ANALYSIS OF FOOD SAFETY STUDIES CONDUCTED IN THE UNIVERSITY OF MINDANAO DAVAO CITY



An Undergraduate Thesis Presented to the Faculty of
The College of Hospitality Education
University of Mindanao
Davao City

In Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Hotel and Restaurant Management

By:

ERLENE, OMANI
HASHIM HUSEIN, AMIL
STEPHANIE, MAGAYON

March 2018

APPROVAL SHEET

This business research entitled "ANALYSIS OF FOOD SAFETY STUDIES CONDUCTED IN THE UNIVERSITY OF MINDANAO DAVAO CITY" prepared and submitted by ERLENE OMANI, HASHIM HUSEIN, AMIL, and STEPHANIE MAGAYON, in partial fulfillment of the requirements for the degree of Bachelor of Science in Hotel and Restaurant Management, has been examined and is hereby recommended for acceptance and approval.

DINDO D. SILUD, MSHRM

APPROVED by the Committee on Oral Examination with the grade of -

ARA MAE T. CUISON, MSFS Chairperson

FLORENCE M. KRISTINA JIMENEZ, MSHRM HAZEL PRINCESS M. REBOLLO, PhD Member

ACCEPTED in partial fulfillment of the required for the degree Bachelor of Science in Hotel and Restaurant Management.

GYPSY MAE B. CASURAO, MBA
Dean of College of Hospitality Education

Acknowledgment

The researchers would like to take this opportunity to gratefully acknowledge the inspiration behind our success.

Firstly, I want to offer this endeavor to our Lord Jesus, the author and finisher of all things for giving us the wisdom, knowledge, peace of mind, the strength and good health, patience, and perseverance during the conduct of this study. We would like to express our gratitude towards our family, Auntie Melinda Omani mother of erlene, and the parents of both researchers for the encouragement which help us in the completion of this paper.

To our adviser Prof. Dindo Silud, MSHRM for his thoughtfulness, kindness, and assistance for sharing his expertise from the beginning up to the end.

To our panel members ma'am Florence Kristina Jimenez, MSHRM, Dr. Hazel Princess Rebollo, PhD, Ara Mae T. Cuison, MSFS, thank you for helping us in finishing this paper.

Lastly, to my alma mater, the University of Mindanao for its pursuit of excellence, to all the panels who become part of this paper thank you.

Lovely Steph Amil

Abstract

The primary purpose of the study is to analyze the scope of the studies conducted at the University of Mindanao Davao City. The study used qualitative study and the respondents are the done studies on food safety in the University. Which focuses on personal hygiene, food preparation, food storage, the doneness of the food, sanitation practices. The researchers recommended that city government can contribute in making the practices known to the people by conducting seminars related to the said practices, city government must be strict with the compliance of permits to operate food service so that operators and employees will really comply the said practices for the people's sake. On the other hand, the researchers also recommended to DOH and BFAD to help local people in conducting a seminar, training for them to be aware of the proper handling of food and proper preparation of food. Through these, everyone will be able to partake in preserving the health of the people in the community and customers.

Keyword: Food Safety, Personal Hygiene, Food Preparation, Food Storage, Doneness of Food, Sanitation Practices, DOH, BFAD.

TABLE OF CONTENTS

TITLE PAGE		
APPROVAL SHEETS	II	
ACKNOWLEDGEMENT	III	
ABSTRACT	IV	
APPROVAL SHEETS ACKNOWLEDGEMENT ABSTRACT LIST OF TABLES Chapter 1 THE PROBLEMS AND ITS SETTING A. Background of the study B. Statement of the Problem C. Theoretical Framework D. Significance of the study E. Definition of Terms 2 REVIEW RELATED LITERATURE 3 METHODS A. Research Design B. Research Instrument C. Data Gathering procedure 4 TABLE AND INTERPRETATION OF THE DATA A. Presentation of Inventory of Researches B. Interpretation of Findings		
Chapter		
1 THE PROBLEMS AND ITS SETTING	1	
A. Background of the study	1	
B. Statement of the Problem	2	
C. Theoretical Framework	2	
D. Significance of the study	3	
E. Definition of Terms	4	
2 REVIEW RELATED LITERATURE	6	
	19	
B. Research Instrument	19	
C. Data Gathering procedure	19	
4 TABLE AND INTERPRETATION OF THE DATA	21	
A. Presentation of Inventory of Researches	21	
B. Interpretation of Findings	21	
5 SUMMARY, CONCLUSION AND RECOMMENDATIONS	28	
A. Summary	28	
B. Conclusion	29	

C. Recommendations	29
REFERENCES	
APPENDICES	
A. Letter of Appointment to the Adviser	37
B. Endorsement for Outline Defense	38
C. Letter of Permissions	39
D. Endorsement for Final Defense	40
E. Turnitin Originality Report	41
F. Grammarly Report	42
CURRICULUM VITAE	

CHAPTER 1

THE PROBLEMS AND IT'S SETTING

Background of the study

Food safety is the criteria of which the food you are eaten every day is good and safe to your body (*Vernile*, *2015*). In Vietnam, 26 tourists were hospitalized due to foodborne illness after eating in a restaurant. The government found out that fifty of the three million business committed food safety violation (Doan, 2017). According to Hung et al. (2017), one key issue of food safety in Vietnam's food industry is the lack of food safety ethics that result to adverse health problems killing around 164 people in 2017.

In Korea, consumer concerns on their traditional food (*Kimchi*) is increasing. It is suggested that more national risk analysis experts and related database are needed, manufacturing processes of conventional food need to be standardized and harmonized with international standards Lee et al., (2012). According to Prakash (2014), food safety regulation needs to be implemented in all types of food produced, processed and sold so that we can be assured that it is not harmful to the customer. Base from the Indian perspective, global harmonization of food regulations is required to improve food and nutrition security, the food trade and delivery of safe always ready-to-eat (RTE) foods. In the Philippines, common problems in food manufacturing companies are lack of management commitment, hygiene practices, awareness and expertise, proper mindset and behavioral outlook, limited financial and lack of government infrastructure and support according to Karen et al. (2015). Presented in their study, 90% of food manufacturing companies in Philippines financial assets,

small scale food companies cannot afford to hire multiple personnel needed in upgrading production and food safety system.

In Davao City, CITY Health Office (CHO) is coordinating with city council to amend the Food Safety Ordinance to include more requirements for food handlers. Due to the incident that happened in Caraga 2,000 children's being poisoned by durian and mangosteen candies reported coming from Davao City. Thus, the mayor's office and the CHO requires food handlers to have Health card and seminars for them to continue the operation (Ocampo, 2015).

Because of these, researchers felt the need to evaluate the studies about food safety practices to realize the differences and improvements of the related researches as the years go by. Also, to help food service establishment for the decision making to implement the food safety Practices effectively.

Statement of the Problem

This study aims to determine the different food safety practices among food service establishment by evaluating food safety studies. Specifically, it will seek to answer the specific problem:

- 1. What is the scope of the studies conducted about food safety from S.Y.
 2010- 2018?
 - 2. What are other areas that need further research about food safety?

Theoretical Framework

In analyzing the data of this paper, this research made use of the theory of (Onyeneho, Sylvester and Hedberg, Craig 2013), which stated that the personal hygiene, temperature control and food handling are the control

measurement for food safety hazard, if the above mentions are being practiced in the food establishment by the food practitioner then, the customer will be assured that the food they intake and purchase is totally safe (*Vernile, et al. 2015*). Also, according to (Onyeneho& Craig 2013), lack of knowledge about food safety by the food handlers and food industry operators will lead to increased risk to the customers in the industry.

This paper, on the other hand, focused on the evaluation of food safety practices studies that are related to the safeness of the food that is being served in many establishments, this will help to ensure that consumers are safe to purchase the food in the foodservice industry.

The significance of the study

The study is beneficial to the following:

Food Service. Food Service may be able to utilize the outcome of the study, most especially, when it comes to maintaining the food safety practices in the operation. It can help the service and guest satisfaction to be effective and efficient.

Food Service Establishment Owners/ Manager. The result of the study may awaken or enlighten the management regarding the harmful effect of not practicing and maintaining food safety practices, and it can affect guest satisfaction. It could also aid them in implementing new strategies in maintaining their establishment safe and clean.

Employees. The result of this study may help food service workers on how to maintain hygienic in their workplace and how they can help the

establishment in ensuring that the food they served to the customer is clean and safe.

Future researchers. The Future researchers may gain insights that would support their further studies; they can use this study as their secondary source of data with their future related research and reveal the importance of maintaining the food safety practices in the food service establishment.

Definition of Terms

To fully understand the terminologies used in this research, the following terms are defined:

Food Safety Practices. Conceptually, food safety practices are the criteria of which the food you are eaten every day is good to your body (*Vernile et al. 2015*). To ensuring that the workplace of food handlers is clean, so it will not contribute hazard to the being prepared, (Reeve, 2014). Also, according to (Merriam Webster's Dictionary), sanitation is promoting hygiene and prevention of disease by maintaining the sanitary practices. Operationally, food safety is the measurement that the food is healthy to be consumed.

