

2017

Restaurant Management Strategies to Comply With Food Safety Regulations

Dr. Carlos Juan Calcador
Walden University

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Walden University

College of Management and Technology

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Carlos Calcador

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2017

Abstract

Restaurant Management Strategies to Comply With Food Safety Regulations

by

Carlos Calcador

MBA, Universidad Metropolitana, 2011

BBA, Universidad de Puerto Rico, 1985

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

August 2017

Abstract

The recent economic crisis in Puerto Rico has created decreased health department fiscal capabilities, adding more responsibilities to health department officials in charge of restaurant inspections without adding more operational funds, which in turn led to less regulatory capacity. This situation instigated increased food safety regulation violations, and food safety legislation changes, imposing more economic pressure to restaurant owners, which leads to a lack of restaurant sustainability. The purpose of this case study was to explore strategies six business visionaries, smart entrepreneurs, who have positioned themselves as successful restaurateurs, in the restaurant industry in Puerto Rico. They were key factors in the understanding of the business strategies applied to comply with food safety regulations for the sustainability of their business. The study was grounded in the socio-economic theory of compliance. Semistructured interviews and company documents provided the data for the study. Through thematic analysis, 4 themes emerged, legislative impact and food safety regulations, reducing economic stress and cost controls, customer conduct, and employee knowledge transfer. Although, the fiscal crisis has severely affected the entire restaurant industry and the economy in general, also undoubtedly holds great opportunities for developing new strategies appropriate to the fiscal situation. One recommendation is to build cooperative relations with government agencies such as the CDC, or the state health department, use of mystery shopper programs, and embrace social impact strategies to improve food service practices that may optimize healthier food consumption for restaurant patrons and increase profitability.

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Dedication

In the first place, I want to thank my Heavenly Father for the strength I received from heaven, during times of difficulty during this study. Thank you for granting me the power to believe in my passion, to pursue my dreams, and for the desire to contribute to our society. I could never have done this without the faith I have in you, the Almighty. I dedicate my doctoral study to my family for helping me survive the process and for their love and support. Thanks to my parents, my father the Honorable Carlos Juan Calcador Berrios, for his legacy as a legislator, civility, his humility, and an exemplary father. Valiant in all his battles, in the Korean Conflict, as well as his battle with Alzheimer's. To my mother, Leonilda Diaz, strong and docile fighter, who, along with my father formed my character with his example of humility, struggle, surrender, and love. My extraordinary sisters, Flora Ivette (Cuqui), and Leoni Minerva, and their respective spouses. To my beloved wife Denisse, who, along with my son Jean Chris, and my beloved daughters, Kathia Paulette, Josenis Nomar, Ashley Nicholle, and Yara Essined, my grandson, Keaghan Lanier, my Granddaughters, Adriana and Cali, has been waiting tirelessly and patiently for the culmination of this project. After great struggles, today she celebrates with great joy the achievement of this longed-for project.

Thank you all! For your love, prayers, and guidance in life!

Acknowledgments

I would like to thank the Walden University faculty and staff, special thanks to my mentors, Dr. Carol-Anne Faint, Chairperson, for her unique reassurance, patience, and unconditional support to help me complete and become a Doctor in Business Administration. To my committee members, Dr. Brenda Jack, Dr. Denise Land thanks for your continuous support, feedback, and inspiration. Dr. Freda Turner, Program Director, thanks for your encouragement. Your guidance and excellent mentorship have significantly contributed to my ultimate success. I have to acknowledge a network of friends, and I apologize if I omit someone. I would like to thank my friends Santos Arroyo, Jose Fernandez, Juan Eliel Garcia, and Dr. Andres Roman, each of you has given your time, complete support, wisely advises, and more. I will never forget you all. Finally, last but not least, a deep and special thanks to my dearest friend Dr. Nanishka Hernandez for being my study support and for the multiple paper reviews. Thanks for your unconditional love! Thank you all!

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Section 1: Foundation of the Study

Restaurant owners operate businesses on a tight profit margin (Gaungoo & Jeewon, 2013). Food safety management is a critical issue for restaurant owners, especially in fast-food restaurants (Wong et al., 2015). The Centers for Disease Control and Prevention (CDC, 2014) found most foodborne illness outbreaks resulted from improper food-handling practices by restaurant employees. Specifically, the CDC (2014) found 82% of the foodborne illness outbreaks reported involved food employees spreading infection because of the lack of hand washing (Person, Schilling, Owuor, Oge, & Quick, 2013). A lack of food safety information can lead to dangerous food handling behaviors, positioning consumers at risk for food poisoning (Manes, Liu, & Dworkin, 2013). Foodborne illness outbreaks are preventable, but an increasingly common worldwide phenomenon (Painter et al., 2013). In this study, I investigated food safety strategies in the fast-food restaurant sector of the northern region of Puerto Rico. The study findings could contribute to social change by stimulating Puerto Rico lawmakers and fast-food restaurant stakeholders to protect public health and remain sustainable.

Background of the Problem

Foodborne illness transmission in restaurants remains a significant economic problem, public health issue, and restaurant management challenge (Petran, White, & Hedberg, 2013a). In the northern region of Puerto Rico, the growing gastronomic tourism industry is a vital economic sector, requiring a reliable system to monitor each establishment providing food services (Oficina de Servicios Legislativos, 2015). The

government, specifically the Oficina de Servicios Legislativos (OSL), is responsible for inspecting facilities engaged in the sale of food to the public because of the continuous risks to public health (OSL, 2015). State and municipal administrations also have an important role to play as leaders and visionaries (Pertschuk, Pomeranz, Aoki, Larkin, & Paloma, 2013). However, although the population and number of restaurants have increased, resources for the Department of Health of the Commonwealth of Puerto Rico, which is responsible for conducting inspections, have decreased (OSL, 2015).

Hwang (2013) stated the fast-food industry in the U.S. had grown considerably since 1995. Hwang (2013) indicated in 1953, the fast-food industry sold only 4% of total sales consumed away from home. However, Hwang added the ratio ascended to over 35% but less than 38% in 2009. In the United States, citizens spend approximately 50 cents of every dollar of food purchases in restaurants. In the first 3 months of 2015, eating place sales totaled over \$150 billion on a seasonally-adjusted basis (National Restaurant Association [NRA], 2015). Further, sales represented \$2 billion more than the previous fourth quarter's sales of approximately \$148 billion. This case was the first time the sales record for eating and drinking reached the \$150 billion level in one-quarter (NRA, 2015). The NRA projected to reach a record high of \$683.4 billion in 2014 (NRA, 2015). In Puerto Rico, the United States Department of Labor's Bureau of Labor Statistics (BLS, 2013) reported in 2012, local consumers spent approximately \$9.2 billion in the food and beverage sector. My intent was to explore the food safety strategies fast-food restaurant owners are using in the northern region of Puerto Rico and how these strategies may affect business sustainability.

Problem Statement

Approximately 1 in 6 Americans (or 48 million people) becomes sick, 128,000 are treated in hospitals, and 3,000 die due to foodborne related diseases each year (CDC, 2014). Foodborne disease (FBD) has approximately \$55.5 billion in annual economic costs, in addition to public health, social, and business impacts (Arnade, Kuchler, & Calvin, 2013; Scharff, 2015). The general business problem was some fast-food restaurant owners were not complying with food safety regulations and failing to meet legislative requirements, leading to a lack of business sustainability. The specific business problem was some fast-food restaurant owners lack business strategies to comply with the food safety regulations to remain sustainable.

Purpose Statement

The purpose of this qualitative multiple case study was to explore business strategies fast-food restaurant owners use to comply with food safety regulations to remain sustainable. The targeted population was fast-food restaurant owners from six fast-food restaurants from three restaurant chains in northern of Puerto Rico. Findings from this study may contribute to social change by compelling restaurant owners to establish better food service practices, leading to healthier food consumption for those who dine in restaurants.

Nature of the Study

A qualitative approach best served my intentions for this study. Researchers choose between three methods of inquiry (a) qualitative, (b) quantitative, and (c) mixed methods (Nartea, 2014). The quantitative method involves testing a hypothesis, studying

relationships, and examining statistical data (West, 2015). My intent in this study was to learn from participants' experiences and perspectives rather than statistical outcomes; thus, the quantitative method was not appropriate for the study. The mixed methods approach was not appropriate for the study because it includes both quantitative and qualitative inquiry, and the inclusion of quantitative inquiry using statistical analysis was not an appropriate approach. When using a qualitative approach, the researcher learns from viewpoints, giving meaning to organizational decision-making.

I used a case study approach to gain a deeper understanding of the specific business problem. During a thorough investigation of four qualitative design options (a) ethnography study, (b) narrative study, (c) phenomenology study, and (d) case study, I found investigators use ethnography to explore a given culture over a long period by collecting data through interviews and observations. The study of food safety practice was not limited to a particular culture; therefore, an ethnography approach would not apply. A narrative design appeals to researchers investigating life stories (Temba, 2013). Since my intent was to explore business strategies fast-food restaurant owners use to comply with the food safety regulations to remain sustainable, the narrative design was not appropriate. A phenomenological researcher investigates lived experiences and requires a very large sample size to ensure saturation (Moustakas, 1994). For these reasons, a phenomenological approach was not appropriate. A case study researcher seeks to understand why and how participants perceive events and make decisions (Yin, 2014). Miles (2013) stated case studies are an appropriate approach to exploring real-life situations.

Research Question

The central research question for this study was: What business strategies do fast-food restaurant owners use to comply with food safety regulations to remain sustainable?

Interview Questions

To answer the central research question, I asked participants the following seven questions:

1. What strategies have you used to comply with the food safety regulations?
2. What type of food safety strategies have you implemented to remain sustainable?
3. What challenges or barriers to strategy implementation impact you?
4. How has the implementation of strategies to comply impacted management?
5. How has the implementation of strategies to comply impacted employees?
6. What potential consequences have you experienced as a result of implementing strategies to align with compliance issues?
7. What additional information can you provide to help me understand issues related to compliance with food safety regulations?

Conceptual Framework

After a thorough analysis of business theories, several of which I elaborate on in the literature review section, I concluded the most relevant conceptual framework for the study was the socio-economic theory. The socio-economic theory of compliance evolved from the deterrence model of regulatory compliance, a well-established theory in business compliance literature (Sutinen & Kuperan, 1999). The socio-economic theory

has three basic tenets: (a) when the business owner engages in legal activities, the risks of engaging in illegal activities are greater than the benefits of acting legally, (b) the business owner would engage in illegal behavior if the risks of the illegal activities are minimal, and (c) if the potential gains of the illegal activities are significant, then acting in an illegal framework might be the only means of sustaining the business (Sutinen & Kuperan, 1999). Low socio-economic conditions pose a significant challenge for business owners who want to engage in legal activities to sustain business operations. Due to socioeconomic conditions, they might be compelled to act illegally to remain profitable. The socio-economic theory of compliance developed by Sutinen and Kuperan (1999) holds business leaders may lack the capacity to abide by regulations because of extenuating circumstances relating to socio-economic conditions. This specific complexity in the northern Puerto Rico fast-food business environment makes the socio-economic theory an appropriate conceptual framework to guide this study.

Operational Definitions

The following definitions provide context for the study:

Act: An act is legislation approved by both chambers of Congress in identical form, signed into law by the Governor or passed over the Governor's veto, thus becoming law (OSL, 2015).

Fast-food restaurants: Fast-food restaurants are food establishments with limited, counter-only service (Sahagun & Vasquez-Parraga, 2014).

Foodborne diseases (FBD): Foodborne diseases result from the ingestion of infected food contaminants in sufficient quantities to affect the health of consumers (CDC, 2014).

House Bill 1802: House Bill 1802 created the “Food Safety Act,” based on a rating program authorizing the Department of Health to rank food service establishments on a 1-5-star sanitation standards scale (OSL, 2015).

Law/Public law: A law is an act of Congress signed by the governor or passed over the governor’s veto by Congress. Public bills, when signed, convert to public laws, designated by the letters PL and a hyphenated number (OSL, 2015).

Pathogens: A pathogen is a microorganism, such as bacteria or fungi, capable of causing disease or illness after entering the body (CDC, 2014).

Assumptions, Limitations, and Delimitations

Assumptions

An assumption is a statement the researcher perceives to be true, but may not be able to prove (Marshall & Rossman, 2015). My first assumption was the population selected for the study was appropriate to investigate the business problem. Fast-food restaurant owners may provide insights into the decision-making challenges related to changing regulations and strategizing means of remaining sustainable through change. My second assumption was participants would provide honest responses to questions, aiding in a true understanding of fast-food restaurant management issues. Participant honesty was fundamental to the success of the research; therefore, participants had the freedom to not respond any questions they may have felt uncomfortable answering. My

final assumption was the fast-food industry was a good choice for exploring business responses to regulatory compliance. The fast-food industry was one of many industries experiencing changes in regulatory controls, and it provided a good example of how specific companies within this industry respond to regulatory compliance issues.

Limitations

Marshall and Rossman (2015) defined limitations as elements of a study beyond the control of the researcher. The following limitations affected the study: (a) the study results may not be transferable to other businesses or industries, and (b) while I sought to enhance participant honesty by providing the freedom to answer any or all questions, this did not necessarily ensure their honesty.

Delimitations

Marshall and Rossman (2015) defined delimitations as the boundaries or scope of the study. The study was delimited to only fast-food restaurant locations in the northern region of Puerto Rico. The sample was limited to only six fast-food restaurants.

Significance of the Study

The study is of value to businesses because the food industry, including gastronomy tourism, is an important part of Puerto Rico's economic model (OSL, 2015). Findings from this study may help fast food owners narrow the gap between meeting profit objectives and complying with food safety regulations in the Act on Food Safety. Using more efficient strategies in fast-food restaurants may result in safer food for customers, and may positively influence the economy and the jurisdiction of established operations (Waters et al., 2013).

Contribution to Business Practice

The study may contribute to business practice by identifying the strategies fast-food restaurant owners in the northern region of Puerto Rico might apply to comply with the Act on Food Safety to remain profitable. Using the socio-economic theory of compliance, I sought to understand how the change in the law on food safety might affect business operations and sustainability. Restaurant owners may gain insight from different strategies, learn from specific challenges, and use several approaches to ensure sustainability through change. Change management is a critical issue for businesses, and learning and from others who adapted successfully may guide others in implementing effective strategic changes (Buick, Blackman, O'Donnell, O'Flynn, & West, 2015).

Implications for Social Change

The study may affect social change by fostering open dialogue on the strategies critical for fast-food restaurants, lawmakers, food regulation agencies, and Asociacion Restaurantes de Puerto Rico (ASORE). Strengthening customer satisfaction and loyalty might increase the general economy within the restaurant industry of the northern region of Puerto Rico (ASORE, 2012). A strengthened consumer base may improve local economies, drawing more generalized consumerism to the fast-food industry. Greater profits for the fast-food industry in Puerto Rico may trickle down to other industries, building economic and social wellbeing.

A Review of the Professional and Academic Literature

The purpose of this qualitative multiple case study was to explore business strategies fast-food restaurant owners use to comply with the food safety regulations to

remain sustainable. The northern region of Puerto Rico may potentially experience significant changes in the way the government regulates the food industry. Restaurants falling within the catchment area of new legislation will obtain the guidance and stringent oversight to enhance adherence to the legislation (ASORE, 2012).

Restaurants falling outside of the legislated areas will not obtain the same stringency (ASORE, 2012). The disparity in attention to various geographic sectors in Puerto Rico may gravely influence the purchasing behaviors of consumers in the event some restaurants promote safe food handling while others do not (ASORE, 2012). Studying the impact of the Food Safety Act on restaurant owners may provide insight into how restaurant owners might incorporate stringent practices to remain competitive in a rapidly changing market (ASORE, 2012).

My literature search included various online databases, public libraries, and university libraries such as those of Walden University, Cornell University, the University of California, Berkeley, and the University of the State of Puerto Rico, among other university resources. Databases I searched included EBSCOhost, Emerald, Science Direct, and ProQuest. The objective of using the databases was to trace the long-term effects of foodborne illnesses, collect ample information for the restaurant business, and inform public shareholders (Lopez Nazario, 2012).

