

THE UNIVERSITY OF HULL

Developing Sustainable Supply Chain Performance in the
Thai Restaurant Industry

being a Thesis submitted for the Degree of Doctor of Philosophy
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by

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DEDICATION

To My beloved father
Padirm Khunjan

ABSTRACT

Environmental issue emergence in global supply chains has made measuring the performance of organisations, particularly service sectors, a crucial practice for driving their environmental performance. Consequently, there has been a growing cross-disciplinary interest in the topic of sustainability supply chain management (SSCM) among researchers and practitioners for more than four decades, primarily in awareness of environmental issues and natural resource imbalances.

Restaurant sustainable supply chain management (RSSCM) is becoming increasingly important in the hospitality industry in developed countries. However, this concept is still relatively new, even though a few sustainable restaurant operators exist in Thailand's hospitality industry. Sustainability and its impact on supply chain practices have not been aggressively pursued in the Thai restaurant business. Furthermore, a lack of sustainability knowledge obstructs a sustainable supply chain management model, which is necessary for the food and restaurant supply chains to increase their sustainability. Therefore, this thesis aims to address this problem by experimentally building a restaurant sustainability framework to confront restaurant best practices in the Thai restaurant business.

Four research questions were proposed for this study based on an exhaustive literature study to address gaps in the body of knowledge. Very few research studies have explored the RSSCM phenomena in a Thai context and developed RSSCM framework. This thesis undertakes such empirical research by applying a cross-case study approach involving semi-structured interviews with restaurant supply chain practitioners and stakeholders in Thailand.

This research identified three key themes with twelve related focus areas to develop a new sustainable restaurant framework that will enhance sustainability for Thai restaurant service providers and their stakeholders. Furthermore, the three major areas of restaurant sustainability practices propose to amplify and raise awareness of restaurant environmental sustainability advancement. Finally, the Thai government should consider introducing this study as a part of the Thai restaurant business and its supply chain sustainability guidelines to enhance the sustainability phenomenon, particularly in the light of COP26. Never before has sustainability been so important globally. We are in a state of climate emergency, code red for humanity-David Attenborough's video provides the starkest warning yet for our world and the human species.

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LIST OF ABBREVIATIONS

ASEAN	Association of Southeast Asian Nation
BFWS	Bureau of Food and Water Sanitation
BMA	Bangkok Metropolitan Administration
CCRA	Customer of Case Restaurant A
CCRB	Customer of Case Restaurant B
CCRC	Customer of Case Restaurant C
CCRD	Customer of Case Restaurant D
CCRE	Customer of Case Restaurant E
CFP	Corporate Financial Performance
COP 26	Conference of the Parties
CO ₂	Carbon Dioxide
CRA	Case Restaurant A
CRB	Case Restaurant B
CRC	Case Restaurant C
CRD	Case Restaurant D
CRE	Case Restaurant E
CSCMP	Council of Supply Chain Management Professionals
CSR	Corporate Social Responsibility
DH	Department of Health
DLD	The Department of Livestock Department
DOC	Department of Commerce
DPQP	Department of Environmental Quality Promotion
EMS	Environmental Management Systems
FAD	Food and Drug Administration

FAO	The Food and Agriculture Organization
FISS	The Food Industry Sustainability Strategy
FS	Food System
GAR	Green Restaurant Association
GFB	Green Food and Beverage
GHG	Greenhouse Gas
GSCM	Green Supply Chain Management
ISO	International Standards Organization
JIT	Just-In-Time
KBV	Knowledge – Based View Theory
KM	Knowledge Management
MAC	Ministry of Agriculture and Cooperative
MNRE	Ministry of Natural Resources and Environment
MONRE	Ministry of Natural Resources and Environment
MPH	Ministry of Public Health
MOT	Ministry of tourism and Sports
MRP	Materials Requirement Planning
NAS	National Academy of Sciences
ONESDC	Office of the National Economics and Social Development Council
RBV	Resource Based View Theory
RSSCM	Restaurant Sustainable Supply Chain Management
SCI	Supply chain integration
SCM	Supply Chain Management
SDGs	Sustainable Development Goals
SEP	Sufficiency Economy Philosophy

SFS	Sustainable Food System
SSCM	Sustainable Supply Chain Management
TBP	Theory of Planned Behaviour
TBL	Triple Bottom Line
TIIS	Technology and Informatics Institute for Sustainability
UKCR	United Kingdom Case Restaurant
UNFAO	United Nations Food and Agriculture Organization
UNFCCC	United Nation Framework Convention on Climate Change
USEPA	The United State Environmental Protection Agency
WCED	World Commission on Environment and Development

CHAPTER ONE

INTRODUCTION

1.1 Research Background

Sustainable supply chain and environmental practices have emerged as a worldwide academic topic (Laosirihongthong et al., 2013). Using a supply chain perspective results in a significant reduction in environmental impact and results in greater efficiency to meet the organization's goals. Sustainable business growth necessitates business acumen and a successful relationship between firms and stakeholders. According to Vasileiou and Morris (2006), developing environmentally friendly processes, products, and services requires a collaborative effort by all supply chain members to avoid sub-optimization at the partner level (Vasileiou & Morris, 2006). According to Beamon (2008), the most significant supply-chain challenge is focused on the food supply chain, which is sustainable supply-chain literature. Most importantly, sustainable supply-chain strategies have supported all activities involving specific future directions, resulting in the rapid development of the stability of sustainable supply-chain management.

World population increase, “availability of arable lands, water resources, climate change, and food availability, accessibility, and loss are all factors that influence the global food situation” (Premanandh, 2011). Furthermore, the future of global population expansion has ramifications for human well-being and relationships with the natural environment (Abel et al., 2016). “Regarding greenhouse gas (GHG) emissions, agriculture is directly responsible for roughly 13% of world emissions” (Stocker et al., 2013).

Climate change's unpredictability, population dynamics, market volatility, trade flows, and varying degrees of governance are all factors that contribute to uncertainty, making scenario analysis useful. In the case of global sustainability goals such as climate change mitigation, the problem of effort sharing adds another layer of complication (Gil et al., 2019).

Furthermore, the novel coronavirus SARS-nCoV-2, also known as COVID-19, has been shown to have an impact on the entire food supply chain, from the field to the consumer, in one of the most critical areas of the economy. In light of recent issues in the food supply chain, there is currently a great deal of concern about production of food, processing, distribution, and demand (Aday & Aday, 2020).

“All stakeholders and activities involved in the cultivation, gathering, processing, distribution, consumption, and disposal of food products derived from agriculture, forestry, or fisheries, as well as parts of the socioeconomic and natural environment related to the food system, are included in food systems (FS)” (Braun et al., 2020). The

food system is made up of subsystems including agriculture, waste management, and inputs, as well as connections with other critical systems like energy, trade, and health. As a result, changes in other systems may lead to fundamental changes in the food system; a policy empowering the use of more biofuel in the energy system, for example, will have a significant impact on the food system (Popp et al., 2014).

A sustainable food system (SFS) ensures food security and nutrition from economic, social, and environmental perspectives. Ensuring the success of food security and nutrition for future generations has broad societal benefits and a positive or neutral impact on the natural environment. The Sustainable Development Goals (SDGs) of the United Nations, established in 2015, place a strong emphasis on sustainable food systems. Climate change and food systems-related SDGs (Gil et al., 2019). The SDGs call for fundamental changes in agriculture and food systems by 2030 to end hunger, ensure food security, and improve nutrition. As a result, the global food system must be modified in order "to become more productive, inclusive of poor and disadvantaged communities, environmentally sustainable, and capable of providing healthy and nutritious diets to all" (Bortoletti et al., 2019). These transformations are complex and challenging because they involve a series of interconnected acts at the local, national, regional, and global levels.

Food production is a resource-intensive activity with a significant environmental impact because it consumes many natural resources, and it is also responsible for 21-37 per cent of greenhouse gas emissions (Mbow et al., 2019). On the other hand, obtaining safe and nutritious food is a concern for people in all countries. Obesity and diabetes are linked to poor dietary choices and unhealthy diets, indicating a severe public health issue with negative economic consequences in many countries. Figure 1.1 depicts the Food System Wheel's three components of sustainability.

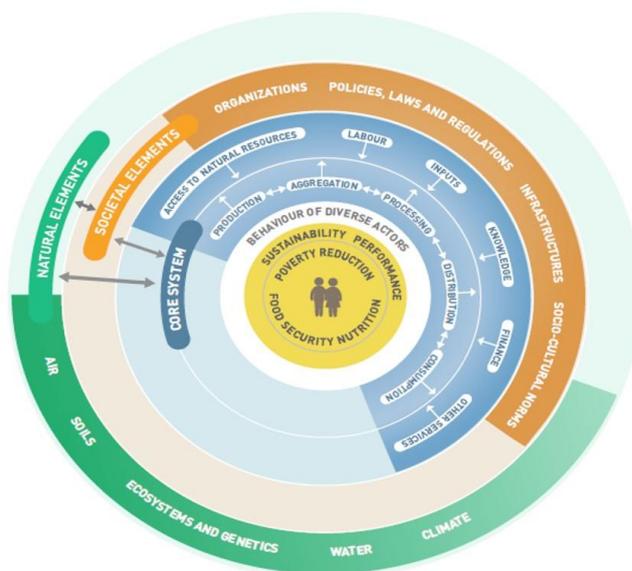


Figure 1.1 : Food System Wheel

Source: Technology and Informatics Institute for Sustainability, 2018

Under the three pillars of sustainable competency, the critical goals of the food system wheel are poverty reduction, food security, and nutrition (the economic, social, and environmental frameworks). The conduct of participants or stakeholders in the food system determines these competencies. This operation occurs inside a structural system, including the primary system, social components, and natural factors (Group of Chief Scientific Advisors, 2020). The core system is made up of levels of activity: production, collecting, processing, distribution, consumption, and waste disposal, as well as support services. The natural aspects include water, soil, climate, ecosystems, and genetics, whereas the social component includes organisational policies, applicable rules and regulations, socio-cultural norms, and infrastructure (Emadi & Rahmanian, 2020).

Developing sustainability activity is more critical and mentioned in all industries (Blackburn, 2012). The abundance of natural resources in the landscape has resulted in a vast number of agricultural and aquatic products. As a result, Thailand has a year-round agricultural season and a thriving agri-food business, exporting the world's most significant quantities of “cassava, canned tuna, canned pineapple, rice, sugar, and a range of other foods” (European Union, 2020).

Thailand's agriculture and food business are a significant part of the country's economy (Murray, 2007). Thailand has also pursued a sustainable agricultural development policy to go along with its efforts to achieve sustainable national growth (Kasem & Thapa, 2012). Thailand's abundant water resources and fertile soil have contributed to its production surpluses. Agricultural production continues to be a strong foundation for the production of food for the country's people as well as raw ingredients for the food-processing industry. Thailand's central location in Southeast Asia makes it an ideal export hub. Traditional Thai meals have a high nutritional content, according to several nutrition studies (Rachkeeree et al., 2018). Thailand's lengthy history in the agri-food business has aided the country's productivity growth, and the ASEAN countries' food technology ecosystem is the most competitive globally. (Kongkachuichai et al., 2015). Nonetheless, to boost the value added to the processed food industry, there is still a need to focus on research and development.

Thailand is also one of the top ten most competitive food-manufacturing countries, globally. “According to Oxford Economics, Thailand's food processing industry was rated ninth best in the world in 2016, with the Thai government aiming for third place by 2026” (Bangkok Post report, 2021). The Thai government's commitment to encouraging biotechnology and research and development is considered a crucial component in gaining trust in the country's food processing industry. Furthermore, the traditional Thai diet includes a variety of herbs rich in nutrients that are beneficial to one's health (Murray, 2007). According to Thai tradition, the diet should consist primarily of rice and vegetables, with protein coming from various types of fish. As a result, Thai cuisine is a healthy option. Almost all Thai food, including vegetables, poultry, pork, fish, and some beef, is prepared with fresh ingredients. Lime juice, lemongrass, and fresh coriander give the food its distinctive tang, while fresh chillies are used liberally to add heat to many dishes. Other typical seasonings used in curries include black pepper, ginger, tamarind, and coconut milk. Thai cuisine has quickly garnered international recognition, despite having only just begun to reach a global

audience. Thai food was ranked fourth in a survey on perception of cuisines performed by the Kellogg School of Management in the United States, after Italian, French, and Chinese, as a food that comes to mind when respondents are asked to list ethnic cuisines. When asked about favourite foods, it ranked sixth behind Italian, French, Japanese, Chinese, and Indian (Delforge, 2004). Thai cuisine appeals to a Western audience as a low-fat, low-carbohydrate option.

