state, city, county and tribal agencies whose obligation is to oversee operations in places such restaurants, retail food stores and food vendors (United States Food and Drug Administration, 2015a). It is recommended that the future actions of the leaders and staff of food business establishments always consider the model code. The model code has been analyzed and planned well by the legislators to ensure the safety and security of the public when consuming the food products of various food establishments.

Food service operations serve a broad population including restaurants, schools, hospitals, assisted living, nursing homes and child care centers, and as such without proper regulations, a significant portion of the population risks of food poisoning (Valero et al., 2016). Food safety legislation in these facilities plays a pertinent role in business leaders' adoption of strategies toward reducing foodborne illnesses (Kotsan et al., 2017). The food code is a practical, science-based model for attenuating risk factors that cause or contribute to foodborne illness flare-ups common with retail and food service establishments (Harris, Ali, & Ryu, 2018). As such, the food code is a crucial component as far as strengthening America's food protection system (United States Food and Drug Administration, 2015a). It is recommended that future actions be focused on strengthening the food protection system in the United States of America.

This study may contribute to the effective improvement of business practice by helping managers, and employees understand the strategies that promote safe food within the organization. The managers of food business establishments are recommended to be able to manage the personnel well. Every employee and personnel working in a food business establishment must be aware of the implications that may be caused by food contamination and foodborne illnesses. These strategies could help avoid, minimize, or eliminate food safety hazards, to improve food safety business practices and to support a more sustainable business. There needs to be training among the personnel where they should be taught the standard food safety business practices. Training programs may be beneficial to both the leaders and owners of the food establishments but also to the consumers. Also, business leaders may be able to understand the challenges faced with implementing food safety regulations within their organizations to mitigate unsafe food-handling practices, adulteration, and consumer complaints to maintain continuous growth and sustainability. Future actions of business establishments must consider the fact that their business is embedded with the public interest and that health and safety of the consumers should always be considered.

Uncertainty abounds about projections of the number of instances of foodborne illnesses on an annual scale. Health statistics relies heavily on reporting by clinicians and medical laboratories, but most cases of foodborne go unreported. According to Harrison et al. (2014) many foodborne illnesses are not reported. There is higher uncertainty existing about the food origins sources of foodborne illness. Food-safety management teams and public health enforcement need to be knowledgeable about the type of

pathogens either in or on which foods are making people sick (Valero et al., 2016). It is recommended that future actions be focused on being able to control foodborne illnesses.

To improve food safety and hygienic practices every company management needs to institute a team to which meets the food safety regulatory requirements. The team must be multidisciplinary in nature. The team must have representation from all departments. This makes such a team to be heterogeneous in composition by homogenous in the mindset and goals that they intend to realize (McAloon, 2015). It is recommended that the general performance of the food establishments be able to synchronize to ensure that the mindset of the consumers can trust the system.

The significance of having a diverse group together holds a big stake given to every department represented, thus ensuring that the set goals get achieved. Equal participation makes it possible for the stakeholders to implement the food safety standards agreed upon by the entire group, thereby enhancing much cooperation. It is discouraging for all the other teams (senior) to meet without inviting the junior most departments (McAloon, 2015). It is recommended that future actions be inclined towards the protection of all the stakeholders.

Recommendations for Further Research

The researcher used the qualitative method to explore the strategies business leaders use to implement successful food safety critical regulations. It is recommended that further research may also use the quantitative method to make sure that the results are not solely be based on the lived experiences and perceptions of the participants but on the accuracy of the data. The focus of this study is the practice of operating food business

establishments. It is recommended that further research may also use the approach wherein the point of view is taken from the participants who are also the consumers of these food business establishments. It is also recommended for future research that a bigger population of participants be allowed to participate in the study. In this way, the results of the study can become more generalizable.

Reflections

My experience within the DBA Doctoral Study process contributed to enhanced skills and abilities that allowed for me to advance to the next level within my educational and career goals. Communicating and interacting with committee members, as well as fellow learners within the online classroom setting helped provide for the ability to distinguish constructive criticism from destructive criticism. Although some opportunities developed during the process, the constructive criticism provided for motivation not to give up but work harder to succeed.

As a food safety professional, I often wondered why the restaurant business leaders did not appear to be implementing the critical food safety regulations within their organization. My experience involved with viewing restaurant food safety practices as a consumer and hearing about different restaurant closing increased the interest in how business leaders implement food safety critical regulations in food service establishments. As I became more intrigued with the subject, I wanted to learn more in the hope of obtaining a better understanding of the issue and help provide some insight on measures that could provide for long-term growth and sustainability

This study is of value to businesses because it could enlighten organizations on the strategies business leaders use to implement successful food safety critical regulations within their organizations. The building and strengthening of food safety strategies could lead to long-term growth and sustainability (Kotsan, 2017). Also, this study could add value to organizations to help businesses meet the challenges of ensuring safe food. The purpose of this qualitative case study is to explore the strategies of business leaders to understand the strategies to implement critical food safety regulation that supports organizational growth and sustainability. Food service establishments account for more than 68% of all foodborne illness outbreaks (Norton et al., 2015). Foodborne illness outbreaks in the food service establishment have led businesses to financial loss and business closures (Seo et al., 2014). Understanding the strategies business leaders use to overcome challenges to implement critical food safety regulations successfully could help maintain business growth and sustainability.