The literature review included 98 peer-reviewed journal articles from various service industries published between 2013 and 2017, accounting for 85% of the 114 articles reviewed. The review has seven main areas including discussions of the socio-economic theory of compliance, relevant theories, the restaurant industry in the northern

region of Puerto Rico, the economic impact of foodborne illnesses, consumer response to food safety concerns, industry responses to food safety concerns, and governmental responses to food safety concerns.

To organize documents associated with the literature review, I used Qiqqa, Medley, Excel, and other database management software. The keywords I used in the content searches included: *socio-economic theory of compliance, deterrence theory, Food Safety Act, food safety law, health department, restaurant inspections, food service costs, restaurant business, and restaurant industry*. Others included *economy, Puerto Rico foodborne pathogens, foodborne cases, food safety, customer behavior, customer perception, business strategies, restaurant operations, restaurant owners, manager understanding, and qualitative research*.

Socio-Economic Theory of Compliance

The socio-economic theory of compliance, developed by Sutinen and Kuperan (1999), guided this study. The socio-economic theory of compliance evolved from earlier research by Gary Becker (1968), a deterrence theorist, who established the framework for understanding the link between socio-economic status and a propensity for criminal behavior. Researchers may use deterrence theory to explain the decision-making processes of business owners who chose to follow business regulations.

The basic tenets of the socio-economic theory are business owners make decisions based on cost versus benefit, as suggested by deterrence theory; however, socio-economic theorists draw strongly on the factors of the socio-economic status of the business owner. If a business owner experiences financial hardship, the decision to act

lawfully or unlawfully contextually changes (Sutinen & Kuperan, 1999). The decision shifts from assessing merely the cost of acting in a certain way balanced by perceived benefits, to an understanding of the limitations posed by a poor economy, deficient opportunity for business sustainability, and potential impoverishment may force business owners to engage in unlawful activities. The business application of deterrence theory evolved into the deterrence model of regulatory compliance (Sutinen & Kuperan, 1999).

Those supporting the deterrence model of regulatory compliance have argued the decision-making process, in either abiding by regulations or not, depends on the weighting of general benefits and consequences. Business owners compare the benefits and consequences of abiding by regulations versus the benefits of not abiding. Schelling (1984) posited criminal behavior was a response to an evaluation of pros and cons of committing a specific act. In the event an individual assesses the benefits of committing an illegal act as outweighs the benefits of acting legally, the individual will commit the illegal act. Simard (2013) underscored the importance of financial implications as a deterrence to committing illegal acts, leading to the increased theoretical focus on economics as experienced by the individual who may consider committing a crime. Slater, Mgaya, and Stead (2014) found people behave, assume risks, and deliberately make decisions depending on their immediate economic needs. Using this model, managers may decide whether the benefits of avoiding compliance or reduce the cost of complying obtained by breaching the food safety regulations will be better than: (a) cost of being caught (fines), as well as the cost of being caught and cost of complying with rules; (b) estimate (perception) benefit of complying; and (c) social implication of

restaurant involvement in public sanitation scandals. Researchers found this cost-benefit analysis influenced business owners' decisions to break the rules (Slater et al., 2014).

Sutinen and Kuperan (1999) provided an illustration to highlight the unique influence economics play in the decision to comply with regulations. An auto manufacturer may face reports a particular auto part caused a few deaths. Owners must decide to recall the part, disrupting the manufacture and reputation of a product to the broad population of auto owners, dealers, and service departments. The auto manufacturer may decide to forego a recall and respond directly to the victims of accidents to keep costs low and reduce public alarm. To make this decision by the deterrence model of regulatory compliance, the auto manufacturer bases the decision on the lesser of the penalties for non-compliance. The risk in this form of evaluation is too many unknowns; the auto manufacturer can only presume the level of risk (Sutinen & Kuperan, 1999).

A deeper understanding of the variance in business sustainability and stability influence the decision-making process moving beyond the structure of basic benefits versus consequences (Sutinen & Kuperan, 1999). In the example, the auto dealer may already be experiencing a significant economic recession, altering the decision-making process. The added considerations of economic conditions may create obstacles for the business owner, clouding the ability to quickly and accurately measure benefits and consequences.

Sutinen and Kuperan (1999) argued the unique circumstances of each business will affect the application of deterrence theory, and that businesses use other factors to

aid the decision-making process. The three tenets of the socio-economic theory are: First, a business owner engages in legal activities when the risks of engaging in illegal activities are greater than the benefits of acting legally. Second, a business owner engages in illegal behavior if the risks of the illegal activities are minimal and the potential gains of the illegal activities are significant. Third, the socio-economic conditions experienced by the business owners may be such that acting illegally is the only means of sustaining the business (Sutinen & Kuperan, 1999).

The socio-economic theory of compliance holds that business owners may lack the capacity to abide by regulations because of limited financial capacity, thus altering the framework on which to base business decisions. Business owners must not only weigh out the potential penalties and impact the penalty may have on the company, but must also examine the impact compliance may have on basic business survival (Sutinen & Kuperan, 1999). Business owners may experience narrowed options in decision-making in response to threats to business survival. However, Abusin (2015) argued businesses experiencing direct socio-economic pressures may engage in decision-making processes based on limited available resources, which may result in poor quality products and services to customers.

When planning the study, I considered the possibility of using several theories including the social exchange theory, the resource-based view (RBV) theory, deterrence theory, and the socio-economic theory. The social exchange theory involves employees' perceptions of management and employees' level of engagement. The RBV theory is comprised of two concepts: business assets, and competitive business strategies. The

deterrence theory included the model of regulatory compliance (Lockett & Wild, 2014).

The socio-economic theory of compliance includes two components: socio-economic status, and the tendency for criminal behavior. After a thorough analysis of the theories, I concluded the most relevant theory for the study was the socio-economic theory. Even though the other theories were related to the topic, they were not sufficiently relevant given my intentions.

Relevant Theories

Several theories merited consideration as a conceptual framework for the study. In what follows, I provide a summary of some and compare each to the socio-economic theory of compliance. The social exchange theory (SET) includes the concept of cost and benefit from the human behavior perspective (Soieb, Othman, & D'Silva, 2013; Ugwu, Onyishi, & Rodríguez-Sánchez, 2014), and holds individuals and organizations tend to discard processes bring high cost with no benefit (AbuKhalifeh & Som, 2013; Reissner & Pagan, 2013). Researchers have used SET to understand correspondence among employees and how employees exchange some responsibilities (Jose & Mampilly, 2015; Shuck, Twyford, Reio, & Shuck, 2014). Barnes and Collier (2013) and Keeble-Ramsay and Armitage (2015) exposed how employees perceive employer commitment, and how this influences employee job commitment. For that reason, this theory was not appropriate for my needs in this study because I sought to explore the external forces on the business.

The developer of RBV theory, Edith Penrose, stated that the dominant coalitions of organizations' dominant coalitions use all the firm assets to develop competitive

business strategies (Lockett & Wild, 2014). Firms assets, such as location, are resources used by business operators to achieve and maintain with business success (Agarwal & Dahm, 2015). From the economic perspective, business needs are of unlimited nature, but resources are limited (Shirokova, Vega, & Sokolova, 2013). Even though the RBV theory can be used to describe the relations between small business collapse and limited resources, and how business operations use their management skills to accomplish the highest rate of business efficiency and effectiveness (Seshadri, 2013), this theory was not an option for this study. My intent was to focus on owners' business decisions in contrast with legal business regulations.

According to Simard (2013), deterrence theory has its foundation in the standard criminology originated by Beccaria in 1763. Beccaria contended that people's behaviors to avoid criminal action depends on the benefits or subsequent costs of their behavior (Simard, 2013). In other words, sanctions deter people from committing illicit acts proportionally to the sanction strictness, sanction conviction, and sanction celerity. Deterrence theorists paved the way for applying the theory to a wide range of business dilemmas (Schelling, 1984). Proponents of deterrence theory have postulated that individuals decide to comply or not comply with laws or regulations by weighing out the benefits and consequences of the decision (Schelling, 1984). Simard found the burden of liability for the damage caused by one's behavior stimulates individuals to avoid inefficient injuries, which means avoiding unnecessary spending. Sutinen and Kuperan (1999) explained the deterrence model of regulatory compliance had two shortcomings (a) a limited definition of behaviors associated with non-compliance, and (b) a lack of

practicality in the application of policy prescriptions. Sutinen and Kuperan highlighted the need to explore other antecedents affecting a business' capacity to respond to regulatory changes to be compliant. Sutinen and Kuperan expanded the basis of deterrence theory and the deterrence model of regulatory compliance, because deterrence theory alone does not explain business decisions and behavior when socio-economic factors dominate decision-making. This factor rendered deterrence theory inappropriate as a conceptual framework for the study. After careful consideration of the above concepts, I determined the socio-economic theory of compliance was most suitable as a conceptual framework for the study.

Restaurant Industry in the Northern Region of Puerto Rico

The restaurant industry contributes to the economy of the United States, employing millions of individuals. The restaurant industry in the northern region of Puerto Rico offers diverse dining experiences for patrons from fast-food, quick service, and outlets to fine dining (ASORE, 2012). The Northern region of Puerto Rico relies on the economic state of the food industry to offer a breadth of offerings, and quality goods and services (ASORE, 2012). The food service industry became an integral element of tourism in the northern region of Puerto Rico. To remain competitive within the restaurant industry in the northern region of Puerto Rico, restaurant owners develop essential skills and strive to operate within the government guidelines as a key strategy fostering sustainability (ASORE, 2012). Operating beyond the scope of the legislation leaves restaurant owners outside of the prime tourist catchment posing challenges related to long-term sustainability (ASORE, 2012). Further, Sutinen and Kuperan (1999)

indicated socio-economic factors determine the capacity of business owners to remain sustainable particularly if legislative practices limit business growth potential.

The BLS (2012) estimated a total consumer spending around \$9.24 billion on food and alcoholic beverages in Puerto Rico. ASORE represented the entire business segment of Puerto Rico and was the businesses source of their goods straight to the commercial sector (Sánchez, personal communication, September 20, 2013). The foremost associates were chains and country restaurants, cafes, bakeries, and pastry (Sánchez, personal communication, September 20, 2013). The ASORE (2012) reported combined sales in restaurants and the cafés sector of \$3.97 million, for a 43% of the total consumer spend in the industry of food and alcoholic beverages with 67% jobs in the food and beverage market. The restaurant industry employed about 57,510 people, of whom 39,850 employed in restaurants of limited services and 17,660 employed in full-service restaurants (Sánchez, personal communication, September 20, 2013). Regarding hours worked, ASORE reported an average of 28.6 hours a week and the average wage of \$8.04 per hour in 2011.

Sales. With approximately 130 million people eating out between 2008 and 2009 in the United States, the NRA (2013) estimated in 2009, 48% of customer budgets covered the cost of food and projected sales of \$660 billion for 2013, representing a 3.8 % rise from the previous year. The prominence of the restaurant industry in the capital net worth value has an impressive impact on the global economy, as the business units create inter-firm linkages including food and beverage providers and producers (NRA, 2013). The capital net worth generates tax income for the government and offers

products and services to customers, in addition to creating jobs (Taber, Chriqui, Vuillaume, & Chaloupka, 2014).

Employment. The U.S. Census Bureau's (USCB) Economic Report Census indicated the restaurant business sector employed seven million people in the United States or 5% of employment (McLinden, Sargeant, Thomas, Papadopoulos, & Fazil, 2014). The restaurant industry employs approximately 13 million persons or 9% of the workforce in the United States (BLS, 2013). The economic impact regarding jobs was approximate \$30 billion annually in the United States (BLS, 2013). The USCB estimated \$220 billion as the total annual revenue for the restaurant industry (McLinden et al., 2014). The NRA (2013) estimated 13.1 million jobs by 2013 would represent 93% of eating and drinking places with approximately 50 employees and more than 9% of people employed in the United States (BLS, 2013). In May 2012, the economic report indicated restaurants and other eating places had the lowest mean annual wage of \$21,520 (McLinden et al., 2014). Likewise, according to the BLS (2013), the 90% of the largest specific jobs in this industry had annual earnings averaged around \$23,000. The need for restaurant management in the future was significant, estimated to be thousands of managerial positions in the hospitality industry and restaurant businesses (Sahagun & Vasquez-Parraga, 2014). The BLS reported 11.5 million workers in the food preparation and served related occupations. From that total, cooks and preparation workers assumed 2.8 million positions, and 914,970 supervisory restaurant positions, as of May 2012 (BLS, 2013). The restaurant business supports New York State's tourism sector, which employs more than 428,000 people with sales over \$20 billion annually (BLS, 2013).

Based on those numbers, the restaurant industry became the second largest employer, only behind government jobs (NRA, 2013; Sumelius, Björkman, Ehrnrooth, Mäkelä, & Smale, 2014).

The fast-food sector. Fast-food service became a fast-growing business segment, and fast-food restaurants were food establishments with limited counter service only. Fast-food restaurants were quick, convenient, and low-priced (Sahagun & Vasquez-Parraga, 2014), such as McDonald's, Burger King, the Taco Maker, and many others doing business in the northern region of Puerto Rico. Although the fast-food industry was extremely competitive, eating out of the home (Hwang, 2013) was an increasing activity creating health issues, yet supports a growing economy (NRA, 2015). Between 1978 and 2008, consumers spent approximately \$600 billion annually on consumption at table-service restaurants and fast-food businesses in the United States. Additionally, with estimated costs of eating out, the economy witnessed a growth (Sahagun & Vasquez-Parraga, 2014).

Global Incidence of Foodborne Disease (FBD). The economy of the food industry sustained and focused on, hygiene, food safety, regulation, and high competition in the international market. Globally, millions of people each year suffer from FBD (Dhama et al., 2013), creating social and economic stress, even in developing countries (Lam, Remais, Fung, Xu, & Sun, 2013). Likewise, causing economic losses related to lower labor productivity (Scharff, 2012). The United States Department of Agriculture (USDA) estimated the increased cost to the U.S. economy of \$10-83 billion per year correlated to FBD (Painter et al., 2013). In developing countries, a massive proportion of

ready to consume food was available through street vendors (Lam et al., 2013). The eating of street food was typical in many rural regions where unemployment was high; salaries were low and with limited study opportunities and social programs; resulting business losses occur from incapacity, injury, morbidity, or premature mortality.

Foodborne illness affected considerable amounts of the population of developed countries each year on about 30% of the population (Lam et al., 2013).

In industrialized nations, the World Health Organization (WHO) appraised the population with foodborne illnesses to be up to 30% annually (Lam et al., 2013). The WHO projected 75 million individuals would become sick from food-connected illnesses. The CDC (2014) estimated 48 million persons became ill with food pathogens such as *Clostridium perfringens*, identified as a potent agent nationwide and globally. According to Sutinen and Kuperan (1999), business owners experiencing socio-economic decline may make critical business decisions to remain operable. In the fast-food industry, in financially repressed areas, business decisions, based on limited resources, may create unhealthy work environments.

Incidence of Foodborne Disease (FBD) in the United States. The CDC (2014) estimated 25% Americans could expect to suffer a foodborne condition yearly, and an approximation of 110 per 100,000 citizens may receive hospital treatment, and approximately two per 100,000 might die. By 2011, the CDC officials reported an average of 128,000 hospitalizations and 3,000 deaths annually (Painter et al., 2013). For example, more than 320,000 hospitalizations (Waters et al., 2013) and 5,000 deaths related to foodborne illness annually (Baer, Miller, & Dilger, 2013).