Thailand has numerous restaurant businesses both domestically and overseas. Since the 1960s, Thailand's food industry, particularly the restaurant industry, has become well-known worldwide, with approximately 15,000 overseas Thai restaurants attracting customers over a five-decade period (Thai Select, 2014). In 2004, the Royal Thai government launched the "Thai Kitchen to the World Project" to promote the high quality of Thai food products while raising awareness regarding food security and producing high-quality foods that meet international standards. Thai kitchen to the world's foremost global strategies includes expanding agriculture and the food business, adding value to agricultural products, and supporting regional and international food markets and restaurants (Varayanond,2013). Furthermore, the government established the "Thai SELECT" program to identify standards to recognize and promote 29 authentic Thai restaurant businesses and assist businesses in raising the quality of their food dishes globally to enhance Thai kitchen to the world project (Sornsaruht & Sawmong, 2018). It is also a Thai government initiative to help Thai restaurateurs and food producers improve their quality while maintaining authenticity (Thai Select, 2014). This strategy aims to assist Thai restaurant businesses in improving the quality of their food and service to become the world's number-one cuisine. The best cuisine in the world, on the other hand, must safely serve customers while also improving their quality of life. However, it has been demonstrated that there are few Thais businesses that are concerned with the stability of sustainability management. Therefore, Restaurant Sustainable Supply Chain Management (RSSCM) is a part of the food industry, and it should be developed further within the Thai food and restaurant business.

Bangkok, Thailand's capital city, is recognised for its abundance of food because it is the centre of the agricultural-producing country (Boossabong,2019). The town is in the country's core region, which includes a large farming area and coastal territories. As a result, many food ingredients are nearby, attempting to make transportation and supply chain management more straightforward. Furthermore, because of its cultural attractions, nature, restaurants, shopping, and lively variety, Bangkok has good primary and secondary elements that attract tourists. According to the Department of Commerce (2019), the restaurant in Bangkok has the most extraordinary capital value at 41.87 per cent of the business value. They are also a significant urban city with a large population that requires convenience and speed. As a result, there are numerous eateries to choose from as meeting and dining areas. Figure 1.2 shows Map of Bangkok that demonstrates the geographical focus of the study and identifies the locations of restaurants in this study.

2. Thailand has numerous domestic and overseas restaurant businesses, and the Thai government aims to assist them in improving the quality of their food and service to become the world's number-one cuisine.

Thus, the SSCM strategy could assist restaurants in Thailand in maintaining their businesses and developing business tools, creating a more attractive place for Thais and foreign visitors. Furthermore, the researcher believes that sustainability, a relatively new concept in Thailand, could improve restaurant production processes, making them more sustainable and assisting them in becoming the world's most popular cuisine. Therefore, the researcher believes that if Thai restaurants can apply sustainability concepts, it will improve both restaurant and supply chain performance in Thailand, which is related to the Thai government's Thai cuisine development plan.

As a result, this thesis study will provide insights and information to the restaurant industry at large through the scale of RSSCM practises to promote or improve restaurants' performance to be sustainable. As a developing country, Thailand is a good context for research because it needs to improve RSSCM.

1.3 Research Problem, Objectives and Questions

In a competitive world, businesses adopt various activities to survive and expand capacity, and many firms are currently developing several strategies to achieve their goals. Awareness of the environment currently holds attention worldwide, and the business sector has employed many resources. They should realise and maintain sustainable environmental policies, and industrial firms must develop environmental business strategies.

Global warming has been a hot topic for the last three decades, and it is still vital for all businesses to be concerned and improve their operations. Industries are being educated on sustainability management and its impact on the environment and society, which is critical for their future development. As a result, when discussing the relationships between firms and stakeholders to drive sustainability development, Sustainability Supply Chain Management (SSCM) is a critical strategy. Furthermore, sustainable practices may provide a significant competitive advantage in the future. Furthermore, food waste and loss have several negative environmental consequences, including unnecessary greenhouse gas emissions and inefficient water and land use. This concept can contribute to dwindling natural ecosystems and the services they provide. It is also critical to consider how loss and waste will occur in developing countries in the future.

The researcher is a Thai with over ten years of experience in the management field. She has discovered that organisations need more interest in social responsibility, particularly when it comes to environmental issues. Furthermore, the researcher's experience in waste reduction projects with reviews documents and practices to find a way to deal with the increasing waste generation, particularly food waste from houses and restaurants. Furthermore, the researcher is intensely interested in sustainability management, specifically adopting sustainable practices to improve business

performance and maintain environmental sustainability throughout their supply chain.

According to the literature, there are a few qualitative studies on sustainability in the tourism and hospitality literature on restaurants. Furthermore, the literature reveals that only some contributions have investigated the benchmarking of sustainability practises among firms and cross-country performance measurement. Likewise, only some contributions proposed a new framework to achieve sustainability in a specific area rather than testing the current framework.

The research background and problems outlined above prompted the development of this thesis' study objectives and questions. The primary aim of this thesis is to develop a sustainable restaurant framework to guide and support Thai restaurants in achieving sustainability because of the pressing issue of Food Security and the importance of Thai food to the global economy. The following research objectives were proposed for this study:

1. To review the current understanding and views regarding sustainable restaurants in Thailand
2. To assess the information and knowledge transactions held between firms and stakeholders in the Thai Restaurant supply chain
3. To develop a new framework for a sustainable restaurant supply chain to help support and guide Thai Restaurants to achieve a more sustainable supply chain

These aforementioned objectives, in turn, generated four research questions:

RQ1: What is the current state (e.g., issues, challenges, gaps and benefits) regarding the environmental sustainability of restaurants in Thailand?

RQ2: How sustainable are restaurants in Thailand?

RQ3: What is 'best practice' in terms of restaurant sustainability in Thailand?

RQ4: What framework or model could be developed and used to encourage best practice in terms of restaurant sustainability in Thailand?

Study Scope

According to Carter and Rogers (2008), the triple bottom line is a sustainability concept separated into three components that simultaneously examine and balance economic, environmental, and social variables in their framework. This study focuses on the environmental perspective to preserve the values valued in the restaurant industry and emphasize the user-based development of a sustainable restaurant framework. The study included semi-structured interviews with restaurant operators, customers, and government officials to focus on restaurant sustainability practices.

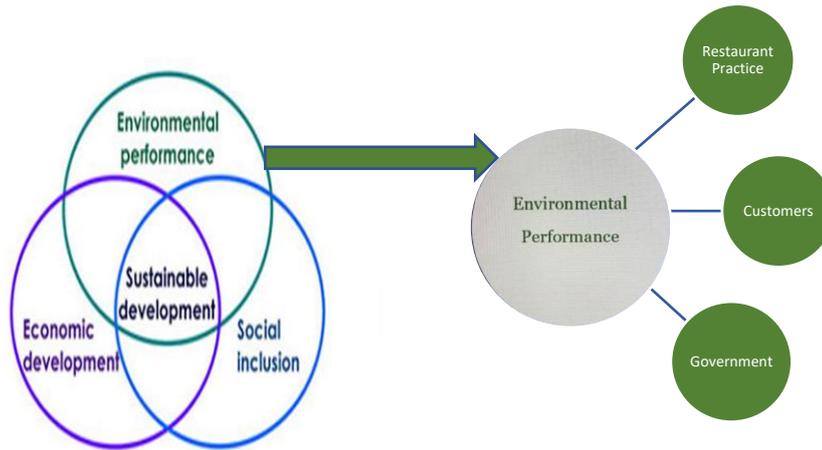


Figure 1.3: Scope of the Study

Based on the findings from these questions, recommendations will be made regarding the best way to build a framework that promotes restaurant sustainability. These research questions will provide greater insight into RSSCM as understood from the literature while also answering the research objectives. These research aims and questions are derived from the study's literature evaluation, which identified several research gaps and is discussed in greater detail in Chapters Two and Three.

1.4 Research Methodology

This research utilized theoretical and methodological triangulation to improve and expand the data collected to understand the research phenomenon from several aspects (Mangan et al., 2004). This study uses multiple-case studies to examine each data set of Thai restaurants individually and across contexts. The theory is applied to comprehend better the parallels and contrasts between the cases in the study of supply chains. According to Yin (2014), using numerous case studies permits logical conclusions to arise independently from two rather than a single case. It also increases the overall study's internal and external validity.

There are three phases to this empirical study. Phase One is an inductive phase in which semi-structured interviews were conducted with five restaurant cases in Thailand and one in the UK to explore the research questions, identify current and required industry practices, and generate a capacitor of dependent variables and constructs. Phase Two is an inductive phase that comprises semi-structured interviews with customers in Thailand to validate the structures that emerged in Phase One. Finally, Phase Three is an inductive phase involving semi-structured interviews with two authorized government officers to confirm the research findings.

1.5 Structure of the Thesis

The thesis is divided into two parts. Part One covers the background literature that supports this concept (Figure 1.4) while Part Two, on the other hand, focuses on the research that had been conducted (Figure 1.5).