Food Service Establishment. Conceptually, it is a place where food is provided for individual portion service directly to the customer, whether the food is provided free of charge or sold, and whether the food is consumed on or off the premises (Department of Health and Mental Hygiene, 2017). Operationally, it is the place who offer tangible and intangible service, food satisfaction to the customer.

Davao City. Conceptually, it is the largest city located on the island of Mindanao in the Philippines and now as the most progressive cities. Operationally, it is the place where the respondents or the gathered data are located or the site of the study.

CHAPTER 2

Review of Related Literature

Presented in this section are the literature gathered from books, journal, and the internet. This information gathered to support sustainable food safety and service practices in fast food restaurant perceived by Davaoeños conducted by the researchers.

"Food" is considered as basic human needs without food human can't survive. Therefore, food products should be evaluated for safety and sanitation, impact on the environment, which may affect human society. As a result, it is essential to make sure that the food, the intake is healthy, (Anonymous 2014; Annigan 2014; *Vittorio et al., 2017*). Also, customers perception of food quality is based on many criteria: presentation of the food, food freshness, temperature, and hygiene, portioning, safety (Esena, & Owusu 2013; *Chouet al, 2016*).

Food safety test identified substantial, significant gaps regarding correct temperatures of cooking and storing foods (*Allerberger, 2014*). Furthermore, (Abdul-Muntilab, 2012), food safety knowledge of trained food handlers certified under the FOODSAFE training program in British to Columbia in the fast food restaurants to evaluate food safety knowledge, attitudes and self-reported handwashing practices in trained and untrained food handler groups, (*Kosatsky, 2013, Abdullah, 2014*). In addition, (Ansari-lari, et al 2010), food safety knowledge and education level length of employment by the workers in fast food restaurant was evaluated it shows that 63% of them has limited experience, and 79% are well-informed about hygiene practices, lastly, 33.9%

of persons knew of correct time-temperature control measures it reveals that employees lack strength between education level and food safety knowledge (*Azevedo, Stamford 2009, Morancie, 2015*). Therefore, to improve food safety knowledge, human resource attention should be given to the planning, implementation, monitoring, and evaluating food safety education programs for the workers (Biological Hazards 2011, *Cavalli, 2012*).

According to (*Fallon, 2014*), the customer's perception of Chinese fast food restaurant food safety precaution, service quality and its relationship with customer satisfaction, (Byrd-Bredbenner, et al, 2007) their study revealed that food safety variables have a positive influence on customer satisfaction except for reliability dimension, provided a useful tool on how to sustain the food safety improvement in Chinese fast food (Cargill, 2016). Also, (Bailey et al., 2011, *Henroid, 2012*), training employees on food safety practices have become one of the most significant programs that food service establishments that should be implemented to sustain the safety of foods in the fast food restaurant (*Yan, 2012*).

According to (Rovira, 2013), food service establishments among fast-food restaurants operate under limited technological and organizational circumstances, making them susceptible to food safety problems as reported frequently. Moreover, (Daniels, 2017) said sustainable food safety is essential to any business in the foodservice industry, sustainable food safety must be followed to ensure that customers consume food that is safe to be intake.

According to (Welson& Garcia, 2011), study suggested that if business will exert some effort and changes to start sustainable practices in each area

especially in food service like health care food service department, therefore, food service employees, operators can make a significant difference by supporting and adopting environmental and friendly practices (Mudey, et al, 2010; Baranowski, et al 2012). Moreover, according to *Mantzoros, (2015)* customers are not focus on how safety the food they intake most especially if they are hungry, all they mind is food anything that can satisfy their hungriness but according to the study of Mantzoros food chain and restaurant, cafe is exerting some efforts to sustain the food they serve to make sure that they serve safe, (Havelaar, et al 2013; Food Agriculture Organization, 2015).

According to (*Vu et al. 2017*) establishing a strong human resource through employment practices and working environment will create a significant impact on food service providers to enhance social sustainable performance. Furthermore, (Mahami, Odonkor, 2012; *Uyttendaele et al. 2015*) food safety in the fast food chain is being challenged nowadays by the global dimensions of food supply chains. According to *Jiao*, *et al.* (2015) the risk of stroke has been increasing due to fast food restaurant consumption.

According to (*Paez& Ortiz, 2011; Kibret&Abera, 2012*) employees also should be educated in handling the study shows that most of the food handlers don't apprehend the importance of correct handling of foods, to earned profit is enough for them (Monney et al. 2013). In other words, Lack of infrastructure, poor knowledge of hygiene and practices in food service institutions will contribute to outbreaks of foodborne diseases, and the aims of being sustainable are no longer present. Food handlers need to know the three factors affecting foodborne contamination this is subsequent; namely Poor

personal hygiene, Cross contamination, Time/temperature control (Ismail et al., 2016).

Those mentioned above are the result if the handles of food are not highly informed about the food safety practices that need to be done in operation. Furthermore, in Africa, foodborne illness outbreaks are often ascribed because of poor personal hygiene of food handlers in food institutions (*Food safety news 2015; Adeline, et al. 2018*). In addition, customers deserved to be served safe food because without them there is no business can survive, by this food handlers should practice wisely and be educated enough on what they are doing in the business not just to earned money but also to help others (McMahon, 2013; Manitoba 2015; Daniels, 2017).

Furthermore, according to (Mullen et al. 2012, Lauer & Cohenour 2014) those business establishment who simply use, rather than produce, food cannot deny their responsibilities to maintain food safety by simply pointing to the food suppliers. The following can be nourished from the food the is not in good condition namely; Pathogens, bacteria, decomposed matter, and filth from one product can infect another through direct contact, human contact, or contaminated surfaces, (Nyenje et al. 2012, Schmidt, 2013). Therefore, appropriate stockroom location, temperature monitoring and the adequate disposal of hazardous materials need to be the focus in each establishment and make people safe from many diseases (Jackson et al., 2005; Shabani et al. 2016). As a result (Aaron & Michael, 2014, Wallace, (2016) says that establishment should have this element of food safety practices namely; HACCP, GFSI, and SQF the following are the qualification of the food industry to become a safety in preparing and serving food to the guest. Consumer's

education is a useful tool in preventing food-related diseases like diabetes, obesity, and food-borne outbreaks (Traversa et al. 2017).

According to, *Vernile et al.* (2015) food safety is important in the industry of food service, nowadays consumers focus on purchasing products that are in good quality can also satisfy their needs. Also, sustainable practices need food safety as one of the measurement, as stated by *Vernile et al.* 2015). The freshness of the food has a major role in achieving food quality in the quick-service restaurant industry (*Beaty et al.* 2014). Another aspect that will affect the purchasing intention of the costumers about the food quality is the conducive ambiance of the establishment (*Shaharudin et al.* 2011).

According to (*Shabani et al. 2016*), mentioned that another threat to the industry of food is managing the food waste, in which many of restaurant establishment focus on food quality but forget the importance of managing food waste. Furthermore, according to (Alcorn, 2009) that, the waste that restaurants produce includes: food waste, paper & paperboard, plastics, metals, and glass is needed to be kept away from the area of food. According to (*Chou et al., 2016*), putting recyclable garbage bin in each restaurant according to their study can contribute a lot in practicing sanitation by this, people will be informed where to put their garbage. In addition, (*Shaharudin, et al, 2011*) said that, in order to achieve food presentation quality, it is recommended that the cleanliness of the place and equipment's needed to be the highest priority, cleanliness should be done on a regularly so that the food could be served in a clean and hygienic environment.

Moreover, Alison (2014) stressed that food safety and sanitation need proper food preparation and food choices because of improper food preparation and poor food choices. Using additives food to make food smell, taste or look more pleasing can bring threat to the industry and our industry today is aiming to be sustainable enough, and this thing should be avoided as stated by (*Mansor et al., 2011*). Also, food safety is also a costumer's important elements in choosing a restaurant to dine with, *Marković, et al. (2011)*. Therefore, it is essential to understand consumers' perceptions of food safety to meet the standard of the consumer.

Good Personal Hygiene is one of the important practices that need to be considered in food industry good personal hygiene promotes good health (Kibret, Abera 2012; Wallace, 2016). According to (*Adene et al. 2018*) foodborne illness outbreaks are often ascribed because of poor personal hygiene of food handlers in food institutions (Raphael 2013; Tesserna, Gelaye 2014; Philstar 2016). Also, food handler has been associated with causing foodborne illnesses in the food industry, (Ismail et al., 2016). Foodborne illness risk factors specify that most outbreaks in food service establishments can be attributed to food workers' improper food preparation practices Ismail, et al. (2016). According to (Morancie& Webb, 2015) in India, the rates of foodborne diseases is increasing due to missing preparation of food and poor hygiene of the food handlers (Ifeadike, Ironkwe, 2014). According to Ismail et al. (2016), the cause of foodborne illness is the attribute of food workers' improper food preparation practices.