Causes of food-related illness. Infectious diseases were a long-standing and continuing threat to health and welfare, with their containment dependent on national disease surveillance and response capacities (Waters et al., 2013). Public health authorities related the FBD outbreaks to cases of hemolytic uremic syndrome (HUS) in children, Salmonella, parasites, and gastroenteritis (Waters et al., 2013). Officials of the USDA (2013) stated if not handled correctly; perishable foods cause illness. Food contamination tends to occur when restaurants prepare meals in bulk and store at 20°C to 60°C (68°F–140°F) for an extended period before serving (Waters et al., 2013). The FBD occurred in establishments such as hospitals, school cafeterias, prisons, and most every place where to exist a food process operation (Waters et al., 2013).

What humans eat directly relates to the quality of human nutrition and FBD (Singh, 2015). For purposes of this analysis, the nutritional quality refers to the health-related aspects of the individual (Singh, 2015) including feeding problems associated with the intake of foods containing allergens. The food safety infractions include improper food handling, poor cooking processes, improper holding temperatures, the absence of hygiene of employees, among the numerous violations (Arendt et al., 2014). Sutinen and Kuperan (1999) indicated business decisions become a complex and compound problem when business decisions reflect the socio-economic hardship of the business owner. Arendt et al. (2014) measured employee perceptions on food safety issues linked to health inspection results. The researchers concluded Americans still prefer to dine out regardless of the economic crisis. Also, food safety violations often happen outside the home, commonly in foodservice establishments.

Although foodborne illnesses result from poor hygiene in homes, a significant number of foodborne illnesses also occur in schools, hospitals, and restaurants (Strohbehn, Arendt, Abidin, Fatimah, & Meyer, 2013). Strohbehn et al. (2013) found food handlers have poor personal hygiene and poor personal habits although working in restaurants. Strohbehn et al. found knives, mop cloths, and hand towels contaminated with *Escherichia coli*, *Salmonella*, and *Shigella*.

The FBD arises from poor control of land use (agriculture activity), trade, scarcity, global trade disparity, and climate change; hence, food safety regulations must assure food quality management (Arnade et al., 2013). Stakeholders and leaders must plan and implement cost-effective strategies to combat FBD. Food illnesses have a direct and negative impact on productivity ratios and medical costs, affecting the economy of enterprises within the restaurant industry.

Effects of media attention on FBD. Consumers in the United States regularly obtain media reports on foodborne outbreaks (Petran et al., 2013a). Media attention on food safety regarding increases in foodborne illness outbreaks associated with fruits and vegetables has set back consumer attitudes and purchasing behavior (Arnade et al., 2013). Food and beverage consumption studies have long considered how news coverage increases consumers' awareness of food contamination. Many allergic reactions and fatalities occur from dining out in restaurants (Singh, 2015).

Food safety in the northern region of Puerto Rico. Since the beginning of the 20th century, researchers have shown interest in the study of food pathogens on the island of Puerto Rico (Añez & Rios, 2013). The Puerto Rican weather was a crucial factor for

the development of bacteria and food contamination before, or after, preparing food for human consumption. The CDC reported the number of illnesses, hospitalizations, and deaths related to each outbreak (Scharff, 2015). Several surveillance systems for FBD were available at the local, state, and territorial levels. However, these systems detect only a portion of the foodborne illness burden in the United States (Nsoesie, Kluberg, & Brownstein, 2014). The low rate was mainly from few sick individuals looking for medical care and absence of reporting to the right authorities (Nsoesie et al., 2014). Fortunately, many cases present a clinical picture of symptoms disappearing within hours or days (Scharff, 2015). The medical symptoms were often indigestion or effects of any common virus.

The Committee on Health, of the House of Representatives of the Commonwealth of Puerto Rico, recognizes public health encounters constant threats, making necessary to inspect the premises of establishments for the sale of food to the public (OSL, 2015). Eating outside the home was no longer a mere convenience to become a constant necessity in the daily lives of our citizens (OSL, 2015). In Public Hearings, the Secretary of Health of Puerto Rico, quantified health inspectors have monitored approximately 30,000 organizations related to the food manufacturers, preparation, and perishable products in Puerto Rico (J. Rullan, personal communication, September 20, 2013). The Secretary stated the Food Hygiene Division of the Assistant Secretary for Environmental Health; State Department of Health had an average of 180 examiners to inspect those establishments (J. Rullan, personal communication, September 20, 2013).

Economic Impact of Foodborne Illnesses

Food supply and food safety were foremost global public health issues and were predominantly significant in densely populated countries (Lam et al., 2013). Indeed, an increased request for food supplies (Lam et al., 2013). Restaurant owners have recognized food quality, and hygiene was crucial factors in the sustainability of the restaurant business because customer perception influenced customer patronage (Saguy & Sirotinskaya, 2014). Customer retention was a significant element of the fast-food industry in a progressively competitive environment (Saguy & Sirotinskaya, 2014). Regulatory authorities, including the Food Standards Agency (FSA), estimated the economic loss related to food illnesses in \$1.4 billion with about 765,000 reported cases in 2006 (Gaungoo & Jeewon, 2013). Some researchers have stated additional food safety controls have had a direct influence on higher food costs to the consumer (Gaungoo & Jeewon, 2013). Sutinen and Kuperan (1999) explained socio-economic factors determine decision-making practices and may lead to unethical or illegal practice if the cost of appropriate management was beyond the business owner's reach.

Public authorities have put emphasis on regulations to control and prevent contracting food pathogens. However, researchers warn of the concern of the food industry about the potential economic impact of the measures (Parsa, van der Rest, Smith, Parsa & Bujisic, 2015). The literature revealed a vast range of business and productivity costs connected with the lack of resources to trace product quality within the restaurant industry. For example, although ciguatera fish poisoning was a common form of the seafood intoxication globally, it has been challenging to estimate the related disease and

economic burdens. The FDA estimated at approximately \$700 million annual cost to the industry to establish new measures of prevention. Financial analysts predicted a substantial adverse effect on the health of the businesses forced to close operations under the protection of bankruptcy law (Parsa et al., 2015). In jurisdictions outside the United States, franchises in the fast-foods industry divide into administrative districts. Annually, researchers analyzed the behavior of these administrative districts. Likewise, financial experts in the fast-food business and economy strategist assess the distribution of market shares in existing fast-food areas (Parsa et al., 2015).

Food-transmitted diseases influence health and imply a serious threat to society (Lam et al., 2013) regardless of jurisdiction. Two indicators of interest were the number of cases of FBD and the number of deaths aimed to be able to understand the magnitude of the problem in a coherent manner. The issue of food safety has become vital to the economy of all countries of the world (Lam et al., 2013). In China, the speed with which the Chinese economy has grown has forced the gradual change in the food supply approach for food security. In economically valuable times, China's GDP surpassed \$7.2 trillion in 2011, resulting in 11.8% of the world's economy (Lam et al., 2013). In Greece, from 1996 to 2006, researchers collected information from the surveillance data, hospital statistics, and published literature (Saguy & Sirotinskaya, 2014). The estimated result was 896 disability-adjusted life years (DALY) per million of inhabitants. The estimation comprised 370,000 illnesses per million of inhabitants probably caused by eating contaminated food, and 900 of these occurrences were severe, and three of them fatal (Saguy & Sirotinskaya, 2014). Pathogens such as brucellosis, echinococcosis,

salmonellosis, and toxoplasmosis, the leading causes of foodborne illnesses, accounted for 70% of the DALY. For Saguy and Sirotinskaya (2014), the DALY metric system offered a broad outlook on the social effect of foodborne illness, crucial for ranking the food safety management strategy.

The Economic Research Service of the USDA appraised a yearly cost of foodborne illness to be \$6.9 billion (Lopez Nazario, 2012). Likewise, the incidence of foodborne illness was a public issue causing economic losses related to lower labor productivity (Scharff, 2015), hospitalization, and added health care expenditures (Lopez Nazario, 2012). The FBD outbreaks were costly for parties affected. Health care and lost productivity cost approximations for FBD in one state because *E. coli* ranged from \$405 million up to \$7.1 billion yearly (Strohbehn et al., 2013). Government official did not address the hidden cost of poor public relations and lost businesses from food served in retail operations. The state government may prevent the number of cases by receiving reports on time (Soon, Seaman, & Baines, 2013). Cost can affect any business operation, and lawsuits and workers' health care were visible costs (Strohbehn et al., 2013). Significant medical costs and loss of productivity resulted from pathogens; specifically, 1.3 million cases of salmonellosis as well as approximately 38.6 million foodborne illnesses (Strohbehn et al., 2013). The primary cause of these foodborne occurrences relates to user food handling and hygiene practices (Strohbehn et al., 2013). Besides the household or private residence, restaurants were the primary source of foodborne illnesses (Strohbehn et al., 2013).

Consumer Response to Food Safety Concerns

The ability for a fast-food restaurant to succeed reflects demographic and socioeconomic standards (Quinlan, 2013). The business strategy of quick service restaurants was to operate through the consumer's eyes and concentrate on distinguishing the company policy from other categories within the restaurant businesses (Mason, Jones, Benefield, & Walton, 2013). Likewise, restaurant operators manage to provide consumers with safe and nutritious foods (Quinlan, 2013). Quinlan found crucial, safeguarding consumers' welfare similarly to educating and setting the foundations for lasting sponsorship and mutual consumer-business benefits. For the same reason, citizens were aware of food safety issues in the restaurant industry. Arnade et al. (2013) stated when the security of the product becomes a public issue; consumer surveys serve to measure the reaction and the potential economic impact. Using shifting quantity of news containing both warnings and safety declarations to augment a conventional model of consumer economic behavior. From a business standpoint, customer retention was crucial to commercial success (Carter & Baghurst, 2014). Owners must balance the cost of customer retention and the operational effectiveness to be profitable (Wilder, Collier, & Barnes, 2014).

Thus, food safety was a significant distress for consumers and food service workers in the United States. Restaurant visitors noted disappointments in the restaurant setting related to core attributes, such as poor food quality, resulting in a remarkable effect on the economy (Wilder et al., 2014). Likewise, the relationship influences consumer confidence for the food producers (Kheradia & Warriner, 2013).

Wilder et al. studied the perception of frontline consumer services personnel and customer about the quality of service in a group of fast-food establishments. Customers agree the purchaser awareness about food safety might influence the quality of food served by vendors. The theoretical foundation of the study comprised the customer satisfaction and the customer service theories (Wilder et al., 2014). The participants included more than 100, but less than 151 clients and employees from Burger King. The participants indicated the educational background did not change their attitude toward food safety and quality. Previous studies conducted by Mason et al. (2013) identified a significant gap in perception and evidence among the less educated consumers. In fact, consumers were more aware of the content and effects of the pollutants of nutrients in products such as fish. However, ordinary consumers have few opportunities to evaluate the food handling controls of food service establishment (Mason et al., 2013). Most consumers depend on publications and reports, which the health department publishes on the issue of health inspection results. As an alternative, consumers must look for certifications posted in the restaurant (Mason et al., 2013). Consumers, consequently, carry presuppositions and observations regarding the safety and cleanliness practices of the restaurant (Mason et al., 2013). The food service hygiene was a determinant factor when people decided to eat out, and consequently a direct influence on business sales (Strohbehn et al., 2013). The results indicated the cleanliness of the food was an important deciding factor.

A more recent study by Mason et al. (2013) validated results of Strohbehn et al. (2013) and Waters et al. (2013). Cleanliness of the restaurant was an important factor for

customers, including cleanliness of restrooms, kitchen, and the restaurant (Mason et al., 2013). These factors influence customer decisions and selection of eating out. The factor with less relevance included a nutritional menu with local and ethnic foods, menu item variety, and availability of a children's menu (Mason et al., 2013).

Kheradia and Warriner (2013) stated outbreaks diminish consumers' confidence in the food supply and cause major economic loss. Food scares demoralize the food service industry and reduce faith in the traditional practices of governance. Sutinen and Kuperan (1999) explained some businesses may experience a lack of growth due to poor economies and may have no alternative but to offer inferior products and services that may result in greater incidence of illness. Mason et al. (2013) stated most consumers believe government involvement would help in improving the quality of food served in restaurants. However, research into the economic outcomes indicated the establishment financial stability depends on the food illness risk consumers perceived. The NRA (2013) planned to develop accurate business tool's capability of collecting changes in the statistics of food consumption through restaurants.

Chinese participants in a 2011 survey by Nanjing Agricultural University ranked food safety first in the top five safety issues worried the Chinese population, surpassing other social issues, such as public, traffic, health, and environmental safety (Lam et al., 2013). Lam et al. (2013) indicated quality, cleanliness, and service were essential attributes, enhancing customer experience (Fatimah, Strohbahn, & Arendt, 2014). Restaurant owners operate their business making dramatic adjustments in the use of

resources necessary to restaurant operations (expense controls), although focusing on the customers' loyalty and profit goals (Sharifah Zannierah, Hall, & Ballantine, 2012).

Industry Responses to Food Safety Concerns

Frank (2012) found the public dines out more often at locations where patrons were confident about the restaurant administrators. Hence, restaurant owners must take steps to prevent foodborne illness to ensure their survival in a challenging industry. According to the BLS (2013), the fast-food restaurants and food service restaurant managers held approximately 320,600 jobs in 2010, with a projected decrease of 3% of the employment of food service managers from 2010 to 2020. The median wage of fast-food restaurant managers was \$48,130 per year, \$23.14 per hour in the United States (BLS, 2013). The position often requires long hours of restaurant management. Typically, fast-food restaurant managers dedicate 12 to 15 hours per day, adding up to more than 45 hours weekly. Likewise, managers occasionally work seven days a week. Inversely to restaurant managers, institutional foodservice operators, such as school managers and factory managers, work regular hours. Managers, who supervise multiple units of a chain of restaurants or franchises, work on short notice, including nights and weekends. This responsibility increases pressure and severe business problems (BLS, 2013). The majority of the pressure relates to the objective of achieving customer satisfaction (Frank, 2012) and health integrity. With the increasing activity of eating out, food safety became a critical contributor to physical well-being (Mason et al., 2013). Mason et al. defended the existence of evidence of the relationship between customer satisfaction, service quality, assessment, and restaurant cleanliness.

Restaurant owners use consumer satisfaction (Carter & Baghurst, 2014) as a metric to predict repeat patronage, which points to trademark loyalty and new customers through word-of-mouth promotion (Frank, 2012) and sustain profitable operations. The responsibilities involved in restaurant management require previous food service experience and cost controls. Legislators suggest 1 to 5 years of experience for training program success. Hence, restaurant owners usually promote experienced food service workers to management fast-food restaurant positions (BLS, 2012). Still, an upward number of manager positions require formal education in business, hospitality, or restaurant management program.

Even though the majority of food service managers possess less than 4 years of college, the market demand for post-secondary educational requirements increased for manager positions (BLS, 2013). The fast-food industry leaders recruit management trainees from college hospitality or with previous internship experience or education from food service management programs, and business profit management. The candidate for management positions specializes in matters of business management, cost control, budget, food sales, customer service, nutrition, hygiene processes, food planning, food preparation, business regulations, and technology. The participants of this restaurant management course acquire on-the-job training and experience through an internship program (BLS, 2012).

From the standpoint of business accountability, restaurants owners consider growing the profit and loss as the most important issue within the restaurant operation (Gaungoo & Jeewon, 2013). Recent studies have shown the transfer of excellent value

serves to achieve customer satisfaction and loyalty (Frank, 2012). Likewise, beyond appreciation, assuring customer health and integrity was crucial to sustain successful restaurant's operation. From that perspective, training on food management was necessary (BLS, 2012). The NRA awards a Food Service Management Professional (FMP) for candidates who passed a written examination, after completing coursework and satisfying the experience requirements. The BLS (2012) identified skills restaurant owners must have, such as business control, profit skills, customer service, detail-orientation, leadership, managerial attitudes, organizational skills, problem-solving, speaking skills, and stamina (physical, mental, and health). Commonly, the restaurant chains as the food service management organizations trained their personnel through rigorous programs for management job opportunities, such as food service certification for kitchen management (Arendt et al., 2014).