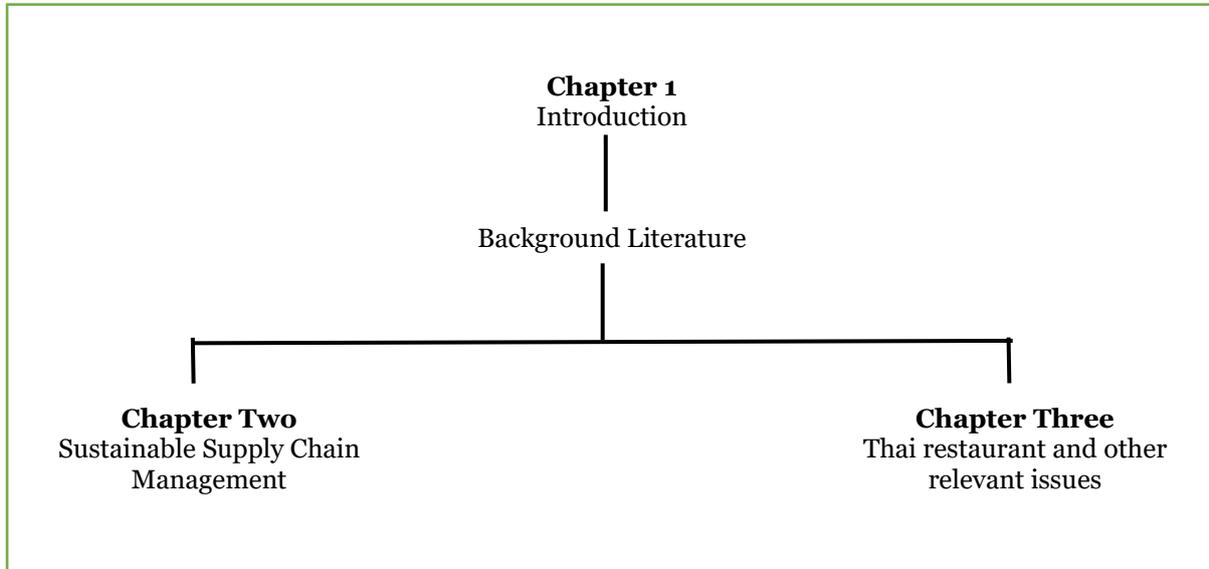


Figure 1.4: Thesis Structure Part One

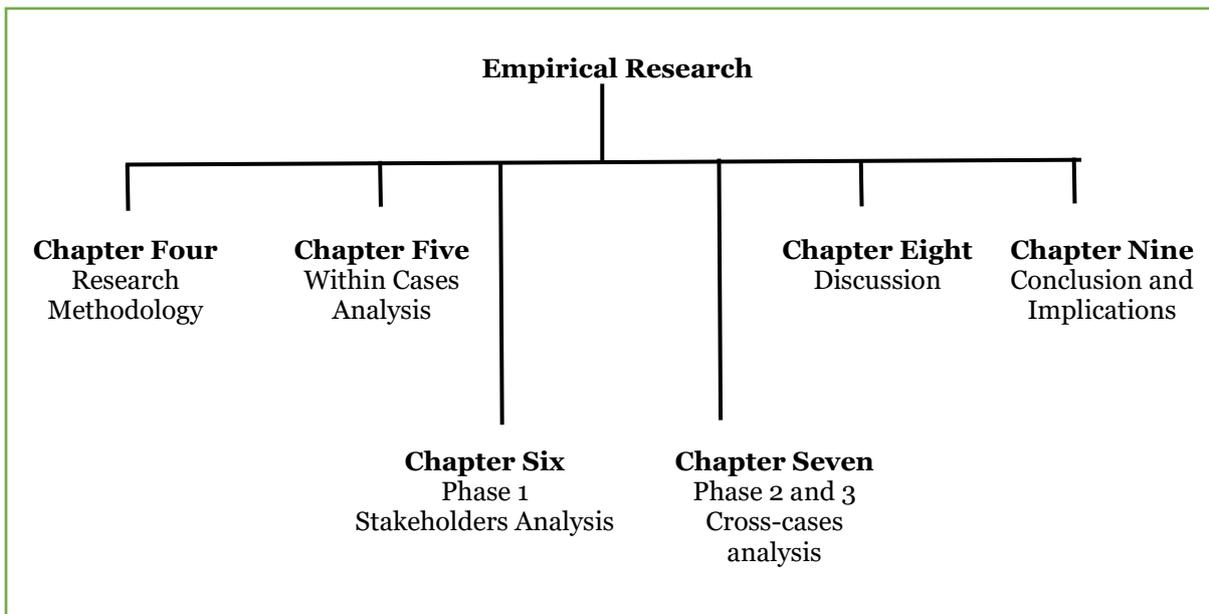


Figure 1.5: Thesis Structure Part Two

1.5.1 Thesis Structure, Part One – Background Literature

Chapter One – This chapter provides an overview and introduction to the research, i.e., research background, research problem, research objectives, research questions and research methodology.

Chapter Two – Chapter Two explains the literature review approach and reviews logistics and supply chain management concepts, and sustainability concepts. This chapter first discusses the foundation of logistics and supply chain management concepts and the essential topics of debate in the discipline. It conducts a critical evaluation of the literature on sustainability that presents definitions of sustainability and provides insight into current sustainability debate disputes. The focus is primarily on restaurant sustainability practices and sustainable restaurant frameworks.

Chapter Three – Chapter Three examines the literature related to the research's keywords and how they connect to concerns in Thailand, such as the agricultural situation, the food industry, the restaurant business and business potential. Finally, several issues pertinent to this thesis are covered in the last section, including Eastern-Western business philosophies, small and medium businesses versus giant corporations, benchmarking, and sufficiency economy philosophy.

1.5.2 Thesis Structure Part Two – Empirical Research

Chapter Four – The selection and justification of an appropriate research approach with which to answer the research questions is addressed in Chapter Four. The intricacy of the phenomena of environmental sustainability, as well as a lack of knowledge and ambiguous boundaries, make this research exploratory in character. Because the goal of this investigation was to discover rather than measure or evaluate the phenomena of environmental sustainability, an inductive qualitative technique was used. Data was collected through semi-structured interviews, which were supplemented with documents and observations. In order to understand the data and develop new knowledge, a narrative analysis method guided by social constructionism was used.

Chapter Five – Within-cases analysis is provided in Chapter Five, and transcribed material is analysed in terms of its current stage of sustainability, restaurant process and practice in terms of sustainability strategy, restaurant best practices and ideas for environmental sustainability management with which to develop the suitable framework. The chapter specifies the structures used to arrange the presentation of the empirical data acquired from the field study and introduces a within-case analysis. The within-case analysis is then fed into the cross-case analysis in Chapter Seven.

Chapter Six – Stakeholder analysis is represented and described, and the transcribed material is analysed data from the stakeholders. This chapter sheds light on the emergence of policies and regulations to support the food business, general issues in

environmental sustainability, the perspective of restaurant best practices, and customer expectations. Stakeholder analysis then feeds into the Chapter Seven cross-case analysis.

Chapter Seven – Different cases are compared based on their similarities, differences, and pattern matching in cross-case analysis. The following important conclusions were identified: current stage of environmental sustainability, restaurant process, best practice in sustainability, and restaurant sustainability framework at the case companies. This chapter provides stakeholder perspectives as support for the research contributions.

Chapter Eight – Chapter Eight explains and summarises the essential empirical findings from all three phases of the research to answer the research questions and draw conclusions in an integrated and comprehensive manner to offer a universal set of RSSCM best practices. This chapter offers the emerging restaurant sustainability framework to encourage restaurant best practices.

Chapter Nine – This thesis concludes with Chapter Nine. The chapter summarises the thesis, presents the RSSCM conclusion, and emphasises the theoretical and practical contributions of the research. The final section discusses the thesis limitations and suggestions for future research.

CHAPTER TWO

SUSTAINABLE SUPPLY CHAIN MENAGEMENT

2.1 Introduction

This chapter begins by reviewing the background literature supporting the current understanding in the field before identifying the gaps in the body of information that this study will analyse. It then explains the literature review approach: reviewing logistics and supply chain management concepts and sustainability concepts. Next, it introduces restaurant best practices to discuss how vital best practice is to developing sustainability, including a discussion of a sustainable restaurant framework.

As a consequence, the current sustainability service in the logistics industry, as well as the environmental performance measurements, are explained in this chapter. Because of the enormous negative environmental impact involved, environmental issues, particularly in the supply chain market, impact on food companies' stakeholder considerations. As a result, sustainable development is discussed as a crucial issue in the later stages of this thesis before this is followed up with the sustainable restaurant framework established by McDonald's and the Sustainable Restaurant Association.

2.2 Literature Review Approach

According to Mentzer and Kahn (1995), the literature review contributes to research development because it offers a historical perspective on the subject topic and an in-depth account of independent research.

In terms of the literature review approach, this study followed Hart's (1998) outline with five procedures to follow: planning and evaluating prior research, writing and review, classification and reading research, argumentation analysis, organising and expressing ideas, and classification and reading research (Figure 2.1).

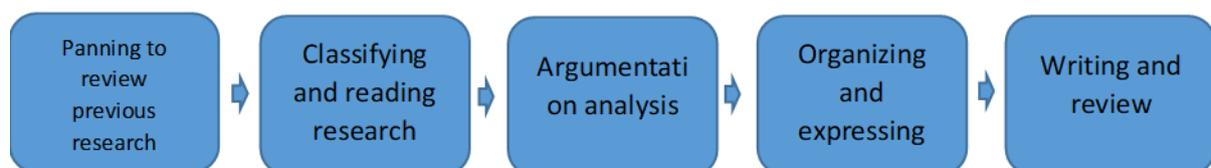


Figure 2.1: Literature Review by Five Steps

Source: Researcher adopted from Hart, 1998

1. Define the Subject: Begin by doing some general reading to become acquainted with the topic or concept of interest. Within supply chain management, interesting paradigms include sustainability, logistics, and supply chain management. In the supply chain context, there have been numerous published contributions to these paradigms. Furthermore, because sustainable frameworks have demonstrated the relationship between these themes, it should be an opportunity to fine-tune the interaction between sustainability, logistics, and a sustainable framework in the supply chain context.

2. Think about the topic's scope: Make a list of terms and phrases related to this concept that could benefit the study. Words like sustainable restaurant, Thai restaurant, restaurant logistics, restaurant supply chain and restaurant framework are included in the search lexicon to help with the research.

3. Consider the outcomes: To acquire a competitive advantage, restaurants should incorporate sustainability, logistical, and framework paradigm tactics into their plans.

4. Compile a list of the sources to search: Make a list of potentially relevant information sources, such as Google Scholar indexes and library resources. The rationale for using the EBSCO Host and Summon databases to conduct research. Both databases include full-text publications on a wide range of topics, including high-quality journal articles.

5. Search the sources listed: Table 2.1 shows the search strings and quantity of retrieved documents from the EBSCO host and Summon database between 2000 – 2018, the time frame that sustainable supply chain management in the hospitality industry started raising the number of published works. Furthermore, search for papers published in a time window from 2019-2021 to scope the up-to-date, relevant published works.

Table 2.1: Search Strings and Numbers of Retrieved Paper in EBSCOhost and Summon Databases (2021)

Search	Actual Search Strings	EBSCOhost	Summon	Total
1	(green or sustainab*) AND "supply chain*" AND (restaurant or food or hospitality) AND "food waste"	61	82	143
2	sustainab* AND (restaurant or food or hospitality) AND Thai* AND "supply chain"	5	81	86
3	sustainab* AND "supply chain" AND restaurant or food or hospitality) AND (framework or model)	158	429	587
4	(restaurants or food industry or food service) AND (framework or model or theory) AND sustainab*	76	475	551
Total		300	1,067	1,367

Actual search strings were used, including specific keywords related to the research topic, research objective, and research question. The researcher proposes a method for performing ranked multi-keyword searches on the academic database in the query matches of an attribute value.

After collecting the data from the database, all important data from the papers was entered into the RefWorks software package. The downloaded details from a total of 1,367 papers included research title, author(s), journal, year of publication and abstract. After that, these details were removed by the authors, reviewing the paper research topic and abstract (initial filtering process). In order to be shortlisted as a relevant paper, only papers that relate to the study as sustainable, restaurant, supply chain management logistics, and Thailand were chosen. Based on 1,367 papers. Following the first review criteria, there were 356 papers. Then, after the second review of these papers looked at the introductions and conclusions, the total number of selected papers was 180. Finally, in the third stage, the papers were in depth to find the most relevant papers, resulting in a new total of 14.

It is generally beneficial while reading the literature to separate existing group research into broad categories that indicate its purpose. Themes, topics, authors, year of publication, journal, type of study, purpose of study, methodology, critical finding, conclusion, limitation, and model to use or to find were all studied and analysed in

further depth. There were various questions on each paper to answer (Hart, 1998). The following criteria were used to limit the search and improve the trustworthiness of the literature review, as adopted from Newbert (2007):

- Search for papers published in peer-reviewed journals
- Search for papers written in English
- Search for papers published in a time frame from 2000 to 2018
- Search for papers published in a time window from 2019 to 2021 to scope the published works for three years.

Figure 2.2 depicts the review procedure for this study.

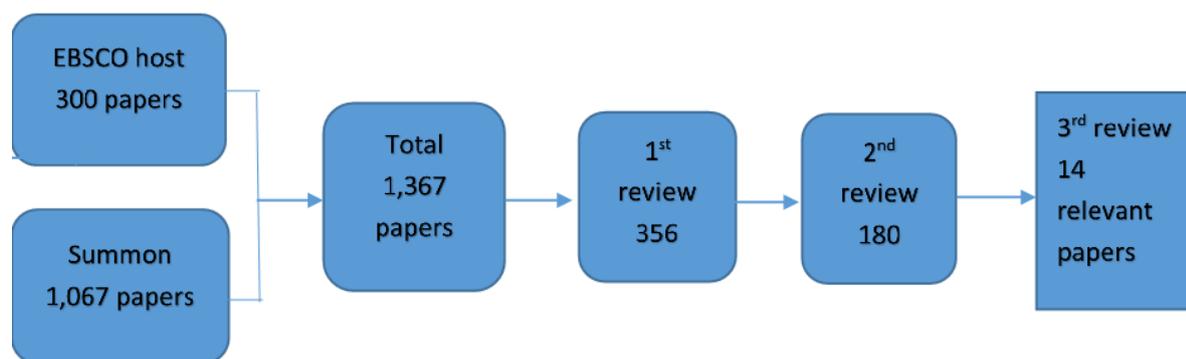


Figure 2.2: Literature Review Process

Source: Researcher, adapted from Hart,1998

The aim was to identify published articles using a sustainable concept, logistics and supply chain management, and a framework connected to the restaurant business. It is critical to classify and interpret research in order to judge the quality of the arguments presented. When reading past research on a topic, there are a few things to keep in mind because information can always change and evolve (Hart, 1998):

1. What is the difference between deduction and induction? How is the author presenting his or her case? (i.e. what methodological approach).
2. Evaluation: does the assertion have (enough) evidence to back it up?
3. Watch out for common logical (and other) fallacies as you read.