When the public dines outside of the household or purchases retail food products, the public does so with confidence and relies on the local health and regulatory officials for protection from foodborne illnesses for themselves and their families (Harris, 2018). The environmental health professional's rapid detection of foodborne illness outbreaks through knowledge of possible etiological agents and risk factors responsible for foodborne illnesses is essential in this process (Nguyen, 2015). Dissemination of a contaminated food product throughout an area, state, or country can happen within hours or days. When conducted properly, a foodborne illness investigation can influence the disease surveillance and hasten the control of the outbreak. A food-safety inspection

program, although successful in protecting the public, is characterized by complexity and diversity (Byrd-Bredbenner, 2015). A noted drawback to the system is that regulatory authority is divided among federal, state, and local governments. Another problem is that, from the farm to the consumer's dinner table, the private sector has primary responsibility for ensuring the safety of the food that it produces.

Restaurants including other food service establishments require inspections to protect the public's health. The inspection process is also helpful in ensuring that restaurant managements identify strategies to implement food critical regulation to minimize possible food safety risks. When inspectors come into the restaurant to conduct routine inspections, they must evaluate whether the business leaders' strategies towards ensuring minimum sanitation and food safety standards met the minimum requirements. The inspection officers require that the management of restaurants offer food that is safe, uncontaminated, and presented in the recommended manner (Cha & Borchgrevink, 2018). After the inspection process is over, the officers provide the restaurants and food outlets with written reports showing strengths and more importantly deficiencies, noted during the inspection, to bring the leaders into compliance with the minimum food safety regulatory standards (Buckley, 2015).

Conclusion

The main thematic category of the study had three underlying themes about the strategies that business leaders use to develop and improve their food safety performance. The proper hygiene inside the food establishment should also be given priority. From the analysis, it was discovered that the employees' lack of willingness chiefly hindered the

implementation of strategies regarding participating and complying with food safety regulations.

The mandate further encourages higher and well-coordinated integration between federal and state agencies. The mandate also calls for direct integration in areas of standardization of laboratory accreditation protocols and reporting of test results, better communication systems using computer assisted technology and permissions for the exchange of such data. The governance protocols of Food Safety Modernization Act (FSMA) include a timeframe for its introduction and implementation legislation that were proposed which entered their second stage in 2015 (Wengle, 2015). Numerous studies have indicated that job satisfaction, influenced by a variety of factors, within the organization including remunerations, brings about job autonomy and security, the flexibility of workstations and leadership styles- which happens to of focus to the current study. The researchers believe that the leaders within an organization can apply leadership and management styles that promote employee satisfaction and commitment and can create a positive ripple effect on the productivity as far as adapting of effective quality control mechanisms.

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Appendix A: Interview Questions

The open-ended interview questions are as follows:

1. What strategies do you use to improve food safety performance of your organization?
2. What do you think are the issues that require the implementation of these strategies?
3. How do you apply these strategies to improve the food safety performance of your organization?
4. How do you communicate these strategies to gain employee acceptance?
5. What challenges did you encounter when implementing these strategies?
6. How would these strategies used benefit other organizations?
7. What additional information would you like to provide to help me understand how you use strategies to reduce food safety risks?

Appendix B: Interview Protocol

I will use the interview to explore and obtain data from participants who are capable of providing information relating to the central research question. I will follow an interview protocol for each participant outlined below:

1. Introduction: I will introduce myself to participants. My name is Steve McAllister, and I am a doctoral student of Walden University. The purpose of this study is to provide an updated view of the experiences relating to the strengths and limitations of implementing food-safety programs within foodservice establishments.
2. Informed Consent Form: I will provide a copy of the signed informed consent form received from the participant. I will encourage the participants to ask question or seek clarification when needed before, during, or after the interview.
3. Confidentiality: I will reconfirm that information the participant provide is confidential. The researcher will not use your personal information for any purposes outside of this research project.
4. Documents: Before conducting the interview, I will review associated policies and procedures while scheduling a second meeting for member checking.
5. Interview: I will remind the participant that the interview is audio recorded and will last approximately 1 hour and may continue for 2 hours. The estimated total combined time for the entire process will consist of

approximately 3 hours. I will ask each participant the same questions in the same order as outlined in the instrument (see Appendix A).

6. Closing: That concludes this interview. I inform the participants that I will be delivering and picking up a copy of the transcript. Please expect delivery of the transcript within the next two weeks. Please take up to five days to review the transcript for accuracy and afterwards I will contact you to arrange a time to pick up the transcript. This process should take no more than 1 hour. Do you have any questions? Thanks again for your assistance.