Kitchen managers who approve certification of the hygienic handling of food can improve the practices of food preparation in a safe way and improve business health. Arendt et al. (2014) performed an exploratory case study to prove training in food safety influenced the key behavior of employees. Arendt et al. found employee perceptions of training policies, self-efficacy, and social responsibility might have a direct effect on behavior. Outcomes show the positivity in the employee's outlook produced better training results, higher health examination score, and sustainable business operation. Restaurant owners who involve the employees in the process of food safety training, and deliver encouraging feedback to coworkers, may obtain the benefit of higher health inspection scores, and consequently sustainable operations (Arendt et al., 2014). The

researchers Strohbehn et al. (2013) suggested training was not enough for long-term progress. Restaurant owners must examine their philosophy to boost restaurant sales, through safety, sanitary practices, and incentives, for employees, eager to use peer pressure on uncooperative coworkers, recompense, a consequence system, and operational scheme to simplify consistent hand hygiene. Sutinen and Kuperan (1999) underscored to realities that some business owners engage in the poor decision-making process that may lead to poor quality products and services due to limited financial resources.

Food safety inspections. Waters et al. (2013) explored the topic of perceptions of restaurant operators and managers concerning food service inspections. The investigators aimed to uncover factors influenced the practices used by food inspectors during the inspections (Waters et al., 2013). An exploration of the impact of inspections of food service business was relevant for the restaurant business sustainability. Thus, food service managers were accountable for the day-to-day business processes of restaurants for cooking and serving food and beverages to customers (BLS, 2012). Administrators safeguard customers were satisfied with their eating experience and business repetition. Public health examination records, aid customers to be aware of restaurants violating health codes (Kang, Kuznetsova, Choi, & Luca, 2013). In some cities, such as Los Angeles and New York, the government requires restaurants owners to post their inspection scores at their locations, affecting the revenue of the business significantly; subsequently, inspiring restaurant owners to advance their sanitary practice improving business financial status (Kang et al., 2013).

Mason et al. (2013) found publications and reports of quality rankings given by the health department after a restaurant health inspection, influenced consumers of food prepared in restaurants. A cost-benefit analysis of the Sacramento program reflected the assessment of the fee of \$1,112.00, and the cost avoidance of FBD (McLinden et al., 2014). The analysis had an apparent benefit of the food safety prevention program. Thus, the occurrence of one FBD would cost \$5,500 or likewise, at least as much as \$1,877 (McLinden et al., 2014). This calculation shows how the cost involved in each of these incidents, increased the regulatory costs (McLinden et al., 2014). The project did not ensure the non-occurrence of FBD; however, demonstrated effectiveness in reducing incidence by 50% (McLinden et al., 2014). The cost of three cents per meal for the inspection fee justified the investment when considering the potential risk and high cost which represented the spread foodborne illnesses (Scharff, 2015). Identifying food safety risk encompassed a risk assessment (West, 2015). In addition to identifying the risk assessment, assist the investigator in quantifying the risks. Typically, risk assessments related to the natural sciences; however, risk management emphasizes economics, legislative assessments, and politics (West, 2015). The benefit was implicit on the cost-benefit of analysis of the prevention programs (McLinden et al., 2014).

Food safety strategies. Restaurant operators must manage to train as an asset to ensure the direct influence observed to business growth and profits. Foodborne illnesses drain restaurants of profits regarding potential lawsuits and lost customers. Besides, the training process contributes to business sustainability by significantly reducing food waste and improving the production and quality of food (Gaungoo & Jeewon, 2013).

Food poisoning occurs because of the ignorance related to proper food handling, legal responsibilities, and negative business consequences (Gaungoo & Jeewon, 2013).

Training programs increase owners, managers and coworkers' understanding of responsibilities and improve their skills (Gaungoo & Jeewon, 2013). Training can also improve business cost control, upsize sales volume and profit, job satisfaction, management skills, generate pride in appearance and team spirit, and increase the number of hours of supervision responsibilities. Training programs contribute to productivity and the economic health of restaurants by reducing the staff turnover, which was one crucial cost of a restaurant business (Gaungoo & Jeewon, 2013). Conversely, for Howell (2013), organizational leaders face serious problems during economic downturns because management does not prioritize training caused by budget cuts and short-term priorities. For example, food safety educational resources may be difficult or costly to obtain (Manes et al., 2013).

The FDA regulation requires a certified food safety monitor to oversee the operations of the food service establishment (Arendt et al., 2014). To ensure employees and owners of restaurants operated by the performance standards, various training programs in food security were available for use (Strohbehn et al., 2013). The NRA Educational Foundation administered ServSafe. This training program was standard in the food service industry (Arendt, Paez, & Strohbehn, 2013). Investigators from the USDA found no correlation among restaurants with an administrator certified in food safety and health inspection and operational improvement (Arendt et al., 2014). Conversely, Arendt et al. stated food safety training would improve business knowledge

and sanitation within the operations. However, other authors quoted investigators who suggested the problem was the transfer of information from managers (certified) to frontline employees (Arendt et al., 2014).

Arendt et al. (2013) found managers and owners indisposed to consent, employees, and the chance to participate in training even with no charge. Strohbahn et al. (2013) found proper performance management rarely processes work well, because of onerous managerial phases, procedures, and tools incoherent in the daily activities and failing in their implementation. From the restaurant business and food safety standpoint, this might represent a risk for any business operation and liability controls. Nevertheless, administrators improved performance management when they focused on employee commitment and facilitated the tools to develop the performance skills (Albrecht, Bakker, Gruman, Macey, & Saks, 2015). In this way, managers and owners control the outcome expected, and at the same time, bring more accurate performance projections (Albrecht et al., 2015).

Arendt et al. (2014) explored the influence of frontline employees' perceptions about food safety issues foremost in enhanced hygienic operations in the food service establishments. The authors measured the attitudes of the employees regarding the training program, self-assessment, social contribution, and the design of the facility, organizational culture, and health department relations. Arendt et al. considered restaurants perfect for the study; these foodservice units involved the more on-site complex operation, placing them on the brink of the potential foodborne illness outbreak. The outcome of the study supports the theory the workers' outlook has a significant role

in transferring knowledge and skills gained in training. Further, the study results show a positive correlation between positive restaurant inspection scores, their self-involvement, and social accountability. Making necessary to explore the effect of measures to improve food safety regulations, food safety practices, and the impact of foodborne events (outbreaks).

Arendt et al. (2013) investigated the backgrounds affecting restaurant administrators' readiness to backing food safety training for staff. Arendt et al. employed the theory of planned behavior for the analysis and found subjective standards observed behavioral control worked as a crucial role in offering to train to employees. This factor was important for the study of food safety issues in contrast to customers, employees, and owners' perception.

Business opportunities related to food safety. In Puerto Rico, as in other countries of Latin America, some deficiency existed in epidemiological surveillance of food operations. One primary concern was the absence of reliable data on the FBD (Luning, Chinchilla, Jacxsens, Kirezieva, & Rovira, 2013). However, recent studies find social media, such as Internet applications and platforms, have become an excellent source data to spread the information about FBD surveillance (Hwang, 2013). Globally, governments have recognized the awareness gained by citizens on the issue of food security in the respective countries and implemented corrective measures. These efforts were in response to an increasing number of problems, rising consumer concerns, and business risks. Consequently, Hwang stated the first-step fast-food sellers should take to scrutinize consumers' perceptions about items served in restaurants. The exercise will

assist marketers to understand consumers' new demands related to the improved health awareness (Hwang, 2013).

Arendt et al. (2014) concluded food quality was a significant element of restaurants researched; also, the authors identified food quality as critical element to client satisfaction and client loyalty. For Hwang (2013), proper food safety practices could upsurge customer satisfaction. Frank (2012), validated the position of Arendt et al. and found owners identified the main factors of consumer attitudes and intentions to purchase, were good quality, the social branding concept, the social recognition factor, and business advantage. The staff rapport with clients' influences client's perceptions (Frank, 2012). Agarwal and Dahm (2015) found care about management, and customer satisfaction was more an encouraging factor than the perceptions of the vulnerability to FBD. However, in the case of restaurants, customer loyalty represents a critical aspect that determines economic stability and growth (Agarwal & Dahm, 2015).

Government Responses to Food Safety Concerns

The role of government and the most effective policy options for food illness prevention was controversial because of the limited resources and political considerations influenced by the public policy implementation (Lam et al., 2013). Policies targeting the food environment include restrictions on television junk food advertising in Europe, menu labeling regulations in New York, and soft drink and confection taxes in Denmark (Lam et al., 2013).

Government health and safety officials have an obligation to protect people from hunger and malnutrition. The illness prevention, including hand-washing, hygienic hand

drying, and covering one's mouth when coughing, remain a challenge within the restaurant industry (Pellegrino, Crandall, O'Bryan, & Seo, 2015). Health agencies in the United States performed millions of repetitive restaurant inspections annually (Petran, White, & Hedberg, 2013b).

Advocates and food safety stakeholders contended state and local agencies have an important role in the fight against diseases and foodborne pathogens (David & Katz, 2013). Despite annual restaurant inspections in the United States, the CDC officials reported a majority of foodborne illness outbreaks occurred in restaurant settings (Petran et al., 2013b). Lopez Nazario (2012) stated limited studies relate to inspection violations with foodborne illness. Manes et al. (2013) stated to decrease food poisoning cases; restaurant food handlers need correct knowledge of food safety codes as a starting point to obtain an ideal food safety behavior.

Regulatory agencies have shown a sense of urgency with foodborne outbreaks. In most states, laws leave local health departments in charge of evaluating restaurants to safeguard compliance with established hygiene regulations (McLinden et al., 2014). State and local public administrations had regularly intervened with food safety issues, then the federal government, including the Congress and regulators (Pertschuk et al., 2013).

Regulations, food surveillance, and industry cooperation. McLinden et al. (2014) stated the most important benefit of food inspection prevention programs was cost avoidance of foodborne illness in line with a hygienic restaurant environment. Officials of both the food industry and the government administration collaborated to improve the

system focused on food safety (David & Katz, 2013). Researchers have also found food safety training had positively improved food safety inspection results (Strohbehn et al., 2013).

Restaurants with certified food handlers obtained better inspection scores than restaurants with uncertified managers (Strohbehn et al., 2013). Massive outbreaks, as a result of ready-to-eat meats and soft cheeses and the high case-deadly ratio of listeriosis, triggered a coordinated response between U.S. regulatory and public health organizations. One risk-ranking model for listeriosis, within the ready-to-eat foods, recognized delicatessen meat as the uppermost risk food (Painter et al., 2013).

The United States experiences approximately 1,500 cases of listeriosis annually, with 99% of the of foodborne cases; as a result, the FDA (2015) strategists created the Coordinated Outbreak Response and Evaluation (CORE) Network to develop an outbreak response. Correspondingly, CORE Network personally guaranteed the surveillance and post-response events connected to occurrences involving numerous diseases related to the FDA although staffs do monitor the regulatory compliances of food and cosmetic products.

The FDA and the USDA Food Safety and Inspection Service (FSIS) function to amend the safety of ready-to-eat food from the end-to-end development of policies. Assistance for the food industry, and regulations intended to avoid listeriosis septicity of these foods caused the cost per case of over \$1.6 million (Painter et al., 2013). However, the CDC has created better surveillance systems to enable quick outbreak detection. Likewise, the CDC responds to, and monitors, incident trends. Government leaders

focused on teamwork strategies aim to better integration of government levels (David & Katz, 2013). Public agencies have developed material for food safety education to stop listeriosis occurrences in vulnerable populations.

Certain laws when implemented might affect how a state classifies and reacts to, cases of foodborne illness, making it hard to distinguish between food regulatory laws. The laws intended to prevent FBD, and food-related public health laws aimed at detecting and responding to the alleged activities (David & Katz, 2013). Compliance and investment in food safety were a priority in the economy of countries such as New Zealand. It was affordable when compared to the cost savings with the reduction of foodborne illnesses, and the costs associated with the foodborne illnesses (David & Katz, 2013).

David and Katz (2013) provided public agency directors who recognized the critical role of law, have critical public health responsibilities. The total economic effect of foodborne illnesses would decrease in the United States, including Puerto Rico, by improving the economic incentives to the food service industry (Scharff, 2015). Nevertheless, costs of executing new food safety regulations must balance the projected benefits of decreasing foodborne illness and determine the net benefits (Scharff, 2015). With this exercise, government authorities may identify and efficiently assign funds between competing programs (Scharff, 2015). On January 4, 2011, President Obama approved the landmark FDA Food Safety Modernization Act (Drew & Clydesdale, 2013; FDA, 2015). The initiative constituted the most comprehensive change in the United States of America food safety field since the 1930s (CDC, 2014). The Food Safety

Modernization Act (FSMA) legislators intend to make the food service system effective and integrated (David & Katz, 2013).

The reform established a precedent as the first major reform of food safety laws in the nation after more than 80 years (David & Katz, 2013; Drew & Clydesdale, 2013; Kheradia & Warriner, 2013). The FSMA requires the participation of the sectors of the food industry in creating prevention controls in the work unit, overturning the previous vision of FDA prevention programs (David & Katz, 2013). The new law identified the state and local agencies and organizations with the lead role in the effort to combat and detect outbreaks of FBD. The FSMA demands increased preparation, training, and empirical research on the use of laboratories for surveillance and immediate response at the state and local level (David & Katz, 2013).

Nevertheless, the legislation falls short in its application to fast-food restaurants in the northern region of Puerto Rico. The FSMA does not cover businesses with less than \$500,000 in annual sales; if a significant percentage of sales were direct sales to customers; and restaurants in the same state, or within a 275-mile radius (Drew & Clydesdale, 2013). Another problem was the enforcement of laws and regulations created to address the issue of FBD. In many instances, responses to outbreaks were not up to date, limiting the ability of the authorities in the management of information and research (FDA, 2015). Above 1,000-foodborne illness, outbreaks cause over 23,000 diseases in the United States yearly (Jones, Rosenberg, Kubota, & Ingram, 2013). Another challenge facing policymakers was both rates outbreaks reported as the result of research vary significantly between states (Jones et al., 2013). Authorities must seek

integrated systems, with updated processes, to be effective (David & Katz, 2013). While outbreak reports vary between states, in general, more than 1,100 FDB outbreaks result in 23,000 illnesses annually, in the U.S (Jones et al., 2013).

Puerto Rico Food Safety Act amendment and business strategies. The literature did not offer substantial information regarding the occurrences of foodborne pathogens and its economic consequence in the northern region of Puerto Rico, besides the cafeteria food-related issues (Winters, 2013). However, local news reporters covered other isolated cases of food poisoning isolates. The result of regulatory inertia was foodborne illnesses no longer unusual; rather, they were the norm (Winters, 2013).

When the United States entered a recession in late 2007 and early 2008, the effect on the economy of Puerto Rico and the government budget was devastating. A business reporter for a local newspaper in Puerto Rico, *El Vocero*, informed government officials adjusted the State Health Department's budget and reduced the workforce and its ability to monitor establishments preparing these foods (R. Sanchez, personal communication, September 20, 2013). The House of Representatives of Puerto Rico approved a project to address the issue of inspections of food establishments to measure the level of hygiene and sanitation of these businesses (OSL, 2015). The bill establishes a pilot program for only four of the eight Senate districts.

The law will substitute the current Food Safety Act of the Commonwealth of Puerto Rico (OSL, 2015). The bill will authorize the State Department of Health Administration to create a new system of qualification of restaurants by giving a ranking to each establishment's food prepared on a scale of zero to five stars. The five stars

represent excellence, four means very good, three means good, two stars mean satisfactory, one star means poor, and zero stars represent very poorly (OSL, 2015). The intention of the Lawmaker was to alert customers to the practices of the food establishment although encouraging the management to improve the business operations (OSL, 2015).

Restaurant owners must take a health-conscious approach to the cleanliness of the company (Sharifah Zannierah et al., 2012). Arendt et al. (2014) suggested employee image influences how food safety knowledge and skills gained transfers between employees. However, beyond employee knowledge of sanitation significantly improved after the training program, public health regulations were crucial as a monitor of restaurant operations (David & Katz, 2013; Farzianpour, Khaniki, Batebi, & Yunesian, 2012; Ko, 2013).