By categorising structure and topics, it is possible to synthesize the structure. As a result, the themes of sustainability, logistics, supply chain management, and framework theme were applied. This usually entails rearranging the pieces derived from the analysis to reveal relationships, demonstrating the main organising principles, or demonstrating how these principles can be applied to create new phenomena. As a result, in order to provide a comprehensive supply chain framework, divided the structure and themes into three categories: restaurant input, restaurant process, and restaurant output. Feature maps (Hart, 1998) are used to map a topic by documenting the essential features of an aspect of a study to create a summary schema of the argument made by that study and discover any parallels and discrepancies between other studies on the topic. This approach was used in this study to enhance restaurant sustainable development and is shown in Table 2.2 identifying the fourteen most relevant papers to this research.

The most relevant studies were the 14 papers represented on Table 2.2.

Table 2.2: The Most Relevant 14 Papers

Order	Themes	Broad Topic	Topic	Authors	Journal	Methodology
1	Sustainability	Restaurant process	An assessment of the early stages of a sustainable business model in the Canadian fast-food industry	Hutchinson, David; Singh, Jang; and Walker, Kent (2012)	European Business Review	Case study
2	Sustainability	Restaurant process	Green Practices II: Measuring Restaurant Managers' Psychological Attributes and Their Willingness to Charge for the "Green Practices"	Choi, G. and Parsa, H. G. (2006)	Journal of Foodservice Business Research	Survey questionnaire

Table 2.2: The Most Relevant 14 Papers (Continued)

Order	Themes	Broad Topic	Topic	Authors	Journal	Methodology
3	Framework	Restaurant process	Environmental sustainability management in the foodservice industry: Understanding the antecedents and consequences	Jang, Yoon Jung (2016)	Journal of Foodservice Business Research	Survey questionnaire
4	Sustainability	Restaurant process	Explicating restaurant performance: The nature and foundations of sustainable service and organizational environment	Chou, Sheng-Fang; Horng, Jeou-Shyan; Liu, Chih-Hsing; and Gand, Bernard (2018)	International Journal of Hospitality Management	Survey questionnaire
5	Framework	Restaurant process	Exploring Customers' Post-Dining Behavioral Intentions Toward Green Restaurants: An Application of Theory of Planned Behavior	Chung, Kaie-Chin (2016)	The International Journal of Organizational Innovation	Survey questionnaire
6	Sustainability	Restaurant process	Green Restaurants Assessment (GRASS): A Tool for Evaluation and Classification of Restaurants Considering Sustainability Indicators	Maynard Dayanne da Costa, Renata Puppim Zandonadi, Eduardo Yoshio Nakano, António Raposo, and Raquel Braz Assunção Botelho(2021)	Sustainability	Survey questionnaire

Table 2.2: The Most Relevant 14 Papers (Continued)

Order	Themes	Broad Topic	Topic	Author s	Journal	Methodology
7	Sustainability	Restaurant process	Greening competitiveness for hotels and restaurants	Iraldo, Fabio; Testa, Francesco; Lanzini, Pietro; and Battaglia, Massimo (2017)	Journal of Small Business and Enterprise Development	Survey questionnaire
8	Sustainability	Restaurant process	Identifying and assessing environmental awareness of hotel and restaurant employees' attitudes in the Amasra District of Bartın	Yücedag, Cengiz; Kaya, Gürkan Latif; and Çetin, Mehmet (2018)	Environ Monit Assess	Survey questionnaire
9	Logistics/SCM	Restaurant input	Managing Imbalanced Supply Chain Relationships for Sustainability: A Power Perspective	Touboulic, A.; Chicksand, D. and Walker, H. (2014)	A Journal of the Decision Sciences Institute	Workshop, semi-structured in-depth interviews
10	Sustainability	Restaurant process	Modeling predictors of restaurant employees' green behavior: Comparison of six attitude-behavior models	Wang, Yao-Fen (2016)	International Journal of Hospitality Management	Survey questionnaire
11	Sustainability	Restaurant output	Normative prompts reduce consumer food waste in restaurants	Stöckli, Sabrina; Dorn, Michael; and Liechti, Stefan (2018)	Waste Management	Case study

Table 2.2: The Most Relevant 14 Papers (Continued)

Order	Themes	Broad Topic	Topic	Authors	Journal	Methodology
12	Logistics/SCM	Restaurant input	Partnership strength and diversity with suppliers: Effects upon independent restaurant product innovation and performance	Cho, Meehee; Bonn, Mark A.; Han, Su Jin; and Kang, Sora (2018)	International Journal of Contemporary Hospitality Management	Survey
13	Sustainability	Restaurant input	COVID-19 Pandemic Is a Wake-Up Call for Sustainable Local Food Supply Chains: Evidence from Green Restaurants in the USA	Omar Alsetoohy, Baker Ayoun and Mahmoud Abou-Kamar(2021)	Sustainability	Survey questionnaire
14	Sustainability	Restaurant input	Restaurant Managers' Adoption of Sustainable Practices: An Application of Institutional Theory and Theory of Planned Behaviour	Raab, Carola; Baloglu, Seyhmus; and Chen, Yang-Su (2018)	Journal of Foodservice Business Research	Survey interview

From literature reviews and in-depth analysis of the most relevant papers, it can be concluded that the studies in restaurant sustainable supply chain management vary in terms of the purpose of the study, source, and method used as the base of the study.

The majority of sustainability-focused studies were ten, while logistics and supply chain-focused studies and framework-specific were roughly two studies. The restaurant practice study focuses on the skills of managers and includes employee collaboration. While some focus on consumer demand using theories such as planned behaviours (TPB), others focus on the partnership as the vital mechanism of supplying critical raw materials into the restaurant process. The majority of environmental issues in supply chain-focused journal were seven.

The findings of the studies suggest that innovation and organisational resources are linked to the relationship between sustainability service and organisational effectiveness. Top management commitment appears as a significant competitiveness

driver, demonstrating the strategic importance of a solid sustainability strategy. Furthermore, the legislation has increased public awareness of environmental issues. Based on the review of 14 papers, it is clear that restaurant sustainability still has several issues that need further study. The lack of sustainable activities and maintaining knowledge and practice remain weaknesses in developing environmentally sustainable restaurants. Further, improving the practice process through the restaurant supply chain represented the biggest challenge in the hospitality sector.

All studies demonstrated sustainability in different dimensions; therefore, studies on the sustainability of restaurant environments throughout the supply chain in a single study are still lacking.

The written literature review should be a well-structured argument that achieves the following features in its simplest form (Hart, 1998.) It identifies elements based on knowledge—first, a summary of prior research on the subject, including key concepts, definitions, and theories. Second, Identification and explanation of issues that other researchers have found essential. Third, consideration of how definitions were formed and operationalized as solutions to difficulties encountered in past work. Finally, Identification of gaps in the literature and a summary of unanswered questions and ongoing discussions.

Elements of argumentation:

This study was carried out following Hart's recommendations. To provide an environmental sustainability framework for restaurants, researchers review previous literature to operationalize solutions to difficulties encountered. In order to look back at earlier studies to see if there are any solutions to the problems, they have run across. Researchers will be able to identify gaps in the literature and a summary of outstanding questions and ongoing discussions using this method. It is primarily for small and medium-size restaurants with limited resources, knowledge, and capacity to enable such organizations to leverage their strengths to achieve environmental sustainability.

2.3 Logistics and Supply Chain Management

The rising complexity of business in terms of supply with goods arrangements and shipping prompted the development of logistics as a business concept in the 1950s.

Furthermore, logistics can be a component of SCM; SCM encompasses logistics entirely. This viewpoint was conveyed by Giunipero and Brand (1996), who stated, "SCM is more than logistics". SCM encompasses "most of the typical business school curriculum, including logistics, marketing, operations management, and purchasing, in its most extreme form logistics (inventory, warehousing, packaging, distribution, transportation, customer service, purchasing, production planning, and demand forecasting), strategic planning, information technology, marketing, and sales are among the components of supply chain management" according to Konezny and Beskow (1999).

2.3.1 Logistics and Supply Chain Definition

Logistics definition:

According to the Council of Supply Chain Management Professionals' definition of logistics, logistics is clearly a part of SCM, since it states,

"Logistics is that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption in order to meet customer requirements" (CSCMP, 2018).

Dey et al. (2011) state that "The operations to receive incoming resources and distribute final goods to the correct area, at the desired time, and in the ideal quantities".

Ballou (2004) also noted that "supporting tasks such as keeping information, operating warehouses, managing supplies, and protecting packaging design are essential to managing organisations". In terms of contributing logistics willingness, core activities like transportation, inventory management, and information flow remain key success determinants.

Therefore, as Christopher (2010) indicated in Figure 2.3 scope of logistics from the place of origin is to transfer the completed product to the end customer.

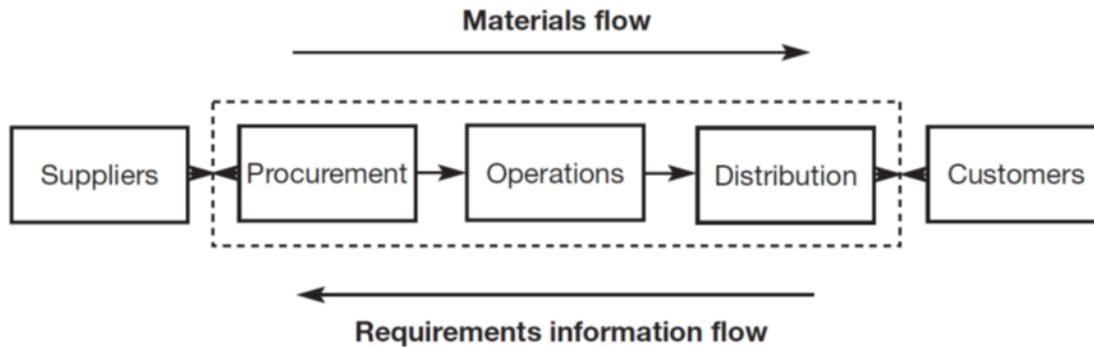


Figure 2.3: Logistics Management Process

Source: Christopher, 2010:11

Supply Chain Definition:

SCM is a concept, having been coined in the early 1980s by a group of consultants. Academics did not first describe SCM and attempt to differentiate it from logistics management on a theoretical foundation until the early 1990s (Cooper et al., 1997; Lambert and Cooper 2000). SCM is a set of processes that bring value to a product (Kotler, 2000). Similarities may be seen between this philosophy and Christopher's (1999:18) definition:

“The management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole.”

Stock and Lambert (2001) defined SCM as *"the management of eight essential business processes: demand management, procurement, production flow management, customer relationship management, customer service management, order fulfilment, product development and commercialisation, and returns"*.

Christopher (2010) defined SCM as *"the management of upstream and downstream relationships with suppliers and customers in order to create enhanced value in the final marketplace at a lower cost to the supply chain as a whole"*.

Van Hoek et al. (1998) conclude SCM as *“necessitates the seamless integration of all value-adding activities and reflects a shift away from traditional vertical hierarchy-based organisations with command-and-control approaches toward a more process-oriented, integrative approach based on close relationships and coordination among supply chain partners and customers”*. As a result, Section 2.3.3 discusses the value of supply chain linkages and integration, aided by technical improvements, and particularly information management.

SCM has traditionally been defined as *"the management of physical, logical, and financial flows in networks of intra- and inter-organizational linkages that generate value and satisfy customers"* (Mentzer et al., 2001: 7).

Furthermore, Mentzer et al. (2001) proposed that SCM as a management philosophy has the following characteristics:

"1. A systems approach to viewing the supply chain as a whole, and to managing the total flow

of goods inventory from the supplier to the ultimate customer;

2. A strategic orientation toward cooperative efforts to synchronize and converge intrafirm and

interfirm operational and strategic capabilities into a unified whole; and

3. A customer focus to create unique and individualized sources of customer value, leading to customer satisfaction."

SCM was generally defined by CSCMP (2010) as a collection of flowing processes and activities similar to those identified by Mentzer et al. (2001). CSCMP, on the other hand, identified the specific supply chain channel partners, describing SCM as:

"The planning and management of all activities involved in the sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes co-ordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies."