According to (Czarniecka-Skubina, Skwierczyński, 2012, Aamisalo, 2014) most of the kitchen workers in the food industry involves direct contact

with the food. Therefore, the fulfillment of personal hygiene requirements in each worker should be the highest priority. According to (Ismail et al., 2016) the risk of food contamination depends on the level of cleanliness of the food handlers through hands personal hygiene, knowledge, and practices of food hygiene it is essential that people touching food is properly clean and hygienic (Khan, 2014). Also, Poor personal hygiene by the food handlers can be the main factor for the contamination of food they caused by salmonella microorganism, and we all know that one of the most critical bacteria is the salmonella (Muhammad et al., 2016).

According to (Morancie& Webb, 2015) Drinking and smoking are strictly not allowed in any food preparation or food service area. The employee with open cuts, sores, or wounds is strictly not allowed to prepare food and render service to the customer. According to, (Ismail et al., 2016) If the employee will be injured or cut during food preparation or rendering a service, the employee should stop working immediately and covered the wound to prevent bacteria from contaminating the food. According to (Djekic et al., 2014) food establishment needs regular inspection by the local authorities to check the compliance of the practices like food hygiene and food safety requirements most especially in the stage of food preparation to prevent food contamination.

According to (Abushelaibi et al., 2016; Hogg and Otero, 2012) poor personal hygiene of food workers is the crucial factor of spreading food-borne illnesses in the service industry. Also, to minimize the chance of foodborne disease occurrences, educating workers who have direct contact with food because it is crucial, it involves with the workers who prepare, process and serving the food (Abushelaibi et al., 2016).

Furthermore, (Wallace 2016) bad personal hygiene can cause the number of illnesses such as meningitis, septicemia, neurological conditions and hepatitis to the customers Abushelaibi, (2012). Moreover, failures in complying personal hygiene practices can result in adapting pathogenic microorganism, and this will be the most crucial part of food contamination (Pagotto et al., 2018).

Moreover, (Cargill 2016) personal hygiene involves hand hygiene, and it plays an important role in controlling bacteria to the food, and it also controls bacteria from spreading infectious diseases to the customer (Afifi, Abushelaibi 2012). Also, Infections can be acquired through food handlers by unwashed fingers, transmission of microorganism between food handler and customer when making payment (Ismail et al., 2016). In Ghana and Africa record on diarrhea, diseases are going higher due to contamination and unhygienic food preparation, and it leads to the death of in low-income countries (Dun-Dery, Addo 2016). According to (Afifi, Abushelaibi 2012) proper training and education of the food workers are necessary. Food Temperature has been identified as one of the components of food safety and the quality of food (Troutner et al., 2012).

Furthermore, controlling bacteria from spreading usually start from proper preparation of food, cooking, adequate storage of food and drinks and personal hygiene by the workers (Warren, 2014; Dun-Dery, Addo 2016). According to (Adebowale, Kassim, 2017) temperature start from thawing frozen foods; it should be at room temperature or on the counter increases the possibility of bacterial contamination, growth, and food poisoning. If thawing frozen food and the temperature is not balanced and its lower than the normal temperature the food is at risk, as stated by (Guillien, et a, 2017). According to

Garayoa, et al. (2014) Food that is processed by heat requires the center of the product to reach 70 °C and meals that are daily prepared be served at a minimum holding time.

Furthermore, inputting perishable food products in refrigerators also need proper storing; each product has different requirements of perishable food product categories according to Mercier et al. (2016). Moreover, Troutner et al. (2012) they studied the temperature of hot and cold food through serving and based on the result they presented mostly the result of the survey is negative because sometimes food handlers or server is not that particular with the food temperature.

According to Guillien, et al. (2017) temperature control help also the food handlers or cook to know if the food is properly done or not. Also, Troutner et al. (2012) said that each food and drinks have their respective temperature to follow like coffee the most common drinks that need temperature checked. According to (Abdelhafez, 2013) foods that are ready to eat and being displayed should be observed because some foods that are very particular with time extending display time from 2 hours to 6 hours need to be observed because sometimes this can produce Staphylococcus aureus it's a type of organisms that will be produced by food.

According to (Abdelhafez, 2013) lacks temperature control opens an opportunity to micro-organisms, present in innocuous levels, to multiply reach infectious doses or produce enough toxins to impair food safety. An alternative to temperature control, holding time before consumption it should be done properly to minimize the risk of food poisoning. According to (Adebowale,

Kassim, 2017) the result of food poisoning is foodborne illnesses accompanied by vomiting, nausea, and loss of body fluids. Also, (Akonor,2013) there are consequences if the temperature is abuse and food poisoning resulting from leftover food like keeping the food in their packaging material (especially cans), over time, tin and iron from cans may dissolve into the food and cause tin poisoning.

Proper food handling need to be done in the food industry to ensure that food is handled, stored prepared and served under such conditions to prevent food contamination, (Pokhrel, Sharma, 2016). Furthermore, proper handling and preparation of food is an important aspect of nutrition and health of the people who buy and purchase our products in the industry Mangai et al. (2015).

It is the duty of food handlers to make sure that food that is served is totally safe throughout the chain of processing, storing, and preparation of the food always remember that mishandling and disregarding the hygienic preparation of food can result in food contamination, and it has consequences (Med, 2013, Mangai, (et al., 2015). Proper knowledge is highly needed for the food handlers on how to perform the duties where they assigned (Molina 2012).

Moreover, a food handler that fails to perform the basic rule of food preparation such as mistreatment of the food and lack of hygiene knowledge can contribute to food poisoning, (Molina 2012; Ismail et al., 2016). Food poisoning is an illness related to eating food contaminated by disease-causing bacteria, viruses, or parasites (Dun-Dery, Addo 2016). Furthermore, food poisoning also can be acquired from improper preparation of food like in kitchen using cutting boards and other utensils that are not sufficiently sanitized and

also improper area of garbage it can be the common cause of bacterial contamination (Dias et al., 2012, Abushelaibi, et al. 2016, Pokhrel, Sharma 2016).

According to common, et al. (2013) Food poisoning and other food diseases like typhoid and cholera could the result if food is not properly handling and prepared by the food handlers, and food risk is caused by the improper method of preparation, water unavailability, improper handling, improper temperature control and holding time Mangai et al. (2015). Also, food handlers need to be more knowledgeable starting from checking the quality of the raw material to food handling and storage practices (Nel, Lues, 2014, Ismail, et al. 2016). Furthermore, (Afifi, Abushelaibi, 2012) improper food handling can result to foodborne illnesses and imposes economic costs on society and reduce the quality of life of the people who are ill by the food that is contaminated, and these people are not capable of paying the hospitalization. According to (Akonor, 2013) securing food from contamination by bacteria it should start from the transportation, operator, the equipment and the environment itself, and sanitation both the handlers and the area.

Moreover, food handlers need to be educated with hazards and control associated with food in the industry to avoid food contamination that may result in food poisoning (Morancie& Webb, 2015). Also, food poisoning is a result of consuming food that is contaminated with microorganisms. Also, contamination arises from inadequate preservation of methods, unhygienic handling practices, cross-contamination from food contact surfaces sometimes it can be acquired from the people through skin contact and face to face conversation while serving (Pokhrel, Sharma 2016).

According to (Afifi, Abushelaibi, 2012) Unhygienic practices during food preparation, handling and storage can create conditions that allow the proliferation and transmission of the diseases causing organisms like bacteria, viruses and other food-borne pathogens. Therefore, practicing proper handling of food is essential to the food handlers. Furthermore, (Petrochko, 2013; Pagotto et al., 2018) washing hands after using the toilet and handling raw food before handling food that is ready to serve can be the cause of food contamination.

According to Lestantyo, et al. (2017) younger ages and lack of knowledge food handlers are more risky to food poisoning, and insufficient training for the food handlers will lead to inadequate food handling practice. According to Hunter, et al., (2012); Al Suwaidi et al. (2015) educating food handlers about hands washing after handling handkerchief, money after smoking is important before returning to the food premises their hands should be properly clean and sanitized. Moreover, causes of illnesses are not just the food that is contaminated through bacteria, viruses, heavy metals, and toxic chemicals and others drinking waters also has the risk to be the cause of illnesses if serving and using water that are not clean, (Akonor, 2013).

Furthermore, Riaz, et al (2016) food poisoning can be cure or preventable with proper food handling by following the WHO's five keys to safer food: keep the food clean; separate raw and cooked; cook thoroughly; keep food at safe temperatures; and use safe water and raw materials, thus, cooking skills are highly needed in operation Hartmann et al. (2013). Consumers' plays an important role in preventing the food-borne disease through improving their knowledge, attitudes, and practice in dining Riaz et al. (2016). In addition,

(Haileslassie, Taddele, 2012) food safety education and restraining food supplies that are packed outside food handlers should be knowledgeable on how to check the food near to spoilage, and expiration dates, fake and deceitful labeling and production date do not indicate, because this following May also the cause of food contamination (Adebowale, Kassim 2017). Also, knowledge of well-trained food handlers with additional regular training is more convenient than those who trained once Adesokan et al. (2015).

CHAPTER 3

METHOD

This chapter discusses the research design, the procedure in conducting and identifying the respondents, the instrument used.