Public health inspectors provide surveillance and food poisoning outbreak response to restaurants (David & Katz, 2013). It was crucial to provide the resources necessary for the prevention and control of foodborne illness, whether among employee food staff or consumers. However, according to Sharifah Zannierah et al. (2012), deprived of enforcement of the new legislation, the restaurant managers have little incentive to implement the new modifications. For Abusin (2015), businesses experiencing direct socio-economic pressures may engage in decision-making processes based on limited available resources and may result in poor quality products and services to customers.

Transition

Section 1 comprised preliminary and background data on the business problem selected for research. The purpose of this qualitative multiple case study was to explore strategies fast-food restaurant owners use to comply with the food safety regulations to remain profitable and sustainable. In the literature review, I considered the business sustainability of the restaurant industry. The restaurant industry has a significant role in the economy of the northern region of Puerto Rico. Hence, the qualitative approach for this study permitted exploration of the case study within the fast-food restaurant industry. Section 2 contains specifics on the role of the researcher, participants, research methods and design, population and sampling, ethical research, data collection and organization, and reliability and validity of the study. In Section 3, I provided findings, implications, and recommendations of the study.

Section 2: The Project

The purpose of this qualitative multiple case study was to explore the business strategies fast-food restaurant owners use to comply with the food safety regulations to remain sustainable. In Section 2, I offer the purpose statement and discuss (a) my role as researcher, (b) the participants, (c) the research method and design, (d) the population and sampling, (e) ethical research practices, (f) data collection and organization, and (g) the reliability and validity of the study.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the business strategies fast-food restaurant owners use to comply with food safety regulations to remain sustainable. The targeted population was fast-food restaurant owners from six fast-food restaurants from three restaurant chains in the northern region of Puerto Rico. Contributions to social change from this study may include restaurant owners to establish better food service practices, leading to healthier food consumption for those who dine in restaurants.

Role of the Researcher

I conducted, recorded, and transcribed interviews, followed an interview protocol, and collected physical artifacts, such as information from websites, signage, and bulletins, to ensure a thorough investigation of the phenomenon. A strong background and proficiency interviewing personnel, and extensive knowledge and experience in the fields of restaurant operations, human resources, private and public accounting, government intervention, and food safety strengthened my capacity as an interviewer and

researcher. Researchers use semistructured and standardize interviews in case studies with specific questions in sequence, avoiding follow-up (Marshall & Rossman, 2015). Researchers collect and analyze data, report findings, keep the privacy of the study participants, and follow the ethical guidelines (Marshall & Rossman, 2015; O'Brien et al., 2015).

The respect for persons is a crucial element of ethical principles, as outlined in the Belmont Report (1978). The Belmont Report of 1978 offers a policy for ethical practice. I followed the ethical principles of respect for participants as outlined in the Belmont Report to guarantee good practice in the research context.

The principles or guidelines established by the Walden's IRB include boundaries between practice and research, basic ethical principles, and applications (Adams & Miles, 2013). This case study reflects my adherence to the ethical requirements for limiting potential harms during the interview process. I had no previous relationship with anyone selected for interviews, mitigating any potential relationship bias.

Vogl (2013) stated personal contact was important in qualitative research when conducting semistructured interviews; however, he found there was minimal difference when doing them by telephone. Likewise, Irvine, Drew, and Sainsbury (2013) researched the differences of semistructured interviews by telephone and in person, and found that over the phone there was a tendency for participants to request clarification. As an interviewer, I was the primary instrument used in the data collection process. As such, I used semistructured interviews and available physical artifacts such as websites, signage, and bulletins to explore the strategies restaurant owners were using to comply with food

safety regulations. The interview protocol (see Appendix A) provided the precise order of tasks involved in successfully conducting interviews.

The intervention of the researcher in face-to-face interviews is crucial. The collection of data in a qualitative case study requires the researcher to serve as an instrument of data collection (Xu & Storr, 2013), address ethical issues, and minimize bias (Yin, 2014). Some forms of bias may impact the study, including interviewer bias. Interviewer bias occurs when the interviewer embeds personal opinion into the research process, harming the data collection process (Yin, 2014).

I minimized interviewer bias by not influencing the data collection process through any preconceptions about the topic. Participant bias may occur if the participants contrive responses due to perceived pressure from the interviewer, or sense the interviewer may be hoping for particular outcomes, leading participants to respond accordingly (Yin, 2014). The use of a sound conceptual framework might help the researcher reduce bias when collecting data (Yin, 2014).

My intent was to address participant bias in the informed consent process, reminding participants to answer honestly and to only answer questions they were comfortable with answering. Following the interview protocol standardizes the data collection process, ensuring consistency in the data collection process (Irvine et al., 2013). I regularly reflected on the ethical requirements outlined in the Belmont Report (1978), thereby limiting potential harms in the interview process.

Participants

The participants selected for the study were appropriate research subjects because this population has unique knowledge about the restaurant industry in the northern region of Puerto Rico. The participants assisted me in understanding the business strategies they implemented to comply with food safety regulations for the sustainability of their businesses. Gladwell, Badlan, Cramp, and Palmer (2015) noted semistructured, in-depth, one-on-one interviews are the most common technique to obtain a rich detail of the phenomenon under investigation. Pietkiewicz and Smith (2014) and Roulston (2014) argued semistructured interviews offer a real-time opportunity for engagement between the investigator and the participant. Therefore, I used semistructured interviews to explore strategies fast-food restaurant owners use to observe the food safety regulations and remain sustainable.

The eligibility criteria included the following: (a) participants had implemented strategies to comply with food safety regulations; (b) the fast-food restaurant was located in northern region of Puerto Rico, one region considered under the pilot program of the Food Safety Act Amendment (OSL, 2015); (c) the restaurant was in operation since 2009; (d) participants were owners within the restaurant industry with no less than 2 years restaurant management experience; (e) participants were willing to sign an informed consent form prior to interview; (f) participants agreed to participate in recorded, face-to-face interviews; (g) the business was a restaurant, with operations in the fast-food category; and (h) participants were experiencing the effects of strategies on restaurant sustainability.

I used pseudonyms to protect individual participant identities. To initiate contact, I explored fast-food business websites. Roulston (2014) used a random method to choose the study participants. Using the criteria developed to determine participants, I review business websites, selected business owners, and created a potential pool of candidates. I then identified owners performing as manager, and made initial contact in person at the business location. I introduced myself, explained the purpose of the study, identified they met the criteria of the study, and invited them to participate in the research. Each restaurant owner who agreed to participate replied by e-mail or by phone and confirmed participation in the process. Likewise, each signed the consent form included (a) details of the research, (b) my participation as an examiner, (c) the schedule and promise to complete the interview, and (d) the rights of restaurant owners as interviewee to respond to questions partially, totally, or not at all.

Research Method and Design

In the study, I investigated business strategies used in fast-food restaurants in Puerto Rico, in light of legislative changes potentially impacting restaurant operations abilities to remain profitable and sustainable. To fully understand the complexity of the decision-making process within fast-food restaurants, a qualitative case study may provide the best opportunity to learn from restaurant owners. My decision to select a qualitative case study approach required a thorough investigation of various methods and designs.

Research Method

I used a qualitative method to conduct the study. There are three methods of

inquiry: qualitative, quantitative, and mixed methods (Nartea, 2014). Quantitative research embraces testing a hypothesis, studying relationships, and examining the statistical data. Nartea (2014) described the quantitative method as the only factual source of knowledge resulting from logical and mathematical data analysis, which is a positivist viewpoint. Certainly, the quantitative is an approach very well regarded in the business realm (Marshall & Rossman, 2015).

However, instead of examining the existence or absence of an issue through a statistical study, the research information I sought required exploring the phenomenon through participants' experiences. Therefore, I did not select a quantitative method for the study. Venkatesh, Brown, and Bala (2013) explained mixed method researchers combine quantitative and qualitative study methods in the research investigation. However, Venkatesh et al. contended, in contrast to qualitative and quantitative approaches, a mixed methods approach is characteristically not a natural methodological option in social and behavioral sciences; therefore, I did not select a mixed methods approach.

Qualitative methods have taken a leading role in the study of emerging phenomena characterized by constant changes (Singh, 2015). Researchers using qualitative methodological guidelines use resources such as dialogue, notes, soundtracks, and interviews to collect the required information (Singh, 2015). A qualitative approach offers an opportunity to learn from viewpoints, giving meaning to decisions and organizational direction.

Research Design

I selected a case study design for the study because gathering detailed explanations about the complexities of sustainability in light of changing legislation could enhance my understanding of the decision-making processes used in business. Thomas (2015) specified a researcher must choose a research design that aligns with the overarching research question and the conceptual framework guiding the study. Four common designs include ethnographic, narrative, phenomenological, and case study (Thomas, 2015).

Initially, I considered using a phenomenological design, which researchers use to comprehend how decisions evolve from diverse viewpoints (Lien, Pauleen, Kuo, & Wang, 2014) or the lived experience of participants (Davis, 2013). Even though phenomenology was appropriate to gain perspectives from a small sample, it requires a prolonged time for the study (Davis, 2013), rendering the approach inappropriate.

Temba (2013) used ethnography to describe the culture common to a group. Ethnographic investigators explore issues related to work, principles, language, performances, and issues affecting the group within a cultural context. For that reason, I did not select ethnography for the study.

Narrative researchers using the narrative design tend to seek associations with human activity from an ample perspective within the study (Temba, 2013). Narrative studies are appropriate for researchers writing a biography to capture every life experience of an individual over time (Uluyol & Akçi, 2014). Narrative investigations

afford overviews of a person or group from the perspective of the researcher. Writing a life story was not my intent, so a narrative design was not appropriate for the study.

In a case study, researchers seek answers to *why* and *how* participants perceive events and make decisions (Uluyol & Akçi, 2014; Yin, 2014). A relatively small sample is adequate to gain a deep understanding of the themes effect (Yin, 2014). Miles (2013) stated researchers use case study design because they are a suitable approach for exploring real-life issues and current phenomena such as the effects the Act on Food Safety may have on owners' business strategies.

Miles (2013) stated case study design is suitable for researchers including an extreme, exclusive, revelatory, or longitudinal case concerning an individual, event, or program, over a specified period. Miles described the case study approach as appropriate for exploring daily phenomena related to job responsibilities. When using an interview technique, the case study researcher should work to achieve data saturation, and then cease the interview process when the interview provides no new information. If the process does not achieve saturation, researchers use sampling to continue to add semistructured interview data from additional participants until the data reaches saturation (Rohde & Ross-Gordon, 2012). Following an exhaustive exploration of the available methods and designs, I used a qualitative multiple case study to conduct the study.

Population and Sampling

The population for this qualitative multiple case study was restaurant owners operating in the northern region of Puerto Rico. Through the application of purposeful

sampling, the intent was to collect pertinent information on the topic of the research from the selected fast-food restaurant owners in the northern region of Puerto Rico who possess knowledge and experiences notably informing the study objective. In purposeful sampling, the researcher trusts proficient ruling to select participants' representative or distinctive of the population under study (Palinkas et al., 2013; Yin, 2014). Mason et al. (2013) indicated sizes for qualitative research were smaller than sample size used in quantitative research. Yin (2014) identified interviews, documentation, direct observations, and participants' comments as potential sources of data for a case study. Researchers engage in the interview process by electronically recording interview data and capturing unspoken nuances using paper and pencil. Interviews should continue until the process reaches a point when new data generates no new information and the interview process reaches saturation, at this point, the interview process ends (Rohde & Ross-Gordon, 2012).

In the northern region of Puerto Rico, the growing gastronomic tourism industry was a vigorous economic sector, demanding a consistent system to monitor each establishment providing food services (OSL, 2015). I did seek out at least six participants for the study and ceased the interview process once the data collection process reached saturation. Saturation occurs when the generation of new data longer adds information to the research process, and at this time interviews cease (Rohde & Ross-Gordon, 2012). If the data collection required more participants to reach saturation, I used snowball sampling to achieve saturation. Snowball sampling involves gaining access to further participants by inquiring with those interviewed to increase the potential

interview candidate sources (Rohde & Ross-Gordon, 2012). However, I did not use snowball sampling as it was not necessary for this study. Participants included fast-food restaurant owners or owners performing as managers from the northern region of Puerto Rico because of their personal experiences in the restaurant industry. The criteria for selecting the participants included (a) participants own or own and manage a restaurant, with operations within a fast-food category; (b) the fast-food restaurant was located within northern region of Puerto Rico, one district considered under the pilot program comprised on the Food Safety Act amendment (OSL, 2015); (c) the restaurant had been in operation since 2009; (d) participants were restaurant owners or owners performing as managers within the restaurant with no fewer than 2 years' experience, within this role; (e) participants were willing to sign a confidentiality agreement, and consent prior to interview; and (f) they would agree to participate in face-to-face interviews, and have implemented strategies according to food safety regulations. The criteria allowed me to identify only fast-food owners impacted by the legislation and whose decision-making practices consider the impact of the legislation on service delivery and business sustainability.

I used purposeful sampling to create a pool of interview candidates. Purposeful sampling involves identifying the most suitable candidates who the researcher determines will offer valuable information to support the development of the research (Palinkas et al., 2013). My purposeful sampling process involved reviewing fast-food restaurant websites for facilities in operation and included only available and suitable organizational candidates who met the research criteria. Once I identified and recruited appropriate

participants, I worked to identify a suitable interview location and time accommodating participant needs.

Ethical Research

An academic researcher diligently abides by Institutional Review Board (IRB) ethical standards. Gibson, Benson, and Brand (2013) stated researchers must maintain high moral values, promoting honesty, openness, and respect for the participants, involved organizations, the University, and the reader of the study. To initiate the research process, I conducted interviews by having each participant signed and returned a signed consent form. In the Informed Consent Form, I explained the purpose of the study, the protection of personal information, and the requirements of participants. Connelly (2014) discussed the importance of participant rights in choosing to participate in an interview process. As such, the study participants had the opportunity to withdraw from the study at any time without consequence. I planned to destroy any information collected from participants who withdraw unless the participants state otherwise. Each participant name remains protected by replacing each name with a pseudonym (P1, P2). As suggested by Yin (2014), participants will receive no incentive for participating in the study.

Yin (2014) and Gibson et al. (2013) suggested participants need to understand the measures taken to protect their confidentiality and identification secrecy to facilitate the willingness, openness, and honesty on their responses and experiences shared. I used and will keep folders with the data collected safely for 5 years in a locked file cabinet. Finally, as suggested by Howell (2013) and Yin, after the holding period, a paper

shredder facilitated the destruction of paper copies, followed by the erasing of electronic data from the hard drive, containing these folders. Walden University's approval number for this study is 11-18-16-0352731 and expires on November 17, 2017.

Data Collection Instruments

As a researcher, I was the primary instrument for the study. Marshall and Rossman (2015) recognized semistructured interviews as an outstanding approach to exploring the viewpoint of persons in particular situations. The research interview was significant qualitative data collection methods (Marshall & Rossman, 2015). I conducted semistructured interviews using open-ended questions. The semistructured interview technique allowed probing for responses (Banks, 2013). Additional information from physical artifacts, including company websites, signage, and bulletins, triangulated the research (Yin, 2014). I requested written permission to access the physical artifacts when required by company leaders. Likewise, I prudently revised the research instruments to achieve the reliability point and validity expectation of the data collected.

For the study, an interview protocol guided the interview process (see Appendix A). An interview protocol includes steps taken to complete the data collection process (Yin, 2014). I developed seven open-ended questions for in-depth interviews as the primary source of data collection (see Appendix A). I used an interview protocol to guide the interview process. I did seek for additional source information following Yin (2014) suggested sources of information, to triangulate the study.

Hanson and Moore (2014) stated reliability was relative to the consistency of the outcomes of the study despite the time. I used several techniques to ensure the reliability

and validity of the study including following an interview protocol (see Appendix A) ensuring I have signed consents from all participants, asked the same questions to each participant, and used member checking following the interview process.