Although there have been some changes in SCM terminology in the literature and these publications, most of them are the same. They do, however, assist in defining SCM for the purposes of this thesis. By combining the SCM definitions from the previous section and providing an appropriate definition that related to all parties in supply chains. As a result, it is critical to clarify the definition used in this thesis. The CSCMP (2010) definition will be used for this thesis because it describes the role of logistics in the supply chain. It also recognises the scope of the supply chain, from point of origin to point of consumption, as well as the fact that the supply chain is more than just logistics management.

Furthermore, as Christopher (2010) mentioned in Figure 2.4 for the degree of value advantage and cost advantage, there are several fundamental ways in which productivity may be improved through logistics and supply chain management. Similarly, the potential for gaining a competitive edge through better customer service should not be overlooked.

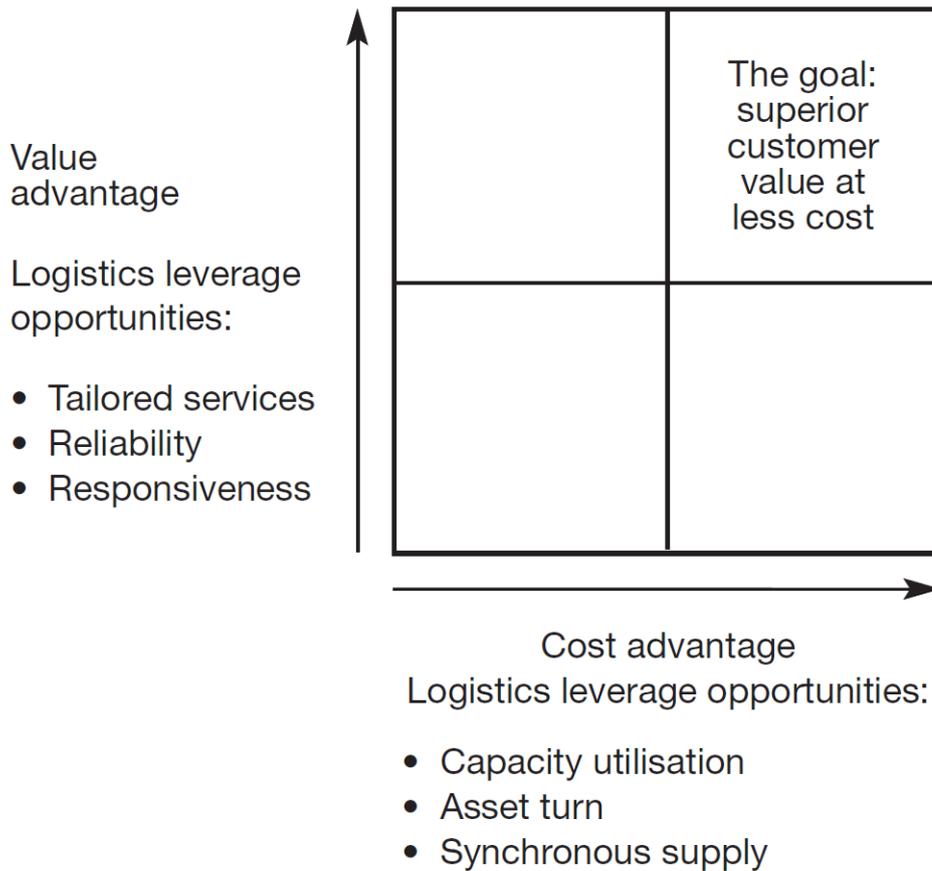


Figure 2.4: Gaining Competitive Advantage

Source: Christopher, 2010:9

2.3.2 Supply Chain Management

SCM has been shown to be associated with increased competitiveness and improved firm performance (Li et al., 2006). Furthermore, SCM is widely regarded as an effective management tool for firms seeking to maintain business stability, growth, and prosperity. SCM entails integrating business processes and providing products, services, and information that provide value to customers. This comprehensive approach reveals supply chain management. The goal is to reduce supply chain uncertainties such as demand, delivery times, quality, and competition.

Supply chain performance:

Performance measurement is "critical in the development and communication of strategies, as well as in the formation of diagnostic control mechanisms by monitoring actual results" (Wouters 2009). From strategic impact to tactical and operational planning and management, the importance of these indicators and metrics in an organization's performance cannot be emphasized. (Gunasekarana et al., 2004).

In terms of enhancing firm performance on focusing internal factors and practices, Martin et al. (2009) propose that the three main types of performance metrics for improving company performance from internal factors and practice are inventory, cycle time, and financials. All parts of supply interactions, such as "organizational structure," "partnering," "supplier agreements" and "process improvements," are affect in all measures. Furthermore, Banomyong and Supatn (2011) provide a supply chain performance evaluation tool that evaluates a firm's core supply chain activities across many performance characteristics. The pilot study was done on 44 local SMEs to assess business performance across three dimensions: cost, time, and reliability. They conclude that the tool can be used to describe a company's internal supply chain activity. The supply chain performance framework in use is capable of isolating each supply chain activity. SMEs cannot support or even maintain the competitiveness of their supply chain systems.

Managers require a comprehensive strategy to evaluating supply chain performance that takes into account the performance from all aspects of the company as indicated by various stakeholders (Dissanyake & Cross, 2018). Hove-Sibanda and Pooe (2018) used a quantitative approach to improve supply chain e-collaboration and performance by sending a survey questionnaire to 350 top managers. Supply chain practice has a strong positive and significant link with supply chain e-collaboration, and supply chain e-collaboration has a strong positive and substantial impact on strategic information sharing, according to the researchers. Eyaa et al. (2010) investigate the link between collaborative relationships and the performance of SME supply chains. Information sharing and incentive alignment were discovered to be important determinants of SME supply chain success, although "decision synchronization" was not. On the other hand, Khalil et al., (2019) suggest that the level of information exchange and strategic cooperation with suppliers have no impact on organizational performance. Furthermore, organizational performance was influenced by the quality of information sharing, and internal supply chain processes.

Impact on firm performance:

Disasters have disrupted business operations and global supply chains, prompting practitioners and academics to focus on survivability (Hofmann et al., 2014). They have recently been afflicted by COVID-19, a highly contagious, unusual, and virulent

outbreak. It's a new disease that's wreaking havoc on people's lives as well as the circular economy (Sarkis et al.,2020).

According to Farooq et al. (2021), there are two primary goals to consider in these disturbing conditions. The first is to ensure the long-term viability of operations, the availability of resources and labour, and the prevention of disease. The second goal is to move operations and other activities to digitally supported systems, which will increase overall reliability. By aligning with the fourth industrial revolution, the SC network's survival is assured. Furthermore, as shown in Figure 2.5 operations research and management methodologies assist practitioners in assessing system constraints and acting appropriately.

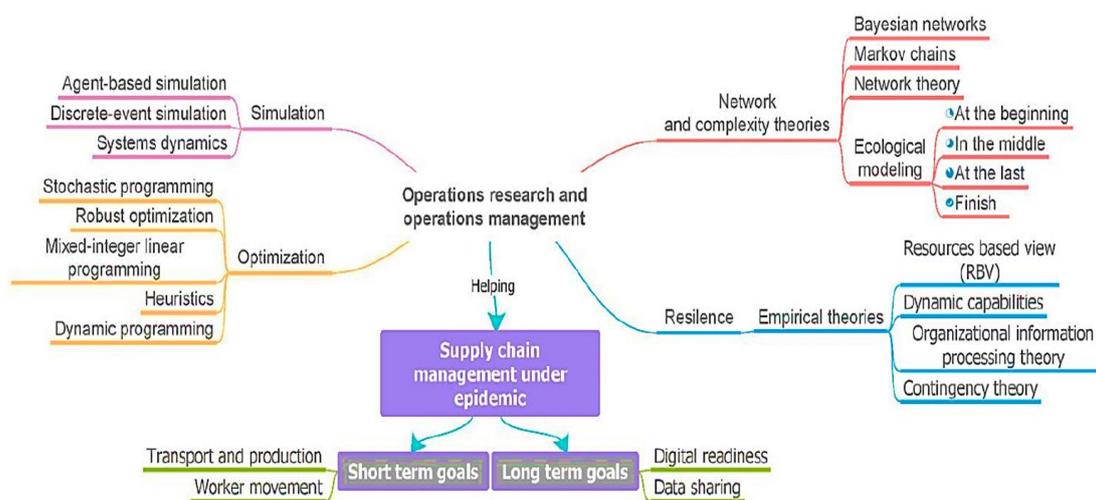


Figure 2.5: Operations research and operations management helping in supply chain disruption for short-term and long-term goals

Source: Farooq et al.,2021:4

A resilient supply chain can recover from the adverse effects of unforeseeable disruptions and adapt to unanticipated future events. According to the National Academy of Sciences (NAS), resilience is defined as "*the ability to anticipate, absorb, recover from, and more successfully adapt to adverse occurrences*" (National Research Council 2012). Resilience in a supply chain is defined as "*the ability to prepare for and deliver key functions during a disruption, as well as the ability to recover from and adapt post-disruption into a form better suited to the new present*". Although supply chain management principles such as sustainability, ruggedness, leanness, and others are critical for business success, supply chain resilience is distinct in focusing on recovery following a disruptive event.

The pandemics and other systemic threats interrupt an entire supply network, including multiple supply chains, value chains, periods, even though many disruptions

only necessitate resilience in a single supply chain. Epidemics and pandemics put pressure on food supply chains to increase capacity and the resilience of the global supply network. However, it neglects to put the supply chain in the context of other networks related to the food supply chain, such as transportation and command and control implementation. In order to establish fundamental tools for decision-makers, a drive toward standard definitions, metrics, and models should be addressed (Golan et al., 2020). Critical issues that impact logistical activities include: “changing consumer expectations”, “the impact of e-commerce”, and “the relationship with the natural environment”. To assure business model strategically, retail logistics and supply chain players must recognise niche markets, embrace more completely e-commerce potential, and enhance sustainability initiatives (Grant et al., 2021).

2.3.3 Supply Chain Relationships and Integration

Many organizations are also developing long-term strategic relationships with supply chain partners, such as cooperative and collaborative relationships. Organizations improve their environmental capacity by reducing waste, meeting volatile and unpredictable demand, providing superior customer value, and lowering supply chain costs to be sustainable. On the other hand, partnerships rely on mutual agreements and a win-win strategy (Ploetner & Ehret, 2006). Ramanathan and Gunasekaran (2014) believe they are founded on aspiration for performance and profit and are built on enlightened self-interest. As a result, partnerships include both rivalry and collaboration: *“even if they are effective senior management commitment, same management principles, frequent performance feedback, clearly defined and practical goals, detailed planning, effective management teams, and efficient communication are also mentioned in the literature”*.

It is critical for supply chain integration that the enterprises in the supply chain share a single goal and work together to achieve it (Christopher, 2010). According to research, the majority of opportunities exist at the interface of supply chain partners, and supply chain effectiveness is determined by how effectively and efficiently members collaborate rather than how well they execute individually. The primary point becomes even more critical in highly volatile and dynamic marketplaces and industries (Christopher, 2010).

Researchers have also characterized and detailed numerous forms of integration. However, they may be broadly classified into internal and exterior integration, with the former thought to lead to the latter. Danese et al. (2013) defined internal integration as “the extent to which functions within a company cooperate, interact, and collaborate in order to resolve issues and reach mutually accepted solutions”. *External integration* is defined as “the degree to which a manufacturer creates collaborative connections and intimacy with both suppliers and customers, exchanges information, and cooperatively plans and coordinates supply chain activities” Danese et al., 2013: 127).