Research Design

This study used the comparative methodology wherein selected data gathered for the study were analyzed and being compared to determine their significant differences. Consequently, comparative analysis is conducted to explain and gain a better understanding of the causal processes involved in the creation of an event, feature or relationship usually by bringing together variations in the explanatory variable or variables (Pickvance, 2005). Typically, comparative analysis emphasized the "explanation of differences and the explanation of similarities." This helps to establish relationships between two or more phenomena and provide valid reasons. Comparisons are now carried out on various levels being regional, national or wider geographical boundaries based on specific subject or area of interest.

Research Instruments

The main instruments used in this study is the selected Food safety practices researches that had been published in the University of Mindanao which was approved by the researcher coordinator and by the panel of experts.

Data Gathering procedure

The data were gathered through the following procedure:

Asking Permission to Collect studies. The researchers submitted the formal noted letter by their thesis adviser, to the research coordinator of College and Hospitality Education to collect studies about food safety practices.

Permission from Librarian. The researchers submitted the formal noted letter by their thesis adviser, to the University of Mindanao library in charge to collect studies about food safety practices from 2010-2018.

Inventory of Related Study. The researchers collect done studies and analyzed and summarized the done researches based on their research title, methods, theory, result, conclusion, and recommendation.

CHAPTER 4

PRESENTATION AND INTERPRETATION OF FINDINGS

In this chapter, data are presented, analyzed and interpreted. The questions asked in the statement of the problem in chapter 1 are answered in a detailed manner. The Idea of food safety and sanitation. Conducted by Different Researchers. Over the Years. The collected data are presented in a thematical way shown in the tables below. Table 1 presented according to the gear progression. Table 2 presented according to its indicator.

Interpretation of the Data

Sanitary Inspection

The study conducted by Sardido, Suar, Alegro, Rivera (2010), is the only study that focuses on sanitary inspection according to their findings compliance of the said establishment is low. The previous researchers recommended maintaining hygiene, the standard of sanitation procedure should be done. Local government should inspect to check if stalls have sanitary permits and other necessary permits to protect the customers' health. According to Dudeja (2017), sanitary inspection is important in measuring food safety among food establishment.

Food Handling

Food safety researches conducted by Magallanes, et al., Banajera, et al. (2011), Olegario, Ang, Banzon, (2014), Caballes, Francesquete, Mondigo (2016) and Tan, Lumayag, Matute, (2017) focuses on the implementation of food handling among food service establishment namely; street food vendors,

food concessionaire, eateries it was observed that there was a very high practice of food handling among those mentioned food service establishment. Food handling needs to be done in the food industry to ensure that food is handled, stored and served properly under conditions to prevent food contamination, (Pokhrel, Sharma, 2016). Furthermore, food handling and food preparation is an important aspect of nutrition and health of the people who buy and purchase our products in the industry Mangai et al. (2015).

Food Preparation

A research studies conducted by Magallanes, Dante, Mondejar, Apolinario (2011), Olegario, Ang, Banzon (2014), Manera, Mantalaba (2015) and Caballes, Francesquete, Mondigo (2016) focuses on food preparation among the following food service establishment; street food vendors, food concessionaire, hospitality students, and eateries, it was observable that there was a high practice among those mentioned establishment. Improper preparation of food may result in food poisoning using cutting boards and other utensils that are not sufficiently sanitized can cause because of bacterial contamination (Pokhrel, Sharma 2016).

Food Storage

A study conducted by Dalumpina, Denson, Dumagan, Tangian (2011), Olegario, Ang, Banzon (2014), and Caballes, Francesquete, Mondigo (2016) the study focuses on food storage among food service establishment namely; street food vendors, cafeterias, food concessionaire. It was observed that there was a high and low practice of the implementation of food storage among those mentioned establishment. It is recommended by previous researchers that

inspection by the local government is important to secure the safety of the consumers. According to Akonor, (2013) securing food from contamination should start from the transportation, operator, the equipment and the environment itself, and sanitation of food storage.

Personal Hygiene

Personal hygiene is the most used indicator during Dalumpinas, et al, Banajera, et al (2011), Olegario, et al, Vidad, et al (2014), Angayan, Galleros, Maniquez (2015), Caballes, et al, Amarante, et al, Alid, et al (2016) and Tan, Lumayag, Matute (2017). The researches focused on the implementation among the following establishments; cafeterias, canteens, food concessionaire, eateries, street vendors and restaurants. It was observed that there was a high practice among those mentioned establishment. Good Personal Hygiene is one of the important practices that need to be considered in food industry good personal hygiene promotes good health not just to the workers but also to the customers who buy the products we are selling (Kibret, Abera 2012; Wallace, 2016).

Equipment, Utensils, and Amenities

The study conducted by Dalumpinas, et al, Banajera, et al (2011), Genobio, et al, Blanco, et al (2014) and Manera, Mantalaba 2015 focuses on the cleanliness of equipment, utensils and amenities used in the operation among those establishment i.e. cafeterias, street vendors, hospitality students and bakeshops. It was observable that there was a high and low practice among those mentioned establishments.

Presentation of the Data

Food Safety Practices	Setting	Findings	Author &Year
Sanitary inspection clearance, verified and inspected by the local city health officer, medical certificate, sanitary permit	Barbeque stalls	The level of sanitation of selected barbecue stalls in Toril Davao city is low and their compliance.	A., Sardido, G.P., Suar, B., Alegro, M., Rivera (2010)
Food handling, Food preparation, Food contact surface, proper hygiene, Storage of food, place of production, utensils, Kitchen equipment.	Street food vendors Eateries/Cafeterias Canteens	There is a high level of awareness on food safety and sanitation practices among the following establishment namely; street food vendors (Magallanes, Dante, Mondejar, Apolinario, 2011) eateries/ cafeterias (Dalumpinas, Denson, Dumagan, Tangian, 2011) selected school canteens (Banajera, Bout, Luab, Badang,2011).	S.S., Magallanes, E.R., Dante, N., Mondejar, R., Apolinario (2011) M.C., Dalumpinas, M.J., Denson, H., Dumagan, A., Tangian (2011)
Food displayed, food well cooked, cleaning table and chair, proper handling, preparing food, proper storage of food, environmental surrounding, personal hygiene, Garbage Disposal, Cooking and Serving utensils, cleaning & sanitation practices, pest control, waste management.	Cafeterias Food concessionaire staff Street vendors Restaurants	There is a high level of hygiene and sanitary practices among the following establishment namely; cafeterias (Genobio Gan, Bustamante, 2014), food concessionaire staff (Olegario, Ang, Banzon, 2014), Street vendors (Blanco, Marata, Plazos 2014) restaurant (Vidad, Binangan, Escoton, Demapanag (2014)	N.N., Banajera, V.J., Bout, E.R., Luab, J., Badang (2011) D. D., Genobio JR., R. M., Gan, L.C., Bustamante (2014) J.C., Olegario, K.B.,Ang, R.C.,Banzon (2014) J.A., Blanco, J.C., Marata, R.I., Plazos (2014) H.L., Vidad, S., Binangan, C., Escoton, M., Demapanag (2014)
Sanitation, food storing, proper hygiene, mise en place, tools and equipment, food safety, packaging materials, and food containers, clean tools before and after using, pest control is strategically installed, baking ovens are properly cleaned and maintained, properly segregation of waste, cleaning materials are properly washed, baking materials are	Eateries Hospitality students Bakeshops	There is a high and low level of food preparation among selected eateries in Davao City (Angayan, Galleros, Maniquez, 2015) and hospitality students (Manera, Mantalaba, 2015) also in selected bakeshops in Davao City (Cruz, 2015).	A.D., Angayan, J., Galleros, K. J., Maniquez (2015) H., Manera, J., Mantalaba (2015) F.C., Cruz (2015)
properly washed, production area. General storage, food handling, Personal hygiene, food safety standards, facility cleanliness and sanitation, restaurant safety.	Street vendors Canteens Restaurants	There is a high level of conformance in health and food safety in private school canteens (Amarante, Canoy, Bangod, 2016) and street food vendors (Caballes, Francesquete Mondigo, 2016) and selected restaurants (Alid, Ancheta, Jimena, 2016), and among fast food restaurant (Tan, Lumayag, Matute, 2017).	J.J., Caballes, H.K., Francesquete, L.L., Mondigo (2016) A.M., Amarante, A.M., Canoy, M., Bangod (2016) J., Alid, J.R., Ancheta, R., Jimena (2016)
Personal hygiene, facility cleanliness, food handling.	Fast food restaurants		M., Tan J., Lumayag J. A., Matute (2017)

According to Suwaidi, et al. (2015) educating food handlers about hands washing after handling handkerchief, money, after smoking, washing equipment and utensils and amenities before and after using are important in food safety to prevent food contamination.

Sanitation Practices

There are four studies focuses on the implementation of sanitation practices among those establishments; cafeterias, eateries and restaurants Angayan, Galleros, Maniquez (2015), Amarante, et al., Alid, et al. (2016), Tan, Lumayag, Matute (2017). It was observed that there was a very high practice among the mentioned establishments. (Alison 2014) sanitation practices are important in measuring food safety to be sure that food is served to the customers are safe and well sanitized; it includes the process of preparing the food.