The interview protocol kept the research process consistent and repeatable. Marshall and Rossman (2015) suggested member checking to ensure the accuracy of information collected through interviews.

Member checking involved contacting interviewed participants, having them review the information collected through the interview process, and making any needed changes to increase the accuracy of the data collected (Marshall & Rossman, 2015). According to Harvey (2015), member checking involves asking the participant to review their response to the interview questions for accuracy. I contacted each participant following the interview, provided those with a written comment of their statements gathered in the interview and had the participant reviewed the statements for accuracy over the course of one week. After a week, I collected the distributed statements and made some needed corrections to the documented interview data.

Data Collection Technique

A qualitative case study requires the triangulation of two or more sources of information. Yin (2014) suggested interviews and physical artifacts, such as websites, signage, and bulletins, as suitable sources. To collect the data, I used a semistructured interview technique, used open-ended questions (see Appendix A), and artifacts such as company websites, signage, and bulletins, designed to gather enough information to generate an understanding of this population for the case study.

The interview process was only as effective as the information collected (Yin, 2014). The disadvantages of semistructured interviews include reliance on the participant's ability to recall details at the time of the interview (Yin, 2014). The semistructured technique, however, may provide opportunities to ask probing questions to uncover participant experiences in the event the participant cannot remember (Yin, 2014).

Vogl (2013) provided advantages and disadvantages of face-to-face interviews. A primary advantage was the ability to capture subtle nuances such as facial gestures not collected by a recording device (Vogl, 2013). A disadvantage of face-to-face interviews was the risk of bias potentially resulting from misinterpreting non-verb nuances (Vogl, 2013). To mitigate any distortion resulting from any bias, I applied my skills as an interviewer to ensure I prevented my perspectives from distorting the interpretation of the interview process. I informed participants in advance of interviews of the intent to use a recording device to capture the information shared. The recorder was in a location so as not to distract the interview process. Following the interview, I wrote out all information gathered on the recorder. Then, I forwarded the written documents to the participant to member check, ensured the accuracy of the information collected. The participant had one week to review the document, make changes and return the information. I took the revised documents and, once all participants engaged in member checking, I commenced the data analysis process.

The used of member checking fortified the interview process. I achieved member checking by providing each participant with their contribution from the interview and had

them review the content of the contribution for accuracy. The participants had one week to review the information and make any changes. After the revisions, the participant returned the documented verbatim back to me for data analysis. Member checking was a technique of verifying the information collected by participants. The process may lead to not only a greater understanding of the phenomenon but may generate new information supplementing the original interview (Marshall & Rossman, 2015). The flexibility of semistructured interview techniques renders a pilot test of the interview questions unnecessary.

Data Organization Technique

Yin (2014) stated the use of interview protocol (see Appendix A) helps to keep researchers organized and in control of the data collection process. To keep track of the research log, I used Qiqqa software, an electronic database software program, to organize the data from reflective journals, field notes, and interviews. The research log contains the logistical steps I took to complete the research process, including setting up the recording device, safe storage of all collected data, software procedures, data collection, organization, and analysis procedures. The reflective journal served as a collection of learnings gained from experience, suggestions for change, and valuable techniques may aid future researchers conducting a similar study. Excel spreadsheets facilitated data organization as part of the data analysis process (Park & Park, 2016; Singh, 2015).

My plan was to maintain the confidentiality of each interview transcript using pseudonyms rather than actual participant names (P1, P2). Similarly, physical records of interviews, recordings, notes, and transcripts remain stored under lock and key with hard

copies of the interviews (Connelly, 2014; Grossoehme, 2014). I used a safety box controlled by access codes to protect data, a mobile device (flash drive) to preserve digitized data, including data transcription, coded interview material, protected by passwords. The gathered data, including all archival data collected during the research process, will remain secure for a period no less than 5 years following the study. The safe storage of data was essential in maintaining the integrity of research (Kan, Adegbite, Omari, & Abdellatif, 2016; Park & Park, 2016).

Data Analysis

Case study researchers use triangulation to collect data from multiple sources to ensure consistency in the data collection process (Yin, 2014). Triangulation helps to reduce any bias, improving the quality of the research (Yin, 2014). Yin described four types of triangulation: data triangulation, investigator triangulation, theory triangulation, and methodological triangulation.

To reduce potential bias, to achieve consistency in information, and to ensure clarity of the study, I triangulated the study using interviews, and physical artifacts such as websites, signage, and bulletins. I first conducted at least six interviews with fast-food restaurant owners and reviewed physical artifacts associated with each business. Second, I assessed the data collection process for saturation, monitored the continual flow for new information. When data collection failed to produce new information, the interview process stopped.

The analysis requires four steps (Marshall & Rossman, 2015) which include (a) gather both interview and physical artifact information and member check for accuracy,

transcribe the data collected, (b) code data by identifying key words or word groups, then forming groups into clusters, (c) gather clustered information into defined groups of information forming themes, and (d) gaining meaning from the recognized themes to comprehend the common and distinctive patterns of information (Singh, 2015; Yin, 2014). Then, look for commonalities in words, patterns of joined words, and themes within the arrangement of words to cluster concepts (Houghton, Casey, Shaw, & Murphy, 2013). Once clusters of words and phrases become evident, the next step was to seek meaning developing a richer understanding of the content shared (Houghton et al., 2013; Yin, 2014). Although identifying commonalities in the data were critical, as suggested by Yin (2014), I also explored differences or uniqueness in the perspectives shared to broaden my perspective. Once themes evolved in the data, Houghton et al. suggested drawing the information into a narrative explanation, capturing the intent of each participant precisely. The socio-economic theory of compliance provided the foundation for data collection and analysis.

Sutinen and Kuperan (1999) argued business owners face unique challenges including economic instability and changing business regulations. Understanding the complexity of decision-making regarding compliance may offer valuable information to the larger business community and researchers. To apply the socio-economic theory of compliance in the study, the use of open-ended interview questions was an appropriate method for conducting the case study (Park & Park, 2016; Singh, 2015).

Reliability and Validity

Reliability

A significant test for instituting the quality of social science research was the estimate of study reliability (Nartea, 2014; Yin, 2014). Exploratory data from diverse viewpoints (Luckett, 2013), or validating interview resulted with other sources, increased the reliability of the study. Yin stated the researcher should avoid bias evading influence on the direction or outcome of the investigation. With the intent to avoid bias, the current qualitative design comprised a semistructured interview procedure.

A perceived weakness of qualitative studies was the potential inability to ensure reliability and validity; to mitigate this weakness, qualitative researchers apply other strategies to ensure reliability, such as ensuring results were repeatable (Wisdom, Cavaleri, Onwuegbuzie, & Green, 2012). Developing and following an interview protocol identifies steps in the interview process manifesting consistent practices (Thomas, 2015). Dependability was another component to ensure reliability.

I developed an audit trail, as suggested by Thomas (2015), to support the dependability of the procedures of a study. To create an audit trail, researchers describe (a) the purpose of the study, (b) participant selection procedures, (c) data collection procedures, including using an interview protocol, triangulation, saturation, and member checking, (d) data interpretation and analysis, (e) research findings, and (f) the credibility of the study. In addition to creating an audit trail, I ensured alignment between the problems investigated, the purpose of the intended study, the central research question. I ensured the related data was secured on a password-protected database and stored

securely in a fireproof safe in my home for at least 5 years, and apply standard analytical approaches consistent with a case study.

The idea of assembling reliable data to explore perception rest on the responses of the participant's experiences and the viewpoint brought to the event under study (Luckett, 2013). For accurate analysis, Luckett (2013) suggested the researcher check the reliability of data by testing interpretations with participants, checking with peers on emerging outcomes, and elucidate potential biases and assumptions. Regarding data collection, the plan encompassed recording the interview in Spanish, then transcribing the interview and the in-depth, open-ended questions to protect instrument reliability (Yin, 2014).

Yin (2014) specified test-retest reliability was a method to assess the reliability and constancy of a measure at diverse times. In this regard, I developed questions from a thorough review of the literature concentrated on the specific business problem. Member checking enhances dependability by ensuring the accuracy of the interview data collected. All efforts ensured accuracy in reporting adds quality and dependability to the research process.

Validity

Internal validity gave strength to qualitative research and demonstrated research findings were factual and certain (Adewoye, 2013). According to Adewoye (2013), researchers conducting a qualitative study must emphasize understanding rather than generalizability of the phenomena under study. Based on the premise, the current study did not involve or contained an external validity issue. However, to ensure internal

validity, I accurately translated from Spanish to English each recording, and written notes were taken at each interview session, and enhanced validity through data saturation. Yin (2014) stated the sample size was not as critical as saturation was in ensuring a case study approach gains enough perspective to begin to analyze data and make inferences. To achieve saturation, I continued to interview participants using the interview protocol as a guide. I stopped the interview process when the collection of new data provided no new information.

Ensuring validity requires a researcher to enhance the credibility, transferability, and confirmability of a study (Yin, 2014). Various strategies strengthen the credibility of a study. Luckett (2013) recommended the use of triangulation to achieve the expected degree of validity in a case study. The triangulation process involves proving the validity of the study with different data sources (Adewoye, 2013). The triangulation encompasses the utilization of more than one approach to the investigation of a research question to improve the thoroughness (Luckett, 2013). Yin suggested six methods of triangulating a case study. I applied three methods to triangulate the study including semistructured, open-ended, interviews, and physical artifacts, such as websites, signage, and bulletins, retrieved through the interview process.

Transferability refers to the ability to repeat the study by applying specific strategies including following a strict interview protocol (Marshall & Rossman, 2015) to ensure each participant receives the same interview question and further to ensure consistency in all interviews conducted. I used triangulation to gather information through multiple sources enhances transferability. Member checking was a strategy in

which the researcher sends the participant a copy of the information shared by the participant as interpreted by the researcher (Yin, 2014). The participant read the interpretation and verifies the accuracy of the information. The researcher provided a time limit for the participant review, and with the information returned, makes changes to the document to ensure the accuracy of the data collected. Confirmability refers to other researchers' abilities to confirm results by following the audit trail (Houghton et al., 2013). According to Houghton et al., a neutral and accurate study reflects confirmability. An audit trail was critical to ensuring an accurate a neutral study. An audit trail was a method of recording decisions made throughout the research process, and a reflections diary to track common and unusual practices enhancing the investigation process. I used an audit trail to enhance the confirmability of the study.

Transition and Summary

Section 2 comprises an explanation of my role as a primary instrument in conducting the research. Included in this section is a discussion of data collection and analysis. I conducted face-to-face interviews with at least six fast-food restaurant owners, at a time and place convenient to participants. The recorded interviews completed transcription, coding, and clustering. From the clusters, I developed themes. The themes encapsulated the guiding conceptual framework, central research question, and all forms of data collected. The themes helped to gain a deeper understanding of the impact of legislation on the fast-food industry in Puerto Rico. The objective was to share the multiple case study research findings with fast-food operators, restaurant owners,

lawmakers, public health department stakeholders, and the fast-food industry in the northern region of Puerto Rico.

In Section 3, I present the study outcomes associated with the assessment and analysis of collected data. This section involves an ample coverage of details useful to professional practice, along with implications for social change. Similarly, I included potential references for actions, considerations, views, and conclusion.

Section 3: Application to Professional Practice and Implications for Change

In this section, I report findings from this study, identifying business strategies fast food owners from Puerto Rico use to comply with the food safety regulations while remaining sustainable. By analyzing the research data, I discovered the crucial role of determining and exploring the links between the issues raised through the data collection and the conceptual framework for the study. This section contains (a) the study overview, (b) the presentation of findings, (c) a discussion of the applicability of the study's findings to professional practice, (d) the a discussion of the study's implications for social change, (e) recommendations for action, (f) recommendations for further study, (g) reflections on the research process, and (h) my conclusions.

Introduction

The purpose of this qualitative multiple case study was to explore business strategies fast-food restaurant owners use to comply with the food safety regulations to remain sustainable. The study findings relate to aspects of food safety regulations enforcement, legislation, operational costs, consumers' behavior, and employee training. These findings thus may help restaurant owners formulate more effective business strategies.

Presentation of the Findings

The overarching research question for this study was: What business strategies do fast-food restaurant owners use to comply with food safety regulations to remain sustainable? Restaurant business owners contribute significantly to the Puerto Rican economy, providing jobs for more than 57,000 people, of whom 39,850 are employed in

restaurants with limited services, and 17,660 are employed in full-service restaurants (BLS, 2012). The restaurant industry accounts for 12.5% of GDP in the service sector (BLS, 2012). However, low socio-economic conditions carry a significant challenge for business owners who want to engage in legal activities to sustain the business (Sutinen & Kuperan, 1999). Likewise, due to Puerto Rico's socio-economic conditions, restaurant owners experience challenges complying with regulations and food safety standards to remain profitable. I used semistructured interviews and business documentation to explore the strategies six restaurant owners used to overcome the socio-economic stress in the past 5 years and maintain profitability and sustainable operations.

Once I completed the semistructured interviews of restaurant owners, and after reviewing the business documentation, I collected and organized the data. The participants in this study were six restaurant business owners, including those of (a) two chicken brand businesses, (b) one burger brand business, (c) one Mexican restaurant business, (d) one pizza brand business, and (e) one Puerto Rican cuisine fast food style restaurant. All the participants were located in San Juan, Puerto Rico, a territory of the United States. P1 had 15 years of experience, P2 had 25 years of experience, P3, P4, and P5 each had 30 years of experience, and P6 had more than 30 years of business management experience.

Immediately after receiving the IRB approval number for this study, 11-18-16-0352731 and expires on November 17, 2017, I organized my agenda, made the phone calls to contact the six restaurant business owners, and presented myself and the study intent. Each business owner indicated they were motivated to participate in the study.

Then, I e-mailed six consent forms to the already contacted participants, all of whom validated the intent of the study and expressed the willingness to participate in the study. Likewise, they recognized the study's potential to contribute to the Puerto Rican restaurant industry and the local economy.

I collected data using the face-to-face semistructured interviews and reviewed company documentation. All participants gave consent for recording before starting their interviews. Using an interview protocol (see Appendix A), I asked each participant seven open-ended questions in a semistructured interview process. Every one of the participants answered all seven of the interview questions. I completed the interview process in a timely and cooperative manner.

I triangulated the study data using the responses provided by participants and documents, and then reviewed in comparison to primary themes I found in the literature review. After the interview, some of the participants agreed to share with me their business's most recent financial statements including an income statement, a balance sheet and copy of the documents they used to measure the operational costs of labor, food and drink cost, petty cash form, point of sales (POS) reports, and product mixed forms, among others. Some of them also shared with me the inspection sheets they used in their quality control program, as well as the forms of food safety and customer safety audits such as the Quality Service and Cleanliness Program.

I transcribed the data and sent it back to each of the participants to validate the content of the document and the answers offered in the interview. When I found there were no new or meaningful answers to the study, I determined the study had reached the

point of saturation. I used the Microsoft Excel program for coding and analysis. I also used pen, color pencils, and paper to perform deductive and open coding of collected data, and to conduct frequency analysis. I used different color to trace, developed a code system, and completed the co-occurrence analysis of coded data segments to identified emergent key themes.

Using the member checking strategy, I sent each participant a copy of the information they shared. Member checking involves contacting interviewed participants, having them review the information collected through the interview process, and making any needed changes to increase the accuracy of the data collected (Marshall & Rossman, 2015). Each participant read my interpretation of the data and verified the accuracy of the information. I provided participants 72 hours to complete the review process, and all participants agreed with the condition and returned the document within the stipulated timeframe. With this strategy, I confirmed the impartiality and accuracy of the study. As Houghton et al. (2013) have noted, a neutral and accurate study reflects confirmability. Confirmability refers to other researchers' abilities to confirm results by following the audit trail (Houghton et al., 2013). The following four key themes arose from the data analysis: (a) legislative impact and food safety regulations, (b) reducing economic stress and cost controls, (c) customer conduct, and (d) employee knowledge transfer.