Supply chain integration (SCI) allows a supply chain to respond quickly to unpredictably changing business conditions (Lee et al. 2000; Le; Danese et al., 2013). It enables planning and forecasting, input management, efficiency improvement,

uncertainty monitoring, and the abolition of repetitive tasks and non-value-adding operations. Furthermore, SCI led the company to improve its ability to increase visibility, reduce demand uncertainty, plan consistently across the supply chain, improve productivity and quality, and obtain maximum long-term performance. (Cooper et al., 1997; Christopher, 2010). SCI, on the other hand, involves information exchange from beginning to end. The well-known bullwhip effect, in which changes upstream in the chain due to amplification of demand lead to excessive inventory and wastage, delays and shortages in some regions, and surpluses in others, emphasizes this relevance (Lee et al., 1997). In addition, a loss of control, lower visibility, and increased uncertainty may undermine smooth flows in global supply chains. Indeed, because supply chain partners' operations and performance are no longer deemed to belong to a single firm but rather to the supply chain as a whole, the hazard of sustainability will increase significantly (Grant et al., 2013).

Supply chain stakeholder:

In 1984 R.E. Freeman introduced a paper as part of the Pitman series in Business and Public Policy: the stakeholder approach. Its release was a crucial milestone in the evolution of stakeholder theory. (Sinclair, 2011; Parmar et al., 2010; Donaldson and Preston, 1995). Stakeholder theory was developed by Freeman et al. (2010) to address three issues that have evolved in recent decades. It tries to improve our understanding of value generation and how it is exchanged, integrate ethics and capitalism, and assist managers in dealing with these issues. It tackles "the issue of value creation and commerce, the issue of capitalism's ethics, and the issue of management attitude" (Parmar et al. 2010: 405). As a result, stakeholder theory was established as a strategic management method. It can now be found in many managerial publications that contribute to various disciplines of business expertise (Donaldson and Preston, 1995).

Freeman and Liedtka (1997: 293) proposed five more assumptions in their attempt to analyze the stakeholder :

- (1) Stakeholder interests and vital interests are linked. When a company succeeds, so do its stakeholders.
- (2) Value creation takes precedence above value acquisition.
- (3) Anyone who benefits from the value chain's drivers must invest in it.
- (4) Stakeholders must work together.
- (5) Businesses serve as vehicles for achieving stakeholder objectives.

Ackermann and Eden (2011:180) proposed the following three steps for applying the Stakeholder Approach to strategic management methods to innovate organisations:

- (1) Determining who the actual stakeholders are in the given situation (rather than relying on generic stakeholder lists). Recognising the uniqueness of an organisation's

context and goals enables managers to identify specific stakeholders and be clear about their importance to the organisation's future.

(2) Investigating the impact of stakeholder dynamics; recognising the numerous and interdependent interactions between stakeholders (and potential stakeholders);

(3) Creating stakeholder management strategies; determining how and when to intervene to change or develop the basis of an individual stakeholder's significance, which is determined by an in-depth examination of the stakeholder's power to influence the organisation's direction.

Stakeholder theory was founded on these foundations. It had become common knowledge that an organization's focus must be on value creation, that customers, employees, suppliers, the government, and others are critical to company success. (Freeman and Liedtka, 1997) As a logical consequence of an organization's and its stakeholders' mutual influence, Freeman began to link morality and business.

A theory must meet at least the following deciding qualities, according to Vos and Schiele (2014): It must include not only units, laws, boundaries, and system states, but also an explanation of why particular events occur. However, it should include propositions, hypotheses, empirical indicators, and empirical research as part of the research operation criteria.

Collaboration, defence, involvement, and monitoring are four broad stakeholder management techniques proposed by Savage et al. (1991). Cooperative tactics that lead to stakeholder partnering within an organization are distinguished by Harrison and St John (1996) from stakeholder management techniques that protect the company from stakeholder challenges and demands. Based on previous research and their work on green marketing, Polonsky and Ottman (1998) propose four major stakeholder management techniques: “adaptability, aggression, cooperation, and isolation”. Finally, based on qualitative research, Bunn et al. (2002) present six basic stakeholder management techniques: “collaborate, defend, educate, involve, lead, and monitor”. Figure 2.6 shows the relationship of stakeholders in stakeholder wheel.

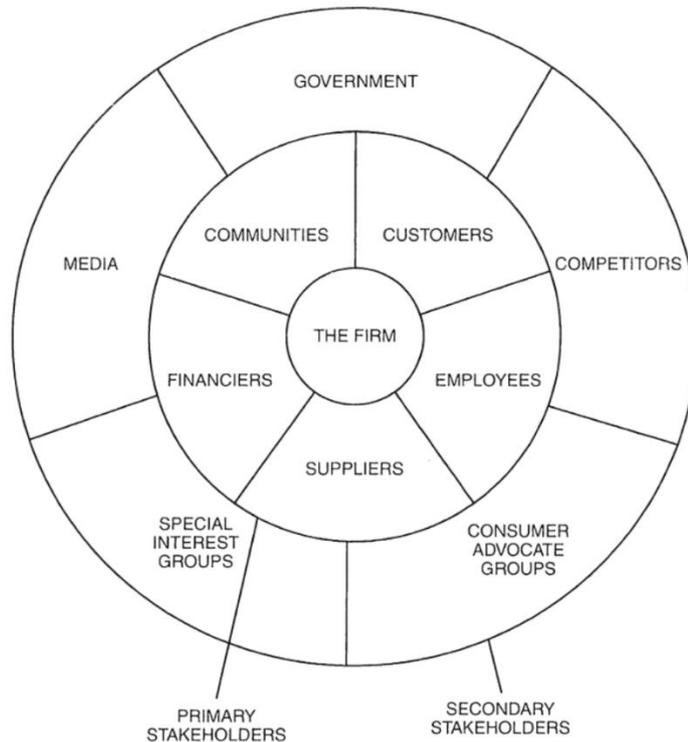


Figure 2.6: Stakeholder wheel (1984-2007)

Source: R.E. Freeman et al., (2007)

Stakeholder theory encompasses aspects that are not even merely competitive, providing a broader view of the strategic environment. It emphasizes the articulation between macro-environmental structural factors and corporate structural parameters while also considering the influence of institutions, regulations, the development of new actors, and the impact of technology breakthroughs (Boucher and Rendtorff, 2016). Stakeholder theory explains a situation in which there are a rising number of connections and, as a result, an endless number of interactions. Relationships with economic, political, and administrative entities at various levels are added to relationships with clients and suppliers.

Supply chain stakeholders impact a company's supply chain policies and procedures. Clarkson (1995) defined primary and secondary stakeholders, and he mentions that the primary stakeholders contribute to the company remaining solvent. Customers, suppliers, and manufacturers are examples of stakeholders who can help an organization succeed. Secondary stakeholders, such as the media, governments, and non-governmental organizations, influence but are not involved in the company's financial transactions (Carskson, 1995). Managers and employees within the (focal) enterprise are considered internal stakeholders, whereas suppliers, third-party logistics service providers, and government entities are external stakeholders (Sarkis et al., 2010).

Many businesses are using supply chain management to improve their performance. With the advent of integrated supply chains, the potential for outsourcing, and the growth of collaboration among business partners and competitors, the environment in which firms operate has changed dramatically. Collaboration among supply chain participants undoubtedly shapes and influences the type and volume of information shared. Collaboration must be planned and sustained for an organisation to be effective (Cassivi, 2006).

Supply chain collaboration:

Previously, 'business partners' were used to signify supply chain collaboration. Small businesses, on the other hand, who are unfamiliar with the terminology supply chain collaboration, call it "business dealing." These concepts refer to the collaboration of partners along the supply chain. However, the term "collaboration" is not as thoroughly defined as it should be (Sari, 2008). The supply chain is a complete product cycle that begins with the supplier and the consumer. There are several stages in the supply chain, with the production line being one of the most essential. Supply chain collaboration, as defined by Mentzer et al. (2000), is "a method by which organizations involved in the supply chain collaborate to achieve common goals by sharing expertise, information, profits, and risk, among other things".

Supply chain collaboration is a broad phrase that refers to the entire supply chain. According to Hogarth-Scott (1999), collaboration is essentially openness, sharing risk and benefits, and it is impossible to increase performance without collaboration. According to Spekman et al. (1998), collaboration is a partnership formed between organizations to share considerable investment costs. SCC is becoming increasingly significant in businesses (Cao and Zhang 2010; Kocoglu et al., 2011). Partnerships can be considered as the defining factor in the process of trade among supply chain members; their relevance allows system members to reach the set-out objectives and, in the end, meet the expectations of consumers. Supply chain cooperation has been extensively researched from various perspectives, and collaborative notions first became popular in the field of SC in the mid-1990s (Barratt, 2004). Collaboration is defined as "two or more people working together to gain a competitive edge through information sharing, shared decision-making, and sharing the rewards of higher profits by satisfying consumer wants than operating alone." Simatupang and Sridharan (2002). According to Anthony (2000), "collaboration" is defined as "two or more firms sharing the responsibility for spreading, managing, implementing, and measuring performance information strategies." By exchanging knowledge and gaining additional surpluses toward a common objective, two or more companies become partners (Cao and Zhang et al., 2010). Supply chain collaboration promises supply chain partners to work together as a team and collaborate on essential activities to achieve a common goal. Collaboration is a trusting relationship between companies in which profits and risks are shared (Olorunniwo and Li 2010). Figure 2.7 represent types of collaboration.

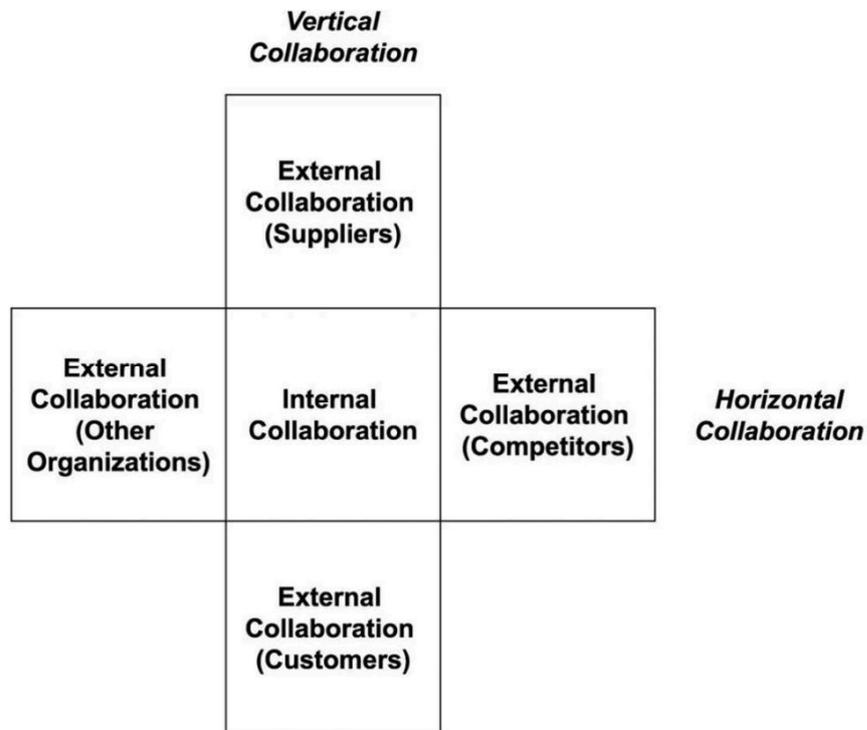


Figure 2.7: Types of collaboration (Barratt, 2004)

Collaboration with suppliers, customers, and across functions is included in the vertical form (Barratt, 2004). “Manufacturing/supplier collaboration, manufacturer/customer collaboration, and third- and fourth-party logistics provider collaboration are examples of collaborative relationships” (Horvath, 2001). Relationships with competitors, non-competitors, and internally across functions are all included in the horizontal form (Barratt, 2004). These are unrelated or competing firms at the same level of the supply chain that can create identical products or various components of a single product. Information and social exchanges are the foundations of horizontal linkages (Bengtsson and Kock, 1999).

As a result, the collaboration relationship can be divided into two types: internal collaboration, which is defined as a collaboration among functions within a single company, and external collaboration, which is defined as a collaboration among partners (Barratt, 2004). The internal form refers to operations that take place within a company to meet its customers' needs. The degree to which a manufacturer collaborates with its external partners is referred to as the external form (Flynn et al., 2010). According to Barratt (2004), “external operations for the downstream chain: customer relationship management, collaborative demand planning, demand replenishment, and shared distribution; upstream chain strategies: supplier relationship management, supplier planning and production scheduling, collaborative design, and collaborative transportation”.