Waste Management

The studies conducted by Olegario, et al., Blanco, et al., Vidad, et al. (2014) and Cruz, (2015) used waste management as their indicator. The study focuses on the implementation of waste management among the following establishment; food concessionaire and bakeshops, it was observed that there was a high and low practice among those mentioned establishment. According to Singh et al. (2017) In restaurant more customers that purchase products more garbage and waste can produce. Disposing of waste is a big challenge in the foodservice sector and everyone that can affect the environment, 3R's should be present in operation.

Doneness of Food

A study conducted by Genobio, Gan, Bustamante (2014) it is used as an indicator to measure food safety in terms of the doneness of the food among selected cafeterias. It was observed that there was a high practice of the said measurement among those mentioned establishment. Food handlers need to know the factors affecting foodborne contamination time/temperature/doneness of food is important factors of contamination; there is food that needs to be cooked well to avoid food contamination. (Ismail et al., 2016).

Food Displayed

The study conducted by Genobio, Gan, Bustamante (2014) used food displayed as indicators to measure food safety among selected cafeterias. It was observed that there was a very high practice among the mentioned establishment. According to Machado et al. (2014), food display area should check all the time to be sure that food is safe to be consumed by the customers, there is food that has a short shelf life that food should be disposed before the time limit.

Food Packaging

A study conducted by Cruz, (2015) the previous researchers focus on food packaging and how it can affect to the safety of food among selected bakeshops, it was observed that there was a high practice among the mentioned establishment. Food packaging is important most especially in bakeshops mostly of bread in bakeshops are packed all bread should be

packed accordingly to ensure the safety of the consumers. According to Thackston (2013) packaging is important and has a big impact food industry, packaging may lead to higher profit most of the consumer is more suitable in on the go food, so they choose to buy ready to eat food.

Pest Control

A research study conducted by Vidad, Binangan, Escoton, Demapanag (2014) and Cruz, (2015) the studies focus on pest control in the workplace and how it can affect to the safety of food among selected restaurants and bakeshops. It was observed that there was a high and low practice among those mentioned establishment. In the food industry, pest is important because pest control is one of the factors affecting food safety that's why food service industry must do something to be sure that food establishment is properly clean not only in the outside but also inside all corners are properly clean (Bonnefoy, Kampen, Sweeney, 2013).

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter contains a summary of the findings of the study, the pertinent conclusions and the proposed recommendations for implementation that were driven from the results of the study.

Summary

The research was initiated to determine the differences in the implementation of food safety and sanitation practices based on previous studies from the year 2010 to 2018. Relevant data are collected from the Research Section – Library of the University of Mindanao.

The findings of the study are as follows:

- 1. In general, there are 16 types of research used as the data of the study. The data were collected from the year 2010 to 2018. Most of the researches focused on the implementation of food safety Practices among food service establishment in terms of personal hygiene, food preparation, food handlers, food storage, production area.
- 2. Over the years, the awareness of food safety among the food service establishment was faster spreading all over the industry. There were diverse ways which helped in spreading the practices conveniently. These such ways are government conducting seminars, training, requiring a health card, owners of the establishments' hands-on participation, social media advertisements.
- **3.** Lastly, the areas that need more improvements are food storage; food production is some of the results of the study; these two got the lowest

practice. Thus, done researches recommended that maintaining the implementation of food safety Practices and widen the knowledge of the people involve among establishments is important to protect customers health.

Conclusions

Based on the findings, the following conclusions are drawn:

- 1. Researchers from 2010-2018 desires are to conduct a further study about the food safety practices among food service establishment to make sure that food safety practices are always practice.
- 2. The recommendations of each study emphasized that it is important to conduct relevant seminars and workshop, training to spread more awareness among food service establishments employee to ensure the safety of the customers.

Recommendations

Based on the findings and conclusions, the following recommendations are given:

- 1. Future researchers of the Hospitality Students may further conduct studies on how to maintain food safety practices and continue the evaluation among food service establishments.
- 2. City government can contribute in making the practices known to the people by conducting seminars related to this also city government must be strict with the compliance of permits to operate food service so that operators and employees will comply the said practices for the people's sake.

- 3. Researchers all over the city may not only evaluate establishments by doing a survey but also spreading awareness about food safety practices by conducting training, seminars using flyers and social media.
- 4. The city government can contribute to spreading practices by supporting small researchers in conducting studies, conducting seminars especially to a small community such as barangays and remote areas of the city. Government like DOH, BFAD may help local people in conducting a seminar, training for them to be aware of the proper handling of food and proper preparation of food. Through these, everyone will be able to partake in preserving the health of the people and customers.

References

- Aaron, B., Michael, B., (2014). Food Safety and Sustainability. Foodsafetytech.com. From https://foodsafetytech.com/feature_article/food-safety-and-sustainability/
- Abushelaibi, A., Baboucarr J., Dhanhani, F., Mansoori, S., Shamsi, F. (2016) An overview of food safety knowledge and practices in selected schools in the city of Al Ain, United Arab Emirates.vol.10(15), pp. 511-520. Retrieved from https://academicjournals.org/journal/AJMR/article-abstract/7B52CDC58166
- Abdelhafez, A.M. (2013). Knowledge, attitudes, and practices of food service staff about food hygiene in hospitals in Makkah Area, Saudi Arabia. Life Science Journal 10(3):1079-1085.

 Retrieved from https://www.researchgate.net/publication/285996422.
- Adene, M., Teka, B., Gismu, Y., Halefom, G., Ademe, M., 2018). Food hygiene and safety measures among food handlers in street food shops and food establishments of Dessie town, Ethiopia: A community-based cross-sectional study. Retrieved Date May 24, 2018. Retrieved From https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5933796/
- Adebowale, O., Kassim, I.O., (2017). Food safety and health: a survey of rural and urban household consumer practices, knowledge to food safety and food related illnesses in Ogun State. Vol 14, No 3 (2017). Retrieved from https://ebph.it/article/view/12568.
- Afifi, H. S., Abushelaibi, A. A.,(2012). Assessment of personal hygiene knowledge, and practices in Al Ain, United Arab Emirates.Food Control 25 (2012) 249e253. Retrieves from https://pdfs.semanticscholar.org/71c3/2f64f9741f0e284c83e179cfc155a8bc1a 61.pdf
- Al-Tit, A., (2015). The Effect of Service and Food Quality on Customer Satisfaction and Hence Customer Retention. Asian Social Science; Vol. 11, No. 23; 2015 ISSN 1911-2017 E-ISSN 1911-2025 Published by Canadian Center of Science and Education 129. Retrieved from http://www.ccsenet.org/journal/index.php/ass/article/viewFile/53412/28516
- Akonor, P.T., and Akonor, M.A., (2013). Food Safety Knowledge: The Case of DomesticFood Handlers in Accra.European Journal of Nutrition & Food Safety 3(3): 99-111, 2013. Retrieved from http://www.journalrepository.org/media/journals/EJNFS_30/2013/Jul/13_73800428-Akonor332013EJNFS3227.pdf.
- Anderson, J., Warren, C., Perez, E., Louis, R., Philips, S., Wheeler, J., Cole, M., Misra, R., (2008). Gender and ethnic differences in hand hygiene practices among

- college students. Volume 36, Issue 5 Pages 361-368. https://doi.org/10.1016/j.ajic.2007.09.007
- Are you a responsible diner? (2017, Oct 08). Business Mirror Retrieved from https://search.proquest.com/docview/1948429640?accountid=31259
- Ayo, S. A., Bonabana-Wabbi, J., &Sserunkuuma, D. (2012). Determinants of fast food consumption in Kampala, Uganda. African Journal of Food, Agriculture, Nutrition and Development, 12(5), 6567-6581.
- Baker, M.A., Davis, E.A. and Weaver, P.A., (2014), "Eco-friendly attitudes, barriers to Participation, and differences in behavior at green hotels", Cornell Hospitality Quarterly, Vol. 55 no. 1, pp. 89-99.
- Barber, N., Scarcelli, J.(2010). Enhancing the assessment of tangible service quality through the creation of a cleanliness measurement scale. DOI: 10.1108/09604521011011630.
- Basch, C. H., Ethan, D., &Rajan, S. (2013). Price, promotion, and availability of nutrition information: a descriptive study of a popular fast food chain in New York City. Global journal of health science, 5(6), 73.
- Campbell-Arvai, V., Arvai, J., &Kalof, L. (2014). Motivating sustainable food choices: The role of nudges, value orientation, and information provision. Environment and Behavior, 46(4), 453-475.
- Carola R., Seyhmus B., & Yang-Su C., (2018) Restaurant Managers' Adoption of Sustainable Practices: An Application of Institutional Theory and Theory of Planned Behavior. Journal of Foodservice Business Research, 21:2, 154-171, DOI: 10.1080/15378020.2017.1364591
- Castillo, J. (2013). Impact of a localized marketing strategy on an international fast food chain within the Central American Region. Browser Download This Paper.
- Choi EK, Joung HW, Lee SM, et al. (2014) Predicting customers' participation in green practices when staying in a hotel. In: The 2014 ICHRIE annual conference, San Diego, California, 30 July–1August 2014.
- Cushon, J., Creighton, T., Kershaw, T., Marko, J., & Markham, T. (2013). Deprivation and food access and balance in Saskatoon, Saskatchewan. Chronic diseases and injuries in Canada, 33(3).
- Daniels, S., (2017). Importance of Food Safety to Hotels. Retrieved Date May 24, 2018. Retrieved From https://bizfluent.com/about-5325694-importance-food-safety-hotels.html