The emerging themes all related to the business strategies followed by fast food restaurant owners from Puerto Rico complied with food safety regulations to remain sustainable. Food safety and legislative impact emerged as the first theme related to governmental responses to food safety concerns. The second emergent theme was the

economic stress of the Commonwealth of Puerto Rico, and the cost control strategies and challenges they presented to sustaining restaurant operations. The cost controls were associated with the cost drivers involved in the operation management of restaurants and the efforts to keep a profitable business. The third emergent theme involved customer behavior regarding awareness and buying decisions affecting the strategies applied to market their brands while keeping profitable operations. The fourth emergent theme was related to employee knowledge transfer issues, and how this interrelated with training aspects, including employee turnover, increasing the risk of business failure.

All emergent themes related to the main components I discussed in the literature review, including the restaurant industry in the northern region of Puerto Rico, the economic impact of foodborne illnesses, consumer responses to food safety concerns, industry responses to food safety concerns, and governmental responses to food safety concerns. Likewise, the socio-economic theory of compliance (Sutinen & Kuperan, 1999), offered the foundation for my analysis of these emergent themes. All participants explained the challenges they faced to comply with the changing business regulations while keeping sustainable business operations. The responses from all the participants supported my assumption that the population selected for the study (restaurant owners or owners performing as managers) was appropriate for investigating the business problem. Fast-food restaurant owners or owners performing as managers may provide insights into the decision-making challenges related to changing regulations and strategizing means of remaining sustainable through change.

Emergent Theme: Legislative Impact and Food Safety Regulations

In this case study, my intent was to explore business strategies fast-food restaurant owners use to comply with the food safety regulations to remain profitable and sustainable. Hence, I envisioned using Question 1, Question 2, and Question 3 to discover more about the food safety regulation and the legislative impact to their business operations. Food safety regulations allow restaurant owners to reduce FBD incidences and remain sustainable. All six (100%) of participants indicated they used food safety regulation guidelines as a strategy to avoid FBD incidences and food safety infractions to keep their business sustainable (see Table 1). Infractions listed in the Puerto Rico Food Safety Act include improper food handling, poor cooking processes, improper holding temperatures, and the absence of hygiene in employees, among numerous other violations (Arendt et al., 2014). Despite annual restaurant inspections in the United States, the CDC officials reported most foodborne illness outbreaks occur in restaurant settings (Petran et al., 2013b). Manes et al. (2013) stated that to decrease food poisoning cases, restaurant food handlers need correct knowledge of food safety codes as a starting point to obtain an ideal food safety behavior.

The responses from all participants indicated that restaurant owners might follow the NRA recommendations to protect the profit center, focus on foodborne illness prevention programs, and keep restaurant business sustainable. Using more efficient strategies in fast-food restaurants may result in safer food for customers, and may positively influence the economy and the jurisdiction of established operations (Waters et

al., 2013). The following new strategies aimed at keeping restaurants sustainable emerged from the interviews:

- Ensure the sanitary quality and safety of foods and beverages for human consumption at different stages of the food chain: acquisition, transport, reception, storage, preparation, and marketing of restaurants and related services.
- Create and follow an operational health requirements program and good handling practices to be met by restaurant owners and managers responsible and the food handlers working in the restaurants and related services.
- Observe the minimum sanitary and hygienic conditions to be met by restaurants and related services.
- Coordinate training efforts while building cooperative relations with government agencies such as the CDC, or the local or national health department.
- Join the local or national chapter of the NRA and get involved with their legislative programs division.
- Get to know how the legislative process is pertinent to health and the restaurant business. Learn how to create legislation and how it may affect the business sector or market.
- Participate in any public forum regarding regulations and new legislation affecting your business or market.

Table 1

Frequency of Participant Reference to Legislation Impact and Food Safety Regulation Strategy

Source	Number of times mentioned	Percentage
Participant 1, Question 1	2	18
Participant 2, Question 1	2	18
Participant 3, Question 1	2	18
Participant 4, Question 1	1	9
Participant 5, Question 1	2	18
Participant 6, Question 1	2	18

In Puerto Rico, as in other countries, some deficiency has existed in epidemiological surveillance of food operations. One primary concern was the absence of reliable data on the FBD (Luning et al., 2013). However, five of the six (83%) participants voiced that following the food safety regulations per the current legislation is the best warranty for compliance, but following their business standards of (a) quality, (b) cleanliness, and (c) service assures sustainable business operations. P2, P3, and P5 indicated their standards of quality and food safety are more demanding and effective than those required by the current legislation. They expressed feeling safer following their food safety measures for excellent results, thereby avoiding liabilities or legal claims for food poisoning. Food safety has become vital to the economies of all countries of the world (Lam et al., 2013). Foodborne illness affects considerable amounts of the population of developed countries each year, impacting as much as 30% of the population. Food-transmitted diseases influence health and mark a serious threat to

society, regardless of jurisdiction (Lam et al., 2013). FBD arises from poor control of land use (agriculture activity), trade, scarcity, global trade disparity, and climate change (Abusin, 2015). Hence, food safety regulations must assure food quality management (Scharff, 2015). However, P1 stated a lack of incentive programs due to economic distress has limited businesses' capabilities to comply with new food safety regulations. For Abusin (2015), managers and restaurant owners often find their hands tied by lack of resources or economic incentives when implementing operational changes in line with changes in food safety law. Nevertheless, to reduce the effect on productivity ratios and to the economy of enterprises, society must diminish potential cases of FBD (Sharifah Zannierah et al., 2012).

All six (100%) participants emphasized failing to follow food safety guidelines may be devastating for the "business branding," placing the business's sustainability at high risk. The business strategy of fast food restaurants was to operate through the consumer's eyes and concentrate on distinguishing the company policy from other categories within the restaurant industry (see Mason et al., 2013). All participants comment about the need to balance the food safety regulations compliance with meeting profit goals. Each recognized that maximizing resources and reutilizing material as overhead might have a great impact on restaurant cash flow and economic health. The ability for a fast-food restaurant to succeed reflects demographic and socioeconomic standards (Quinlan, 2013). From the perspective of new legislations, Sharifah Zannierah et al. (2012) stated, deprived of enforcement of the new legislation; the restaurant owners have little incentive to implement new modifications. Correspondingly, business owners

face exceptional challenges including economic unsteadiness and changing business regulations.

Emergent Theme: Reducing Economic Stress and Cost Drivers

Although the topic of economic stress emanates from question 3, was present in almost all the answers throughout the interview with each of the participants. Similarly, the issue associated with the element cost from an accounting or administrative point of view surfaced. Specifically, to questions 2, 4, and 6. An interesting fact is 6/6 (100%) of the participants brought to the conversation the element of the fiscal situation of Puerto Rico and how it had affected the businesses in general, including food. When the United States crossed, the threshold entering a recession in late 2007 and early 2008, followed globally in late 2008, the consequence of the economy of Puerto Rico and the government budget was devastating. Five of the six participants (83%) agreed the economic problem is at least international in nature (Table 2) since they had a direct relationship with chains of restaurants in the Continental United States. For all participants, the reduction of costs can offer restaurant owners excellent results to improve the performance of restaurant operations. The following are some strategies suggested by participants aim to keep sustainable and profitable restaurants:

- Re-think selling strategies and revenue center (from the cost control standpoint).
- Re-engineering of cost system program and cost drivers' definitions.
- Adopt specialized program aim to get the "niche" of the market.
- Reformulate the overall business operations up to date practice.

- Recycle your plastic and cardboards aim to reduce the expanse of waste sent to landfill.
- Preserve water by establishing a reference point to recognize restaurant water expense and consumption; do not just focus on the water statement.
- Reduce restaurant food waste at the origin by tracing and monitoring production level.
- Convert restaurant used fryer oil into biodiesel aim to get extra revenue.

Although cost drivers, all participants (100%) stated due to the new complexity restaurant administrators rarely stop for a moment to review financial issues, such as Profit and Loss Statements, in as systematic way. However, external forces and internal forces influence business sustainability daily. A finding that validates other studies such as Abusin (2015), business owners experiencing direct socio-economic pressures may engage in decision-making processes based on limited available resources and may result in poor quality products and services to customers.

Table 2

Frequency of Participant References to Economic Stress and Cost Drivers

Source	Number of times mentioned	Percentage
Participant 1, Questions 2, 4, 6	4	19
Participant 2, Questions 2, 4, 6	1	5
Participant 3, Questions 2, 4, 6	6	29
Participant 4, Questions 2, 4, 6	4	19
Participant 5, Questions 2, 4, 6	3	14
Participant 6, Questions 2, 4, 6	3	14

In 2009, more than 40% of customer resources covered the cost of food (NRA, 2013). P2 emphasized the need for adopting new strategies beginning with changing the way of managing restaurant cost system. According to Soieb et al. (2013), fast-food owners use financial metrics, such as control variables related to the fixed and variable cost of profit as part of their cost control system. Estimating and controlling the current cost of goods or labor during a certain period can be quite difficult. For P4 “reducing costs is not a difficult task,” but is crucial to use a cost drivers’ analysis. However, the literature revealed a vast range of business and productivity costs connected with the lack of resources to trace product quality within the restaurant industry. The lack of resources contrasts with the socio-economic theory thus resources such as time and capital are of limited nature. While those supporting the deterrence model of regulatory compliance argued the decision-making process, in either abiding by regulations or not, depended on the weighting of general benefits and penalties. Likewise, the social exchange theory (SET) applied to the identification of findings of the study. Thus, social exchange theory encompassed the notion of cost and benefited from the human behavior viewpoint (Soieb et al., 2013; Ugwu et al., 2014). Business owners compared the benefits and consequences of abiding by regulations versus the benefits of not abiding.

Emergent Theme: Customer Conduct

The third theme uncovered was the participant’s perception of customer conduct from the perspective of challenges to comply with food safety regulations while keeping sustainable business operations. The customer conduct theme prevailed with a 66% as an

emergent topic during the response to questions 3 and 7 (Table 3). Some of the key strategies provided by participants aim to keep customer holding or patronage are:

- Use new marketing strategies such as social media, networking, and business partnerships.
- Use aggressive but effective menu discounts.
- Create, or develop new customer retention programs.
- Mysterious shopper programs.
- Quality, service, and cleanliness monitoring programs.
- Create programs to measure the three quality factors (food, atmospherics, and service).
- Measure customers' perceived quality pertinent to restaurant experience.
- Embrace social impact strategies.

Customer conduct resulted as a key element in response to questions associated with the strategies follow toward to keep their business sustainable and profitable. Four of six participants (67%) mentioned the customer conduct theme on more than five occasions (19%) during their respective responses. Customer conduct is a crucial finding, thus, for Saguy and Sirotinskaya (2014) customer holding was a significant element of the fast-food industry in a progressively competitive environment. Likewise, this finding validated the statement of NRA (2013) estimated in 2009, 48% of customer budgets covered the cost of food and projected sales of \$660 billion for 2013, representing a 3.8 % rise from the previous year. For that reason, restaurant owners recognized food quality and hygiene as a decisive factor in the sustainability of the

restaurant business, validating customer perception influenced customer patronage (Saguy & Sirotinskaya, 2014).

The ASORE leaders stated strengthening customer satisfaction, and loyalty might increase the general economy within the restaurant industry of the northern region of Puerto Rico. A strengthened consumer base may improve local economies, drawing more generalized consumerism to the fast-food industry. Greater profits for the fast-food industry in Puerto Rico may trickle down to other industries building economic and social wellbeing.

Table 3

Frequency of Participant References to Customer Conduct

Source	Number of times mentioned	Percentage
Participant 1, Questions 3, 7	6	20
Participant 2, Questions 3, 7	2	7
Participant 3, Questions 3, 7	6	20
Participant 4, Questions 3, 7	6	20
Participant 5, Questions 3, 7	4	13
Participant 6, Questions 3, 7	6	20

The majority of the participants, 5/6 (83%) stated customer patronage helped them to combat economic distress in Puerto Rico. Lam et al. (2013) indicated quality, cleanliness, and service were essential attributes, enhancing customer satisfaction. This finding is crucial for restaurant profit stability. Thus, for Sharifah Zannierah et al.

(2012), restaurant owners operate their business making significant modifications in the use of resources necessary to control expenses, although focusing on the customers' loyalty and profit goals. Abusin (2015) argued how businesses experiencing direct socio-economic pressures may engage in decision-making processes based on limited available resources and may result in poor quality products and services to customers.

From a business standpoint, customer retention was crucial to commercial success (Carter & Baghurst, 2014). Owners and managers must balance the cost of customer retention and the operational effectiveness to be profitable (Wilder et al., 2014). Once again, the application of the socio-economic theory was critical in the understanding of the significance of controlling the way owners use their limited resources.

Emergent Theme: Employee Knowledge Transfer Issue

The fourth emergent theme included the participant's perception about employee knowledge transfer issue and how this interrelated with training aspects including employee turnover, increasing the risk of business failure. Mason et al. (2013) indicated training methods influenced knowledge and behavior change. Participants discussed the problem of knowledge transfer as an issue related to poor performance or food safety controls. Overall, all participants suggested a sustainable restaurant must operate with under the following training standards or guidelines or use as a resource:

- Must count with an update and comprehensive Food and Beverage Safety program.
- Face to face and online training programs capability.
- Outsourcing resources in food safety and hygiene resources.

- Continuous training programs in conjunction with federal and local health agencies.
- CDC Training and Continuing Education Online program.

Table 4

Frequency of Participant References to Employees' Knowledge Transferring Issue

Source	Number of times mentioned	Percentage
Participant 1, Questions 4, 5, 6, 7	4	29
Participant 2, Questions 4, 5, 6, 7	0	0
Participant 3, Questions 4, 5, 6, 7	4	29
Participant 4, Questions 4, 5, 6, 7	1	7
Participant 5, Questions 4, 5, 6, 7	4	29
Participant 6, Questions 4, 5, 6, 7	1	7

The results revealed 3/6 (50%) of participants emphasized knowledge transferring as a major factor to consider in foodborne prevention. Likewise, 2/6 (33%) of participants mentioned the importance of employee training but not as crucial as the issue of knowledge transferring (Table 4). Arendt et al. (2013) stated food safety training would improve business knowledge and sanitation within the operations. P1, P3, and P5 recognized their food safety training programs, the general management programs, and brand protection programs as key to succeeding in the past 20 years. Validating the literature reviewed, owners must specialize in matters of business management, cost control, budget, food sales, customer service, nutrition, hygiene processes, food planning,

food preparation, business regulations, and technology (BLS, 2012). These findings such as the emphasis on knowledge transfer contrasted with the social exchange theory (SET) involved employee perception of management and employees' level of engagement. The social exchange theory comprised the concept of cost and benefit from the human behavior perspective (Soieb et al., 2013; Ugwu et al., 2014).

Summary of Themes

The findings indicate if fast food restaurant owners focus their business strategies in the following areas (a) reliable personnel training programs, and (b) a dynamic cost management system they may be able to develop. Likewise, may sustain profitable business operations currently and variable socio-economic situation or other external factor linked legislation changes or economy distress issues. The conceptual framework for this study was the socio-economic theory. The socio-economic theory of compliance, developed by Sutinen and Kuperan (1999) provided business leaders may lack the capacity to abide by regulations because of extenuating circumstances relating to socio-economic conditions. The socio-economic theory was the tool to understand, identify, and expose the strategies restaurant owners could use to comply with food safety legislation and sustain profitable business operations. Sutinen and Kuperan stated the socio-economic theory has three basic tenets: (a) a business owner engages in legal activities when the risks of engaging in unlawful activities are greater than the benefits of acting legally, (b) a business owner engages in unlawful behavior if the perils of the illegal act are nominal and the possible gains of the illegal act are significant, and (c) the socio-economic conditions experienced by the business owners are such acting

unlawfully may be the only means of sustaining the business. Restaurant owners participated in this study, clearly shared their recommendations aim to keep sustainable operations while complying with legislations and regulations regardless of economic distress. Sutinen and Kuperan emphasized the need to explore other antecedents distressing a business' capacity to respond to regulatory changes to be compliant. Thus, low socio-economic conditions may carriage a significant challenge for restaurant owners who engage in legal activities to sustain the profitable business. Sutinen and Kuperan indicated sustained business owners make decisions to comply based on cost versus benefit. For reason, this study uncovered four key themes from participants' responses: (a) legislative impact and food safety regulations, (b) reducing economic stress and cost controls, (c) customer conduct, and (d) employee knowledge transfer. Understanding the emerging themes represent significant business strategies to follow by fast food restaurant owners from Puerto Rico to comply with the food safety regulations while remaining sustainable.