This study focuses on environmental sustainability practices in restaurants—stakeholder theory followed by investigating sustainability goals and environmental activities of several primary, internal and external organization following supply chain collaboration, the collaboration between firms in the supply chain is explored. According to Alzoubi and colleagues (2020), firms can use the Triple Bottom Line (TBL) framework to evaluate their performance in a broader context and increase collaboration with suppliers and customers by exchanging information among supply chain partners. The researcher will be reviewed the literature related to sustainability supply chain on environmental perspective in section 2.4.3.

2.4 Sustainability

The importance of sustainability has become an increasingly prevalent factor in many industries. Likewise, Corporate Agenda 21 demonstrates there is a global action plan in which member corporations develop their positioning in environmental, responsibility, and social sustainability (McDermott, 2009). A series of United Nations conferences on development paths have focused on sustainable development as a fundamental issue. These conferences have demonstrated that the interconnected ties between environment and development are essential for more than just conservation and the economy. Nonetheless, it expressed concern about human rights, population, housing, food security, and gender, all of which are critical components of long-term development (United Nations Department of Public Information, 1999). Improvements in sustainability can be challenging to evaluate, especially when measures are unavailable or the outcomes are intangible. The precise statistics are becoming essential as recognising changes becomes a more vital element. As a result, to reach the desired performance level, it is necessary to continue to create sustainable awareness of more efficient sustainable viewpoints.

2.4.1 Sustainability Definition

The United Nations report "Our common future" (United Nations 1987), popularly known as "the Brundtland report", sparked a global debate on global sustainable development.

Therefore, the regularly cited definition of sustainability identified: "*development that meets the needs of the present without compromising the ability of future generation to meet their own needs*". According to International Institute for Sustainable Development, sustainability is used to describe the concept of transferring sustainability to businesses: "adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future" (IISD 1992).

More recently sustainable has received a growing amount of attention in the literature. Shrivastava (1995) stated to the rules set to achieve ecological sustainability, demonstrates that sustainability contributes "*the potential for reducing long-term*

risks associated with resource depletion, fluctuations in energy costs, product liabilities, and pollution and waste management”.

Other definitions of sustainability exist. For example, the World Commission on Environment and Development (WCED, 1987) defines *sustainability* as "economic practices that meet current demands without jeopardising future generations' ability to meet their own needs". Owing to the growing concerns posed by global warming and climate change, efforts to generate supply chains more environmentally friendly have captured prominence (Shukla et al., 2009). "An organisation must manage not only short-term financial results, but also risk issues deriving from its products, environmental waste, and worker and public safety", Srivastava (2007) adds. According to Mentzer et al. (2001), *sustainability* is "the management of material, information, and capital flows as well as cooperation among companies along the supply chain while integrating goals from all three dimensions of sustainable development", i.e., social, environmental, and economic requirements received from stakeholders and customers to enable the organization to be more sustainable.

According to Carter and Rogers (2008) article, the most significant sustainable challenge is centred on definitions of sustainability literature. Environmental and economic problems are taken into account in sustainability, and corporate social responsibility conceptualizations and operationalizations take into account the junction of social and environmental challenges. Carter and Rogers (2008) state in the framework of sustainable supply chain management in Figure 2.3, the sustainability idea is at a higher level and consists of three components: the environment, society, and economic perspective. Sustainability is a balancing act in which business decisions are made with the three dimensions of sustainability in mind, including the business's economic viability. Elkington (1998) states to the Triple Bottom Line (TBL) is a sustainability approach divided into three components that evaluate and balance economic, environmental, and social factors simultaneously. TBL, the most crucial goal for businesses is to maintain long-term profitability. Environmental sustainability comprises paying attention to environmental changes and observing environmental regulations, whereas social sustainability perspective covers relevant societies' social affairs, human rights, and health-care services (Alkaraan et al., 2022).



Figure 2.8: Sustainable supply chain framework

Source: Carter and Rogers, 2008

Consequently, it seems that social, environmental care and economic development are essential parts of business enterprise. Similarly, the concept of creating shared value that Porter and Kramer (2011) is described as “*policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates*” Accordingly, one of the strategies that can achieve a global action plan is sustainable management becoming more critical and being mentioned in all industries. Pagell and Shevchenko (2014) conclude that understanding sustainability increasing acceptance and activity while developing a truly sustainable supply chain that is better at looking backwards than forwards. Moreover, Seuring and Muller (2008) argued that the economic, environmental, and social factors taken into account are derived from customer and stakeholder concerns. Pagell and Wu (2009) study mentioned that business success is closely connected with customer willingness. Corresponding to the study of Taticchi et al., (2013), they comment that meeting customer needs and related economic criteria need to be fulfilled by all partners throughout the supply chain. Therefore, sustainability research should consider social and environmental performance as equally or more accurate than economic performance. Evidence that environmental or social practices positively impact economic performance while negatively impacting on the economic bottom line is not sustainable as Carter and his co-author believe (Carter and Dresner, 2001). However, the literature offers numerous cases of companies who face trade-offs between economic and non-economic performance (e.g., Perego and Kolk, 2012). Furthermore, sustainability research is grounded in stakeholder theory (Clarkson, 1995; Eesley and Lenox, 2006). Johnson and Klassen (2022) used stakeholder theory to explain how potential inter-stakeholder tensions affect the difficulties and possibilities for SSCM practices. As a result, possible sources of inter-stakeholder tensions are highlighted, which must be balanced or resolved to

develop GPP. Furthermore, process-based collaboration can engage many stakeholder groups, reduce inter-stakeholder tensions, and create cooperative, new solutions for better environmental outcomes.

2.4.2 Sustainability Drivers and Barriers

Researchers debate what motivates businesses to implement sustainable initiatives and what inhibits them from doing so. Mollenkopf (2006) maintains two viewpoints on sustainability drivers. The first includes the organization's goal to be sustainable and the variables that support it, such as the leader's or owner's dedication to sustainability. Another reason is to save money; cost is both a barrier and a facilitator when incorporating sustainability. Sustainability initiatives are also motivated by a desire to eliminate the market and sustainability terms like issues that can result in a sudden competitive disadvantage; reducing operational issues, such as clean-ups; increasing energy and material costs; and improving relationships with multiple stakeholders. The second viewpoint emphasizes a forced approach, in which organizations are compelled to integrate sustainability to avoid liabilities by stakeholders, government policies, and regulation (Mollenkopf, 2006).

To integrating sustainability into business operations is regulatory pressure. The most critical areas of legislation in the sustainability development are “the quantities and types of chemicals used in products, chemical waste, discharge of waste water, waste disposal, site of origin, emission and landfill tax, and personal liability of directors and officers in health and safety” (Anderson and Anderson, 2009). These are some of the areas where businesses must comply in order to save money. On the other hand, organizations must spend money to identify or develop alternatives to or substitutes for products or materials prohibited by law. A supportive culture that incorporates employees, particularly middle management, is frequently highlighted as an enabler in the literature. Some systems, such as “Environmental Management Systems (EMS) and International Standards Organization (ISO) principles”, are also advised for integrating sustainability into company operations, despite widespread criticism (Grant et al., 2021).

Essential variables can influence sustainability implementation; for example, firm size is essential in sustainability and environmental management literature (Klassen, 2000). Murphy et al. (1995, 1996) discovered that smaller companies placed less emphasis on environmental management than more prominent organisations in an academic assessment of 135 enterprises study. Walton et al. (1998) discovered that persuading small businesses to participate in green purchasing was a big challenge. Furthermore, Ahmed et al. (1998) discovered that larger organisations are more environmentally responsible and maintain to grasp sustainability purchasing methods than smaller companies in more broad corporate performance research and environmental consciousness.

According to Walker and Jones (2012), firms believe that having an excellent brand reputation will help them save money on sustainability. Nevertheless, a good brand reputation is, in most cases, the result of successful sustainability measures. They also stressed the necessity of being proactive in sustainable projects in order to obtain a competitive edge and control reputational and environmental issues. However, a vast body of literature on sustainability argues that it has a significant impact on brand image. Organisations see sustainability as a positive change to create goodwill among environmentally conscientious consumers and improve brand image (Tate et al., 2012).

The literature on sustainability advocates incorporating sustainability into policy and guidelines based on reliable data on sustainability practice indicators and standards. However, there are no consistent and agreed-upon measures to quantify the impact of sustainability at the national, international, and organizational levels. As a result, the lack of clear and internationally accepted criteria and indicators makes it challenging to apply sustainability, particularly in worldwide organizations. As a result, new frameworks for organizing and integrating sustainability into decisions and policymaking are being developed and accepted. Existing systems cannot ensure sustainability viability; however, they can act as a guideline (Grant et al., 2021).

Shaw et al. (2021) outline the key drivers, barriers, and advantages of implementing environmental supply chain performance monitoring into business practices. The study survey of 388 UK supply chain organizations and focus group professionals. The study also discovered that “the implementing process is primarily enabled by internal factors such as cost and operational efficiency and external stakeholder pressure but is also hampered by internal inhibitors: obtaining data and knowing what to measure and report. Furthermore, the study provided the better understood using complexity theory and overcome using assets and skills, i.e., the resource-based view”.

Institutions Theory impact:

Organizations that assume a similar structural posture in an organizational field are seen as being isomorphic familiar institutional environment, according to DiMaggio and Powell (1983). North (1990) asserts that institutions are solid social structures that define socially acceptable in society (Clemens and Cook 1999). The institutional setting can impact its operations and the entrepreneurship process (Ireland et al., 2008).

Institutional theory has become a prominent perspective (Suddaby, 2010). Institutional theory can help address organizational advancement by encouraging a broad mix of historical and comparative study and giving conceptual tools to capture and interpret the astonishing diversity of organizations across time and geography (Scott, 2005). In order to create commercial prospects, the institutional potential is

crucial. According to Prasetyo et al., (2022) “standardization, commercialization, technology, productivity, invention, social capital, and human capital, bolstered institutional potential and social entrepreneurship”. They found that in more business endeavours and increased competitiveness. However, in order to boost the company efficiency and productivity of socio - economic and cultural systems, institutional barriers must be removed. Institutions vary greatly between sector marketplaces, the effectiveness of apparatuses for incentivizing, monitoring, and enforcing, and the norms, attitudes, beliefs, regulations, and laws that are important in developing performance levels (Holmes et al., 2011).

Government regulation, industry rivalry, market forces, and customer expectations, on the other hand, considerably influence enterprises' environmental sustainability levels. In order to develop sustainability supply chain into restaurant, environmental management strategies are positively influenced by a company's institutional context. Therefore, when applying environmental management techniques in the quest for sustainable business development, organizational information systems such as environmental practice are beneficial in giving information on environmental costs and evaluating environmental performance.

2.4.3 Sustainable Supply Chain Management

The emphasis on business sustainability instead of more general sustainability has drawn widespread interest to the sustainability of the all sectors, along with the food supply chain (Shokri et al., 2014). The research and application use of SSCM has become increasingly popular (Beske and Seuring, 2014). The term "sustainability" also been used in the literature to describe sustainability in the context of SCM. According to Seuring and Müller (2008), between 1990 and 2007, the number of published publications on green issues and SSCM increased from 191 to around 308 by the end of 2010. SSCM is a developing area, and more study and data collection will be required in the future (Touboulic and Walker, 2015).

Keeping the dialogue flowing and the meanings open in an emerging stage denotes a multiplicity of ideas contributing to the broadening of the SSCM knowledge base. In tandem with the continuous rise of research in SSCM, Ahi and Searcy (2013) claim that a more “holistic view of sustainability” and “integration” with SCM has emerged, demonstrating the growing impetus for SSCM research.

Over two decades, since the term "sustainability" first appeared in the literature, academics and practitioners have presented a variety of definitions (Winter and Knemeyer, 2013). This study uses environmental perspective from Carter and Rogers (2008) SSCM concept to acknowledge sustainable development in restaurant sector. The concept: *"the strategic achievement and integration of an organization's social, environmental, and economic goals through the systemic coordination of key inter-organizational business processes to improve the individual company's long-term economic performance and value network"*.