- Deivanai, P., (2015). Factors influencing to Preference of Fast Food Restaurants. IOSR Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 18, Issue 8 .Ver. IV. Retrieved from http://iosrjournals.org/iosr-jbm/papers/Vol18-issue8/Version-4/C1808042025.pdf
- DiPietro, R. B., Cao, Y., & Partlow, C. (2013). Green practices in upscale foodservice operations. International Journal of Contemporary Hospitality Management, 25(5), 779-796. Retrieved from https://search.proguest.com/docview/1398041960?accountid=31259
- DiSantis, K. I., Grier, S. A., Odoms-Young, A., Baskin, M. L., Carter-Edwards, L., Young, D. R., ... & Kumanyika, S. K. (2013). What "price" means when buying food: insights from a multisite qualitative study with black Americans. American journal of public health, 103(3), 516-522.
- Djekic, I., Smigic, N., Kalogianni, E. P., Rocha, A., Zamioudi, L., Pacheco, P. (2014). Food hygiene practices in different food establishments. Food Control 39 (2014) 34e40. Retrieved from https://repositorio-aberto.up.pt/bitstream/10216/83354/2/47133.pdf
- Domenech, E., Pérez-Gonzalvo. M., Amorós, J.A., Escriche, I., (2011). Implementation and effectiveness of the HACCP and pre-requisites in food establishments. Food Control. (issn: 0956-7135). 10.1016/j.foodcont.2011.03.001.
- Dudeja, P., & Singh, A. (2017). A Longitudinal Study to Assess the Role of Sanitary Inspections in Improving the Hygiene and Food Safety of Eating Establishments in a Tertiary Care Hospital of North India. Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine, 42(4), 230-233.
- Dun-Dery, E.J., Addo, H.O., (2016). Food Hygiene Awareness, Processing and Practice among Street Food Vendors in Ghana. e-ISSN: 2162-8440 doi:10.5923/j.fph.20160603.02.
- EnergyStar. (2013). Restaurants. Retrieved from http://www.energystar.gov/buildings/facility-owners-and-managers/small-biz/restaurants
- Etemad-Sajadi, R., & Rizzuto, D. (2013). The antecedents of consumer satisfaction and loyalty in fast food industry:a cross-national comparison between Chinese and Swiss consumers. International Journal of Quality & Reliability Management, 30(7), 780-798.
- EunHa, J., and SooCheong J., (2010). "Effects of restaurant green practices: Which practices are important and effective?". Caesars Hospitality Research Summit.Paper 13. http://digitalscholarship.unlv.edu/hhrc/2010/june2010/13

- Geile, H.R., (2014). Sustainability in foodservice is a collaborative process. Foodservice Consultants Society International. Retrieved Date May 24, 2018. Retrieved from https://www.fcsi.org/foodservice-consultant/the-americas/sustainability-in-foodservice-is-a-collaborative-process/
- Grossman, M., Tekin, E., & Wada, R. (2014). Food prices and body fatness among youths. Economics & Human Biology, 12, 4-19.
- Guillen, S., Oria, R., Salvador, M. L.,martorell, I., Corrales, A.; Granby, K.,(2017). Effectiveness of a temperature control system in home induction hobs to reduce acrylamide formation during pan frying. Journal of Food Science, 29(3), 443-453. DOI: 10.14674/1120-1770/ijfs.v713.
- Ham, S., Han, H., (2013). Role of perceived fit with Hotels' green practices in the formation of customer loyalty: impact of environmental concerns. Asia Pacific Journal of Tourism Research 18(7): 731–748
- Hung N., V., Tran, T., Unger, F., Xuan Sinh, D., & Grace, D., (2015). Food safety in Vietnam: Where we are at and what we can learn from international experiences V.6. 10.1186/s40249-017-0249-7 Infectious Diseases of Poverty. Retrieved date February 2. 2019.Retrieved from https://www.researchgate.net/publication/313801464_Food_safety_in_Vietnam_Where_we_are_at_and_what_we_can_learn_from_international_experiences
- Ifeadike, C. O., Ironkwe, O.C., Adogu, P.O., & Nnebue, C.C., (2014). Assessment of the food hygiene practices of food handlers in the Federal Capital Territory of Nigeria. Volume: 17 Issue: 1 Page: 10-15. DOI: 10.4103/1119-0388.130175.
- Ismail, A., Yunan, Y., (2016). Service quality as a predictor of customer satisfaction and customers loyalty. 12 (4), 269-283DOI: 10.17270/J.LOG.2016.4.Retrieved from https://www.researchgate.net/publication/311494087_service_quality as a predictor of customer satisfaction and customers loyalty
- Jackson, A. E. (2010). Hotel guest's intentions to choose green hotels. ProQuest Dissertations and Theses, 187–n/a.
- <u>Jiao</u>, J., <u>Moudon</u>, A., <u>Kim</u>, S., <u>Hurvitz</u>, P., & <u>Drewnowski</u>, A., (2015). Health Implications of Adults' Eating at and Living near Fast Food or Quick Service Restaurants. Nutrition & Diabetes volume5, pagee171. From https://www.nature.com/articles/nutd201518
- Joe, M., (2016). Green Tables: How Restaurants Will Lead Sustainable Food Consumption. Research and Insights, MSLGROUP. Retrieved Date May 25, 2018. Retrieved From https://mslgroup.com/blog/green-tables-how-restaurants-will-lead-sustainable-food-consumption

- Ju, S., & Chang, H. (2016). Consumer perceptions on sustainable practices implemented in food service organizations in Korea. Nutrition Research and Practice. Retrieved date May 23, 2018. Retrieved From https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4742303/
- Kang, K.H., Stein, L., Heo, C.Y., & Lee, S. (2012). Consumers' willingness to pay for green initiatives of the hotel industry. International Journal of Hospitality Management, 31, 564-572. doi:10.1016/j.ijhm.2011.08.001
- Kibret, M., &Abera, B. (2012). The Sanitary Conditions of Food Service Establishments and Food Safety Knowledge and Practices of Food Handlers in Bahir Dar Town. Ethiopian Journal of Health Sciences. Retrieved Date May 24, 2018. Retrieved From https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3437977/#R1
- Kim, S., Yoon, J., & Shin, J. (2015). Sustainable business-and-industry foodservice: consumers' perception and willingness to pay a premium in South Korea. International Journal of Contemporary Hospitality Management, 27(4), 648-669.
- Lauer, S., &Cohenour, R. (2014). Responding to increased regulation of the food service industry: A practical analysis of supply chain solutions for franchisors and franchisees. Franchise Law Journal, 34(2), 175-197. Retrieved from https://search.proquest.com/docview/1671049684?accountid=31259
- Lee, G., Lee, H., & Lee, C., (2012). Food safety issues in industrialization of traditional Korean foods. Food Control. 24. 1–5. 10.1016/j.foodcont.2011.09.014. Retrieved date February 2, 2019. Retrieved from https://www.researchgate.net/publication/257398379 Food safety issue s in industrialization of traditional Korean foods
- Letuia, M.d., Rastollo, m.b., Jalon, I.G., Vitas. A.I.,(2014). Catering services and HACCP: Temperature assessment and surface hygiene control before and after audits and a specific training session.Food Control, Volume 43. Retrieved From https://www.deepdyve.com/lp/elsevier/catering-services-and-haccp-temperature-assessment-and-surface-hygiene-L8sQS6miXV
- Luning, P. A., Chinchilla, A. C., Jacxsens, L., Kirezieva, K., &Rovira, J. (2013). Performance of safety management systems in Spanish food service establishments in view of their context characteristics. Food Control, 30(1), 331-340.
- Machado, M. G., Monego, E. T., & Campos, M. R. (2014). Risk perception of food safety by school food-handlers. Journal of health, population, and nutrition, 32(1), 19-27.