Applications to Professional Practice

The purpose of this qualitative multiple case study was to explore business strategies fast-food restaurant owners used to comply with the food safety regulations to remain sustainable. Participants were fast-food restaurant owners from six fast-food restaurants from three restaurant chains in the northern region of Puerto Rico. The findings encompassed participants' comments and recommendations, analysis of the data, and explanations of the outcomes of the study. Findings are (a) the legislative impact and food safety regulations, (b) reducing economic stress and cost controls, (c) customer

conduct, and (d) employee knowledge transfer. All of them pertinent to restaurant owners' strategies to remain sustainable and profitable while complying with the industry legislation and market regulations in Puerto Rico. The outcome of this study could contribute to restaurant owners' knowledge to deal with economic distress while improving their business operations. From the professional practice perspective, this study comprises the potential of restaurant owners to collaborate with the industry stakeholders to improve their restaurant's operations and financial status. Likewise, this study contributes to aspects related to current business and future operators in the Restaurant Industry in the northern region of Puerto Rico. The legislative impact and food safety regulations, reducing economic stress and cost controls, customer conduct, and employee knowledge transfer are findings may guide restaurant owners to achieve new profit goals or improve their current operations.

Reducing economic stress and cost controls may influence restaurants current strategies or business thinking. The responsibilities involved in restaurant management require previous food service experience and cost controls. Legislators suggest 1 to 5 years of experience for training program success. Hence, restaurant owners usually promote experienced food service workers to management fast-food restaurant positions (BLS, 2012). Still, an upward number of manager positions require formal education in business, hospitality, or restaurant management programs. Even though the most food service managers possess less than four years of college, the market demand for post-secondary educational requirements increased for manager positions (BLS, 2013). The fast-food industry recruits' management trainees from college hospitality or with

previous internship experience or education from food service management programs, and business profit management. Restaurant owners may reinforce their business by improving areas such as business management, cost control, budget, food sales, customer service, nutrition, hygiene processes, food planning, food preparation, business regulations, and technology (BLS, 2012).

Customer conduct may stimulate customer retention strategies. In the United States including Puerto Rico (Territory), customers spend approximately 50 cents of every dollar of food purchases in restaurants (Hwang, 2013). In the first three months of 2015, restaurant sales totaled over \$150 billion on a seasonally-adjusted basis (NRA, 2015). Also, sales represented \$2 billion more than the previous fourth quarter's sales of approximately \$148 billion. Also, it represented the first time on record eating and drinking sales reached the \$150 billion level in a quarter. The NRA projected to reach a record high of \$683.4 billion in 2014 (NRA, 2015).

Employee knowledge transfer may significantly reduce the employee jobs turnover cost with the adequate implementation. In Puerto Rico, the OSL (2015) reported local consumers, in 2012 spent approximately \$9.2 billion in the food and beverage sector. The fast-food restaurants and food service restaurant managers held approximately 320,600 jobs in 2010, with a projected decrease of 3% of the employment of food service managers from 2010 to 2020 (BLS, 2012). The median wage of fast-food restaurant managers was \$48,130 per year, \$23.14 per hour in the United States (BLS, 2013).

From the viewpoint of the legislative impact and food safety regulations, food safety, productivity, and illness cost effect food finding may help restaurant owners and restaurant industry stakeholders implementing strategies may significantly reduce medical costs and loss of productivity resulting from pathogens foodborne (BLS). Around 1.3 million cases of salmonellosis as well as approximately 38.6 million foodborne illnesses (Strohbehn et al., 2013). The primary cause of these foodborne occurrences relates to user food handling and hygiene practices (Strohbehn et al., 2013). Besides the household or private residence, restaurants were the primary source of foodborne illnesses (Strohbehn et al., 2013).

Implications for Social Change

In restaurants, the first 3 months of 2015, eating place sales totaled over \$150 billion, on a seasonally-adjusted basis (NRA, 2015). The BLS (2013) reported Puerto Rico consumers in 2012 spent approximately \$9.2 billion in the food and beverage sector. Likewise, for the northern region of Puerto Rico economy, the growing gastronomic tourism industry is a vital fiscal sector, requiring a reliable system to monitor each establishment providing food services (OSL, 2015). However, although the population and number of restaurants have increased, resources for the Department of Health of the Commonwealth of Puerto Rico, responsible for conducting inspections, have decreased (OSL, 2015). A lack of inspections create extra pressure on the restaurant industry in Puerto Rico. Considering, approximately 1 in 6 Americans (or 48 million people) becomes sick, 128,000 gain treatment in hospitals, and 3,000 die, due to foodborne related diseases each year (Logan, 2012; CDC, 2014). Foodborne disease (FBD) has

approximately \$55.5 billion in economic cost. Food illnesses also have a direct impact to public health, social, and business sectors (Arnade et al., 2013; Munjal & Sharma, 2012). Reducing the risk of foodborne illness transmission in restaurants remains a significant economic problem, public health issue, and restaurant management challenge (Petran et al., 2013a).

Contributions to social change from this study may include establishing better food service practices leading to healthier food consumption for those who dine in restaurants. Strengthening customer contentment and loyalty might upsurge the general economy within the restaurant industry of northern region of Puerto Rico (ASORE, 2012). A strengthened consumer base may increase local economies, drawing more widespread consumerism to the fast-food industry. Greater profits for the fast-food industry in Puerto Rico may influence other industries building economic and social wellbeing. The implications for social change related to the doctoral study could comprise great opportunities of benefit for all stakeholders in the topic, such as the potential for restaurant owners to share the food safety strategies used to comply with the legislation to protect public health while keeping sustainable operations. Overall, the study findings, may add to social change by stimulating Puerto Rico's fast-food restaurant stakeholders, for example such as: (a) customers, (b) employees, (c) lawmakers, (d) mayors, (e) suppliers, (f) financial sector, (g) public health officials, and (h) business leaders.

Recommendations for Action

The purpose of this qualitative multiple case study was to explore business strategies fast-food restaurant owners use to comply with the food safety regulations to remain sustainable. The northern region of Puerto Rico relies on the economic state of the food industry to offer a breadth of offerings, and quality goods and services (ASORE, 2012). Puerto Rico, a Commonwealth of the United States, is one major employer in the United States. The general business problem explored was under the premise that some fast-food restaurant owners were not complying with food safety regulations and failing to meet legislative requirements, would lead to a lack of business sustainability.

Likewise, the specific business problem I investigated related to the premise some fast-food restaurant owners lack business strategies to comply with the food safety regulations to remain sustainable. The combination of themes resulting from the research led to the recommended actions that Puerto Rican fast food restaurant owners should improve business strategies to comply with the food safety regulations to remain sustainable.

The recommendations from this study may have significant business and social impact to the financial health of other industries; thus, the restaurant industry contributes to the economy of the United States, employing millions of individuals. I recommend the application of the study findings may offer restaurant owners additional business strategies to promote sustainable operations, profitable business, and safe food services. Also, organizations such as ASORE may utilize these recommendations to adjust or improve services provided to their associates and members. ASORE have supportive programs such as (a) Industry Representation, (b) Legislative and Labor Information, (c)

Educational Activities, or (d) Member Information Support. The four key themes arose from the data analysis: (a) legislative impact and food safety regulations, (b) reducing economic stress and cost controls, (c) customer conduct, and (d) employee knowledge transfer are all key for developing new strategies to comply with food safety regulations to remain sustainable. I will afford all participants with a copy of an overview of themes and findings. As soon as the study is approved, I will notify all participants the complete doctoral study is accessible to them if they want a copy to read and share with stakeholders. I will promote the networking discussion as Adviser and Ambassador of the Puerto Rican Hispanic Chamber of Commerce of West Palm Beach. I will use my position as Collaborator of the Hispanic E-Commerce, and as the CEO of the America Sustainability Educational Alliance, Inc. [ASEAINC], to share findings. Will use my business relations with WordPress, Research Gate, and United Nations Foundation to divulge relevant findings through all electronic media and social media access. I will be able to communicate the findings through the structure of these and other community, public, and non-profit organizations. The outcome of the study may apply to restaurant business owners from other regions of Puerto Rico, as well as for any jurisdiction in the United States, and any stakeholder worldwide. Finally, as a university professor, I will recommend students pay attention and read the findings as an application of findings throughout my participation as invited speaker to international forums, in Latin America, Amsterdam, Europe, and Ottawa, Canada. The intent is to share the best practices and strategies aim to contribute to the industry worldwide.

Recommendations for Further Research

The purpose of this qualitative multiple case study was to explore business strategies fast-food restaurant owners use to comply with the food safety regulations to remain sustainable. The outcome of the study provided some strategies restaurant owners used were reducing economic stress and cost controls, customer conduct, and employee knowledge transfer aimed to keep sustainable and profitable restaurant operations. I used a case study as the research design, with semistructured face-to-face interviews with six restaurant owners and owners performing as managers, I reached data saturation when no other new information emerged after performing continuous interviews. Miles (2013) described case study approach as the right design for exploration of phenomena within the context of job responsibilities and using an interview technique. However, my study has two limitations to consider for further research (a) results may not be transferable to other businesses or industries, and (b) a researcher may enhance participant honesty by providing the freedom to answer any or all questions; however, this did not ensure honesty. Limitations are elements of the study beyond the control of the researcher (Marshall & Rossman, 2015). Recommendations for further study comprise developing a set of questions adapted to a different business market or industry, even if exploring similar themes such as legislative and regulation impact in a specific industry such as, but not limited to, the retail industry. The same recommendation applies to themes such as reducing economic stress and cost controls, customer conduct, and employee knowledge transfer. As for the honesty in responses, it is a matter beyond the control of the investigator. Leading to quantitative or mixed methods research might lessen the

potential dishonesty element from the exploration or examination. Similarly, this research strategy may also bring a different outlook to the strategies restaurant owners use to comply with food safety legislation and keep a sustainable business. Another recommendation for further studies involve different geographical region with a bigger sample of participants or integrating another level of participants such as restaurant staff, like managers (not owners) and sub-managers.

Reflections

My vision of life changes as I begin my journey into the world of graduate study. When I decided to do the exploration about legislation, sustainability, and the fast food business, I faced a great challenge. For in all these features I had professional and work experience, and great passion. However, I have no previous association with anybody selected for interviews, mitigating any potential relationship bias. I minimized interviewer bias by not influencing the data collection process through any preconceptions about the topic. During the conduct of this doctoral qualitative exploratory case study, I kept using formal instruction and discipline in following the established protocols, and by IRB guidelines could overcome all bias visions on the subject. These guidelines served as a sound conceptual framework, as a personal lens, aligning the context of the study while collecting data to reduce bias (Yin, 2014). The principles or guidelines established by the IRB include boundaries among practice and research, basic ethical values, and applications (Adams & Miles, 2013). Similarly, I used the triangulation by conducting at least six interviews with fast-food restaurant owners, reviewed all physical artifacts, assessed the data collected, and then reach the point of

saturation after monitoring the continual flow of new information. When data collection failed to produce new information, I stopped the interview process. Within the method, triangulation applies to the collection of data from multiple sources such as interviews and physical artifacts, such as websites, signage, and bulletins (Park & Park, 2016; Singh, 2015). Objectivity became my best working tool. Conversely, there was a latent interest in social impact and all that this implies. Positive social change to people and communities may result from strategies to comply with food safety regulations. As well, restaurant owners focusing on safety regulation compliance may provide a better customer experience. Consequently, research on the topic, how fast food restaurant owners could meet food safety legislation, and at the same time maintain sustainable operations was my inspiration. I decided to interview restaurant owners with a successful track record in San Juan, Puerto Rico, which comprises much of the northern region of Puerto Rico to ensure the most accurate business information and high-level strategies.

Undoubtedly, it has been a great experience because it has offered me a new vision of academic life because I offer myself new opportunities to interview great connoisseurs of the food and restaurant industry of Puerto Rico. All of them, people of work and result, who, over the years, and in some cases decades, have managed not only to keep their businesses, but most of the participants have developed successful franchises throughout the Island. Monitoring of the research protocol, allowed me to obtain vast and precise information. Through the emerging issues, I could expand and update my knowledge in the fast food restaurant business. I am now more prepared to contribute to the restaurant industry, the legislative branch, government agencies,

organizations and trade unions with interests in this important industry. The fast food restaurant business represents a source of employment, food security, and therefore, a sector of significant social and economic impact for Puerto Rico. The study findings may add to social change by stimulating Puerto Rico lawmakers and fast-food restaurant stakeholders to protect public health and remain sustainable.

Conclusion

The purpose of this qualitative multiple case study was to explore business strategies fast-food restaurant owners comply with the food safety regulations to remain sustainable. I triangulated three sources of information; Yin (2014) suggested interviews, documents, and physical artifacts, such as websites, signage, and bulletins, as suitable sources for triangulation. To collect the data, I used a semistructured interview technique, using open-ended questions (see Appendix A), and a set of artifacts such as company websites, signage, bulletins, and financial statements such as monthly cash flows and income statements. Likewise, I recognized the trust deposited and interested in the study as some of the participants entrusted me, documents associated with their Standard Operational Procedures (SOP). These documents were designed to measure, among other things, effectiveness, quality of service, product quality, and cleanliness and hygiene considerations. Like, manuals of training of production staff and management personnel. I conducted member checking by providing each participant with their contribution from the interview and have them review the content of the contribution for accuracy. Member checking is a technique for verifying the information collected by participants (Marshall & Rossman, 2015). Yin stated the sample size is not as critical as

saturation is in ensuring a case study approach gains enough perspective to begin to analyze data and make inferences. I stopped the interview process just when the collection of new data provided no new information. After I had recorded the interviews and member checked for accuracy, I transcribed, coded, and developed themes. The themes encapsulated the guiding conceptual framework, central research question, and all forms of data collected. After this process, four key themes emerged: (a) legislative impact and food safety regulations, (b) reducing economic stress and cost controls, (c) customer conduct, and (d) employee knowledge transfer. I associated each emergent theme with the literature review, the prevailing database of knowledge and socio-economic theory. The study findings indicated restaurants owners might use (a) reducing economic stress, (b) cost controls, customer conduct, and (c) employee knowledge transfer aim to keep sustainable and profitable restaurant operations while complying with food safety regulations.

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Appendix A: Interview Protocol and Questions

Interview: Fast-food Safety and the Fast-Food Industry of northern region of Puerto Rico

- a. The face-to-face interview will begin with introductions and an overview of the purpose of the study.
- b. I will start by thanking them for their time and confirming their agreement to participate in the interview for the study.
- c. I will explain the interview is recorded and the interview is confidential.
- d. I will start the recording and state participant's identification including date and time of interview.
- e. The interview will last approximately 45-minutes to an hour to obtain responses to interview questions.
- f. I will let the participants know I will reach out to them by e-mail within 5 business days to conduct member checking.
- g. I will contact the participants by e-mail with transcribed data, and request to verify the accuracy of collected information within 5 business days.

I will conclude the interview by thanking them for participating in the study.

Interview Questions

To answer the central research question, I will ask participants the following seven questions:

1. What strategies have you used to comply with the food safety regulations?
2. What type of food safety strategies have you implemented to remain sustainable?

3. What challenges or barriers to strategy implementation impact you?
4. How has the implementation of strategies to comply impacted management?
5. How has the implementation of strategies to comply impacted employees?
6. What potential consequences have you experienced as a result of implementing strategies to align with compliance issues?
7. What additional information can you provide to help me understand issues related to compliance with food safety regulations?