- Maheswari, R., Nagamuthu, G., (2014). The Impacts of Marketing Mix on the Consumer Experience in Fast Food Industries. International Journal of Research and Development A Management Review (IJRDMR ISSN (Print): 2319–5479, Volume-3, Issue–2. Retrieved date July 14, 2018. Retrieved from www.irdindia.in/journal_ijrdmr/pdf/vol3_iss2/5.pdf
- Mammadli, A., (2016). CONSUMER PERCEPTIONS OF THE FAST FOOD INDUSTRY IN SWEDEN. A QUANTITATIVE RESEARCH STUDY. Retrieved from https://repository.up.ac.za/bitstream/handle/2263/53485/DuPlessis_Consumers_2016.pdf?sequence=1
- Martins, R.B., Hogg, T. and Otero, J.G. (2012) Food Handler's Knowledge on Food Hygiene: The Case of a Catering Company in Portugal. Food Control, 27, 206-213.Retrieved from http://www.scirp.org/(S(oyulxb452alnt1aej1nfow45))/reference/ReferencesPapers.aspx?ReferenceID=1891147
- Maumbe, B. (2012). The rise of south africa's quick service restaurant industry. Journal of Agribusiness in Developing and Emerging Economies, 2(2), 147-166. doi: http://dx.doi.org/10.1108/20440831211272607
- McDonald's(R) canada now serving marine stewardship council certified sustainable fish in its filet-O-fish(R) sandwich. (2014, Jun 17). PR Newswire Retrieved from https://search.proquest.com/docview/1536056368?accountid=31259
- McIntyre, L., Vallaster, L., Wilcott, L., Henderson, S. B., &Kosatsky, T. (2013). Evaluation of food safety knowledge, attitudes and self-reported hand washing practices in FOODSAFE trained and untrained food handlers in British Columbia, Canada. Food Control, 30(1), 150-156.
- Medeiros, C. O., Cavalli, S. B., & da Costa Proença, R. P. (2012). Human resources administration processes in commercial restaurants and food safety: The actions of administrators. International Journal of Hospitality Management, 31(3), 667-674.
- Min, H., & Min, H. (2013). Cross-cultural competitive benchmarking of fast-food restaurant services. Benchmarking: An International Journal, 20(2), 212-232.
- Monsivais, P., Aggarwal, A., Drewnowski, A., (2014).Time Spent on Home Food Preparation and Indicators of Healthy Eating.https://doi.org/10.1016/j.amepre.2014.07.033
- Moreno, R., (2015). Practices of Selected Foodservice Establishments in Iloilo City, Philippines. Asia Pacific Journal of Multidisciplinary Research, Vol. 3, No. 1,. Retrieved date July 14, 2018. Retrieved from http://www.apimr.com/wp-

<u>content/uploads/2015/02/APJMR-2015-3-169-Practices-of-Selected-Foodservice-Establishments.pdf</u>

- Neal, J. A., Binkley, M., &Henroid, D. (2012). Assessing factors contributing to food safety culture in retail food establishments. Food Prot Trends, 32(8), 468-476.
- Ollila, S., (2011). Consumers' attitudes towards food prices. ISBN 978-952-10-7379-3 (paperpack) ISBN 978-952-10-7380-9 (pdf) ISSN 1235-2241AM digipaino / AM Print Oy. Retrieved from https://helda.helsinki.fi/bitstream/handle/10138/28240/consumer.pdf
- Osman, I., Osman, S., Mokhtar, I., Setapa, F., Shukor, S. A. M., &Temyati, Z. (2014). Family food consumption: desire towards convenient food products. Procedia-Social and Behavioral Sciences, 121, 223-231.
- Paez& Ortiz (2011). Employees' food safety knowledge and practices in foodservice operations serving high risk populations. Retrieved Date May 24, 2018. Retrieved From http://www.who.int/phi/news/phi 15 paez food safety knowledge en.pdf
- Pagotto, H.Z., Espíndula, L.G., Vitória, A.G., Machado, M.M., São José, J. B. (2018). Knowledge, attitudes and practices of food handlers in food services. DOI: 10.12957/demetra. 2018. 30528.
- Petzer, D. J., Steyn, T. F. J., & Mostert, P. G. (2009). Customer retention practices of small, medium and large hotels In South Africa: An exploratory study. African Journal of Marketing Management, 1(1):32–42.
- Pichler, J., Ziegler, J., Aldrian, U., &Allerberger, F. (2014). Evaluating levels of knowledge on food safety among food handlers from restaurants and various catering businesses in Vienna, Austria. Food Control, 35(1), 33-40.
- Pokhrel, P., and Sharma, D., (2016). A study on assessment of food safety knowledge and practices among the street food vendor of urban and semi urban areas of Guwahati, Assam. ISSN: 2395-7476 IJHS 2016; 2(2): 85-89. http://www.homesciencejournal.com/archives/2016/vol2issue2/PartB/2-1-79.pdf.
- Prabhavathi, Y., Kishore, N. K., & Kumar, M. R. (2014). Consumer preference and spending pattern in Indian fast food industry. International journal of scientific and research publications, 4(2).
- Raja, I., Muhammad I., Naeem A., Muhammad A., Asadur, R., (2014). Customer Satisfaction in the Restaurant Industry; Examining the Model in Local Industry Perspective. Journal of Asian Business Strategy. Retrieved date July14, 2018. Retrieved from https://econpapers.repec.org/article/asijoabsj/2014_3ap_3a18-31.htm

- Riaz. B., Alim, M., Islam, A., Islam, S., Amin, B., Sarker, M., Hasan, K., Ahad, N., Selim, S., Quamyum, S., Haque, E., Hossain, S., Ryder, J., Khanam, R., (2016) Role of courtyard counselling meeting in improving household food safety knowledge and practices in Munshiganj district of Bangladesh. Nagoya J Med Sci. 2016 Dec; 78(4): 387–398. doi: 10.18999/nagjms.78.4.387.
- Sahagun, M. A., & Vasquez-Parraga, A. Z. (2014). Can fast-food consumers be loyal customers, if so how? Theory, method and findings. Journal of Retailing and Consumer Services, 21(2), 168-174.
- <u>Savelli</u>, E., <u>Murmura</u>, F., <u>Liberatore</u>, L., <u>Casolani</u>, N., <u>Bravi</u>, L., (2017) "Food habits and attitudes towards food quality among young students". International Journal of Quality and Service Sciences, Vol. 9 Issue: 3/4, pp.456-468, https://doi.org/10.1108/IJQSS-02-2017-0011
- Shahzad, K., Syed, M., Fahad, Y., (2013). Determinants of Customer Satisfaction in Fast Food Industry A Study of Fast Food Restaurants Peshawar Pakistan. StudiacommercialiaBratislavensia Volume 6; Number 21 (1/2013); pp. 56-65 DOI:10.2478/stcb-2013-0002 ISSN 1337-7493. Retrieved From https://www.degruyter.com/downloadpdf/j/stcb.2013.6.issue-21/stcb-2013-0002/stcb-2013-0002.pdf
- Shreay, S., Chouinard, H. H., & McCluskey, J. J. (2016). Product differentiation by package size. Agribusiness, 32(1), 3-15. doi:10.1002/agr.21425
- Sumaedi, S., &Yarmen, M. (2015). Measuring perceived service quality of fast food restaurant in islamic country: a conceptual framework. Procedia Food Science, 3, 119-131.
- Sustainable Foodservice Consulting. (2013). Energy conservation. Retrieved from http://www.sustainablefoodservice.com/cat/energy-efficiency.htm
- Szuchnicki, A., L., (2009). Examining the influence of restaurant green practices on customer return intention. University of Nevada Las Vegas. Retrieved Date May 25, 2018. Retrieved From https://digitalscholarship.unlv.edu/cgi/viewcontent.cgi?article=1161&context=thesesdissertations
- Tabassum, A., & Rahman, T. (2012). Differences in consumer attitude towards selective fast food restaurants in Bangladesh: An implication of multiattribute attitude model. World Review of Business Research, 2(3), 12-27.
- Tan, Q., Oriade, A., & Fallon, P. (2014). Service quality and customer satisfaction in Chinese fast food sector: a proposal for CFFRSERV. Advances in Hospitality and Tourism Research (AHTR), 2(1), 30-53 An International Journal of Akdeniz

- University Tourism Faculty ISSN: 2147-9100. Retrieved from http://www.ahtrjournal.org/admin/dosyalar/6/30_53.pdf
- Tajkarimi, M. M., Ibrahim, S. A., Cliver, D.O., (2010). Antimicrobial herb and spice compounds in food. Volume 21, Issue 9, Pages 1199-1218. Retrieved from https://doi.org/10.1016/j.foodcont.2010.02.003
- Teves, K., Teves, J., & Teves, A., (2015). HACCP Certification: Analysis of Philippine Small-Scale Food Manufacturing Companies. Retrieved date February 2, 2019. Retrieved from https://icehm.org/upload/3407ED0315086.pdf
- Traversa,A., Adriano,D., Bellio, A., Bianchi, D., Gallina, S., (2017). Food Safety and Sustainable Nutrition Workshops: Educational Experiences for Primary School Children in Turin, Italy.journal ListItal J Food Safv.6(1); 2017 Jan 24 PMC 5337781 doi: 10.4081/ijfs.2017.6177. From https://www.ncbi.nlm.nih.gov/pmc/articles/PMC 5337781/
- Troutner,M.,Gregoire, M., Lafferty, L., Stone,M.(2012). Analysis of Temperature of Patient Meals. Volume 6, Number 2, Pages 1 5. Retrieved from http://fsmec.org/wp-content/uploads/2013/12/6-2-Gregoire.pdf
- Uyttendaele, M., Franz, E., Schlüter, O., (2015). Food Safety, a Global Challenge. Int J Environ Res Public Health. doi: 10.3390/ijerph13010067
- <u>Vernile A, Giammanco G, Massa S</u>. (2015). Importance in Food Safety.Jo<u>urnal ListItal</u>

 <u>J Food Safv.6(1); 2017 Jan 24</u>PMC5337781 From
 https://www.ncbi.nlm.nih.gov/pubmed/20653547
- Vittorio N., Fargion, S., Mazzocchi, A., Giachetti, M., (et al, 2017). Food quality, effects on health and sustainability today: a model case report, International Journal of Food Sciences and Nutrition, 68:1, 117-120, DOI: 10.1080/09637486.2016.1221385
- Vu, H. M., Chan, H. K., Lim, M. K., & Chiu, A. S. F. (2017). Measuring business sustainability in food service operations: A case study in the fast food industry. Benchmarking, 24(4), 1037-1051. Retrieved from https://search.proquest.com/docview/1889311456?accountid=31259
- Wang, J., Huili, Y., Goh, M, (2018) "Empirical study of sustainable food supply chain management practices in China". British Food Journal, https://doi.org/10.1108/BFJ-09-2017-0525 From https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4730458/
- Webb, M., Morancie, A., (2015). Food safety knowledge of foodservice workers at a university campus by education level, experience, and food safety training. DOI:

from

Yan, Y. (2012). Food safety and social risk in contemporary China. The Journal of Asian Studies, 71(3), 705-729.



College of Hospitality Education 2nd Floor, HRM Building

Matina Campus, Davao City Telefax: (082)297-7024

Appendix A

LETTER OF APPOINTMENT TO THE ADVISER

May 10, 2018

DINDO SILUD

Faculty, CHE The University of Mindanao **Davao City**

Dear Sir:

The undersigned HRM students wish to ask your assistance and expertise on our approved thesis entitled "ANALYSIS OF FOOD SAFETY STUDIES CONDUCTED IN THE UNIVERSITY OF MINDANAO DAVAO CITY."

In this regard, we humbly request you to be our Adviser. We believe that you could help us a lot in this endeavor.

Thank you very much.

Respectfully,

HASHIM HUESIN AM

Noted by:

HAZEL PRINCES M. REBOLLO, PhD

Research Coordinator

Conforme:

DINDO SILLID, MSHRM Research Adviser



College of Hospitality Education 2nd Floor, HRM Building Matina Campus, Davao City

Telefax: (082)297-7024

Appendix B

ENDORSEMENT FOR OUTLINE DEFENSE

This is to endorse the thesis manuscript entitled "ANALYSIS OF FOOD SAFETY STUDIES CONDUCTED IN THE UNIVERSITY OF MINDANAO DAVAO CITY" Prepared and submitted by ERLENE OMANI, STEPHANIE MAGAYON, HASHIM HUSEIN AMIL for Outline Defense. The paper has been evaluated by the research personnel listed below and was found to be compliant to the quality standards as provided in the UM Research Manual.

Adviser

DINDO SILUD, MSHRM

Approved by:

HAZEL PRINCES M. REBOLLO, PhD

Research Coordinator



College of Hospitality Education 2nd Floor, HRM Building

Matina Campus, Davao City Telefax: (082)297-7024

Appendix C

Letter of Permission

September 17, 2018

ARA MAE T. CUISON, MSFS Research Coordinator The University of Mindanao **Davao City**

Dear Ma'am:

The undersigned HRM students are conducting a research study on "ANALYSIS" OF FOOD SAFETY STUDIES CONDUCTED IN THE UNIVERSITY OF MINDANAO DAVAO CITY".

In this regard, we would like to ask permission from your good office to allow the researchers to have the list of done study relating "FOOD SAFETY" from 2010 to 2018. Rest assured that the data will be treated with outmost confidently.

Your favorable response on this request would greatly help the undersigned HRM students in their research requirement.

Thank you for your favorable consideration and approval.

Respectfully yours,

Noted by

DINDO D. SILUD, MSHRM Research Adviser

GYPSY MAE, CASURAO, MSHRM

DEAN-CHE



College of Hospitality Education

Signature

2nd Floor, HRMBuilding Matina Campus, Davao City Telefax: (082)297-7024

Appendix D

ENDORSEMENT FOR FINAL DEFENSE

This is to endorse the thesis manuscript entitled "ANALYSIS OF FOOD SAFETY STUDIES CONDUCTED IN THE UNIVERSITY OF MINDANAO DAVAO CITY; 1ST SEMESTER SCHOOL YEAR 2018-2019". Prepared and submitted by ERLENE OMANI, STEPHANIE MAGAYON, HASHIM HUSEIN AMIL for Final Defense. The paper has been evaluated by the research personnel listed below and was found to be compliant to the quality standards as provided in the UM Research Manual.

Name of Research Personnel

Adviser:

DINDO D. SILUD, MSHRM

Recommending Approval:

DINDO D. SILUD, MSHRM Research Subject Teacher

Approved by:

ARA MAE T. CUISON, MSFS Research Coordinator

ANALYSIS OF FOOD SAFETY STUDIES CONDUCTED IN UNIVERSITY OF MINDANAO DAVAO CITY

PRIMARY			8% PUBLICATIONS	% STUDENT PAPERS	
	SOURCES				
1	Rosmaliz "Food Sa Practices Shah Ala	Hanim Ismail, Ch za Muhammad, l afety Knowledge s amongst Mobile am, Selangor", P ral Sciences, 201	Norhayati Mat and Personal e Food Handle rocedia - Socia	Yusoff. Hygiene ers in	3%
2	www.bra	ndonu.ca			1
3	www.sta	t.wmich.edu			1
4	bmcpubl Internet Source	ichealth.biomed	central.com		1
5	ir.nul.nag	goya-u.ac.jp			1
6	ncceh.ca				1

Weak or Uncertain Language

DOCUMENT

ANALYSIS OF FOOD SAFETY STUDIES CONDUCTED IN THE UNIVERSITY OF MINDANAO DAVAO CITY.edited

SCORE

95

ISSUES FOUND IN THIS TEXT

132

PLAGIARISM



Contextual Spelling	No errors	
Grammar		
	4	
Determiner Use (a/an/the/this, etc.)	2	
Incorrect Phrasing	1	
Wrong or Missing Prepositions	1	
Punctuation		
	3	
Punctuation in Compound/Complex Sentences	2	
Comma Misuse within Clauses	1	
Sentence Structure	6	
Incomplete Sentences	3	
Misplaced Words or Phrases	3	
Style	49	
Passive Voice Misuse		
Intricate Text	2	
Inappropriate Colloquialisms	1	

DINDO SILUD GRAMMARIAN

ERLENE OMANI

Blck 64, Phase 4, Deca homes Mintal, Davao City, #09758958367 omanierlene20@gmail.com

Objective

To look for a suitable job where I could impart my knowledge, develop my skills and ability to work well in challenging surroundings with other people and organization that offers opportunities to learn & grow by delivering the results.

Professional Skills

- Knowledgeable in FRONT OFFICE SERVICING, HOUSEKEEPING SERVICING, BREAD and PASTRY PRODUCTION, FOOD and BEVERAGE SERVICING, and BAR MANAGEMENT SERVICING, COOKERY with TESDA certification.
- Team-player can work with minimal supervision
- Works well under pressure
- Communication skills (Verbal and Non-verbal)
- Highly trustworthy, discreet and ethical

Educational Attainment

College:

University of Mindanao (Matina Campus) SY: 2015 - 2019

Bachelor of Science in Hotel and Restaurant Management

Hashim Husein C. Amil

Catalunan Pequeño, Wellspring 1 Blk 31 Lot 24, Davao City 09755741307 Hhuseinamil2595@yahoo.com

OBJECTIVES

To obtain a position where I could affectively apply my skills and knowledge. I've learned and to give an opportunity to work productively and accurately in your company.

CAREER SUMMARY

- Member of University of Mindanao Flair tender Club
- 2nd place in bartenders of the month 2018 (Cocktail)
- On call at NUMERA Event Organizer (Mobile Bar)

SKILLS

- Good Communication Skills
- Having wholesome values of honesty and integrity
- Have healthy attitude toward work
- Ability to multi-task under pressure
- Bartender (cocktail/mocktail)
- Flair tending

EDUCATION

- Undergrad in University of Mindanao 2015-present
- Secondary School at St. Benedict College
- Elementary School at Notre Dame University Elementary Training Department

Stephanie S. Magayon

R.castillo, Agdao Davao City <u>StephanieMagayon@umindanao.edu.ph</u> 09239686081

OBJECTIVES

To obtain a position where I could affectively apply my skills and knowledge. I've learned and to give an opportunity to work productively and accurately in your company.

Personal Information:

Age: 22

Birth date: October: 19,1996

Height: 5'5

Weight: 49kg.

Citizenship: Filipino

Religion: Roman Catholic

Educational attainment:

Tertiary:

University of Mindanao

Bachelor of Science in Hotel and Restaurant Management

Graduate SY: 2014-2018