In the context of SCM, sustainability is significant since customer demonstrated more concerned in sustainability products, which has boosted market competition (Shaw, 2013). Governments and non-governmental organisations are increasingly pressuring businesses to exhibit sustainably practices, especially in the context of renewable sources and energy prices (Wolf and Seuring, 2010). Evaluating the impact of a sustainable supply chain strategy on the triple bottom line is becoming increasingly crucial for businesses (Markley and Davis, 2007). The way items are carried, handled, stored, manufactured, and supplied worldwide is a fundamental challenge to sustainability. McKinnon and Ge (2006) state that to empty return fresh air and superfluous packing are delivered, warehouse' products remain empty and become outdated, while unnecessary products move backwards and forwards. As each corporation strives to achieve goals within their silos, supply chain networks are frayed, and innovation is stifled, all of which impact the natural environment. As a result, businesses must quantify and mitigate their environmental impact loads.

Environmental dimension:

The environmental dimension refers to a set of goals, programmes, and methods to improve environmental responsibility and promote ecologically friendly technologies (Klassen, 2000). Organizations will engage with their suppliers to improve environmental performance in their operations and products in the develop green supply chain (Zhu et al., 2005). In the literature, Darnall et al. (2008) finds that “firms adopting GSCM may only evaluate 1st-tier suppliers, whereas the SCM function has an impact along the supply chain as 2nd, 3rd-tier suppliers”. According to Hagelaar and Van der Vorst (2001), GSCM was developed in response to concerns connected to the natural environment.

Gimenez et al. (2012) state that “*environmental sustainability refers to the use of energy and other resources, as well as the footprint companies leave behind as a result of their operations*” at the plant level. Furthermore, waste management, water conservation, energy efficiency, emissions reduction, decreased expenditure of hazardous substances / damaging /toxic products and decreased occurrence of environmental mishaps are all linked to environmental sustainability (Gimenez et al., 2012). “Environmental sustainability is strongly dependent on the discovery and utilization of innovative, clean, and environmentally sustainable sources of energy”, Yusuf et al. (2013) write. Businesses must keep their resource use under control and safeguard themselves from potential contaminants.

One of the primary goals and commitments offered by the Kyoto Protocol in 1997 is climate change, which directly influences developing countries. The UN Framework Convention on Climate Change (UNFCCC) expressly lists developed countries and those in the process of becoming developed (Yusuf et al., 2013). In 2021 United Nations Framework Convention on Climate Change held at Glasgow, United Kingdom (UK) in partnership with Italy. The 26th Conference of the Parties (COP 26) demonstrated the “blueprints for 197 signatory countries to meet the requirements of the Paris Agreement (signed by COP 21)”. The Agreement purposed to “keep the overall increase

in global surface temperature to well below two °C, with the goal of not exceeding 1.5 °C. This cooperation is universally acknowledged and no longer actively contested as the bare minimum for ensuring a comfortable and practical human existence in the coming decades” (Riordan, 2022).

The combination of nationally specified contributions eventually led to sustainability measures. Climate-resilient advancement necessarily requires an embedded approach to ensure long-term sustainability, economic progress, and just protection of humans. Stabilize the climate and move towards sustainability, climate-smart agriculture, sustainable forest management, early warning and sharing systems, resilient infrastructure, soil and water conservation, and livelihood diversification must all be implemented (Arora and Mishra, 2021).

Furthermore, Elkington (1997) is credited with popularising the triple bottom line (TBL) philosophy “also known as the three pillars: profit, planet, and people”. Companies provide TBL reports to their stakeholders on a regular basis as proof of their commitment to sustainability. As a result, the paradigm proposed by Carter and Rogers (2008) based on Elkington's (1997) "triple bottom line" idea illustrates that sustainability has economic, environmental, and social components. Many businesses have used sustainability techniques such as eco-design, corporate social responsibility, competitive advantage, and cost-cutting to achieve their objectives. As a result, companies must concentrate on these three factors in order to become more sustainable. There is also a major focus in the light of COP26 for countries and organisations to be carbon neutral and set ambitious goals to doing so, which is very much part of the ‘planet’ perspective in the TBL.

Local social development, interconnected environmental challenges, and global economic effects must be prioritized in sustainable practices (Bendul et al., 2017; Tan et al., 2016). The supply chain is diverse, made up of multiple participants, and dispersed across various levels and geographies; hence, the differentiation between different regions offers severe sustainability difficulties (Carter et al., 2015). Tsai et al. (2021) conducted an information analysis that describes the overall situation and identifies the factors impeding improvement in the field of. “Big data, closed-loop supply chains, industry 4.0, policy, remanufacturing, and supply chain network design” were discovered to be the most critical indicators of future trends and disputes.

Focusing on describing environmental situation and issues, such as various types of natural capital or resources, such as water, energy, and waste important to this study in terms of enhance sustainability practice to embrace restaurant sustainability best practice.

Sustainability supply chain collaboration:

The most commonly employed theories are the stakeholder theory and the resource-based view. Contextual variables can affect or modify supply chain cooperation for sustainability in this way, enriching our understanding of the circumstances of supply chain collaboration for sustainability matters (Chen et al.,2017). Facilitating sustainability through supply chain collaboration, on the other hand, is a complicated process. Sustainability can also be thought of as a multi-staged and sub-processes invention. The diffusion of innovation theory can aid researchers in expanding current research by examining supply chain collaboration for sustainability at several levels and the implications of each stage on sustainability (Chen et al.,2017).

The majority of research on supply chain collaboration for sustainability focuses on upstream entities, particularly suppliers, according to the content analysis of the entities in supply chain collaboration for sustainability. In terms of input, such studies can assist businesses in enhancing sustainability through supplier engagement. Meanwhile, looking into collaboration with customers and competitors further down the supply chain can be beneficial in output (Un and Asakawa, 2015).

Alzoubi et al. (2020) discovered that organizations with a lower level of implementation of sustainable supply chain concerns were more likely to prioritize cost-based advantage. Collaboration and exchanges with suppliers have also been identified as having more practice with companies in terms of sustainability. Collaboration, integration, and genuine dedication are required for long-term success in sustainability. All internal and external representative of the supply chain, company departments and employees must be genuinely sustainable. Furthermore, companies' external relationships must be long-term.

The supply chain intends to play a significant role in changing supplier relationships through procurement activities that prioritize reducing environmental impacts (Chin et al., 2015). Figure 2.9 shows the SSCM collaboration conceptual framework.

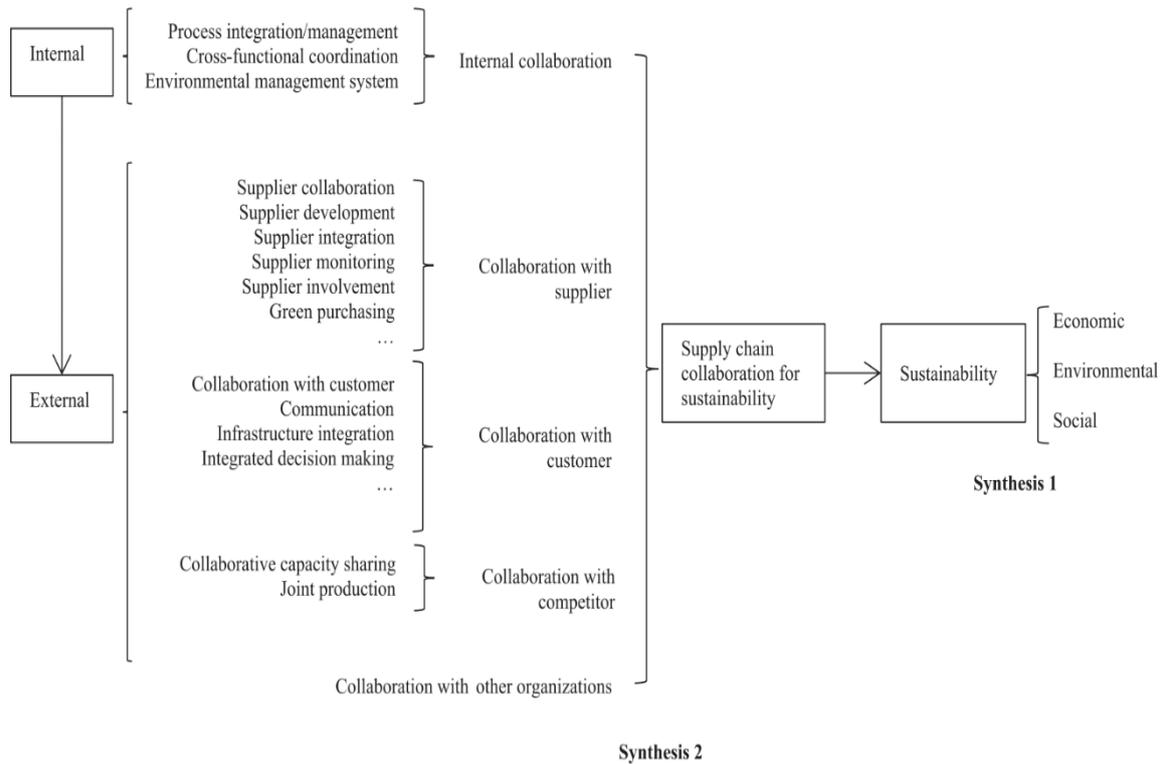


Figure 2.9: Conceptual framework for sustainable supply chain collaboration (Chen et al.,2017:84)

Resource Based View (RBV) Theory:

Edith Penrose (1959), who emphasized the role of resources in facilitating or restraining organizational growth, is credited with founding the Resource-Based View (RBV). Penrose (1959) described resources as “the tangible objects a corporation buys, leases, or creates for its use, as well as the people employed on terms that make them essentially part of the firm” (Penrose 1959: 60).

The RBV concept proposes that organisations have essential, unique, and utterly unique resources sustained over time. Amit and Schoemaker (1993) concentrate on "strategic resources," which are defined as "strategic resources that (1) have value and can be used to increase customer value or cut costs; (2) are uncommon, so competitors do not have access to the same or a very similar resource to compete away the value; and (3) are difficult to substitute and imitate, allowing the organisation to stay ahead of the competition" (Barney 1991). RBV is a set of ideas that all share the generalisations of resource heterogeneity and immobility. According to this viewpoint, a company is a collection of resources, competencies, or routines that generate value but are difficult for competitors to replicate or appropriate due to mentioned in various (Miller, 2019).

Scholars and practitioners agree that businesses and their supply chains need to build and use specific organizational capacities to meet the difficulties of sustainable development and respond to pressures from various stakeholders (Vachon and Klassen, 2006; De Bakker and Nijhof, 2002; Reuter et al., 2010; Sarkis et al., 2010; Sarkis, 2011). The RBV introduced the terminology and structure to comprehend business sustained competitive advantage from resources and competencies. While the Natural Resource-based View (NRBV) clarified the company's ability to manage resources from the perspective of environmental outcomes, neither emphasized social functionality nor TBL sustainability (Tate and Bals, 2018). Hart (1995: 988) used the RBV as the baseline to create an NRBV. The NRBV variables broaden the capabilities to include those required to manage environmental restrictions (Tate et al., 2010).

NRBV progressed from RBV in terms of variable interactions. Still, it tends to focus on the relationships between businesses' resources and capacities to gain a competitive advantage within the specific situation and restrictions of the natural surroundings (Hart 1995). As a result, NRBV focuses on how businesses develop the capabilities to achieve both environmental and business objectives, which initially included carbon emissions exclusion, ecological responsibility, and long-term development (Hart 1995). The ecological perspective can be incorporated into the manufacturing design and development phase (Hart and Dowell, 2011).

SSCM amid the pandemics:

To better prepare the supply chain for improved resiliency and survival in highly volatile circumstances. These essential elements, such as cost efficiency, agility, adaptability, resource efficiency, carbon footprint, and accuracy, are highlighted more through content assessments on the path to sustainability. The positive and negative feedback in supply chain ecosystems and the interactions of supply chain stakeholders such as society and organizations were all taken into account. Similarly, workforce development and technical breakthroughs are favourable interactions, but supply chain disruptions and organizational-based resilience levels), global disruptions are negative interactions. Negative interactions include pandemics or epidemic breakouts that disrupt supply chains and reduce survivorship. Figure 2.10 demonstrated the framework for Readiness Supply Chain to Combat Pandemics from both Intra-focus and Inter-focus.

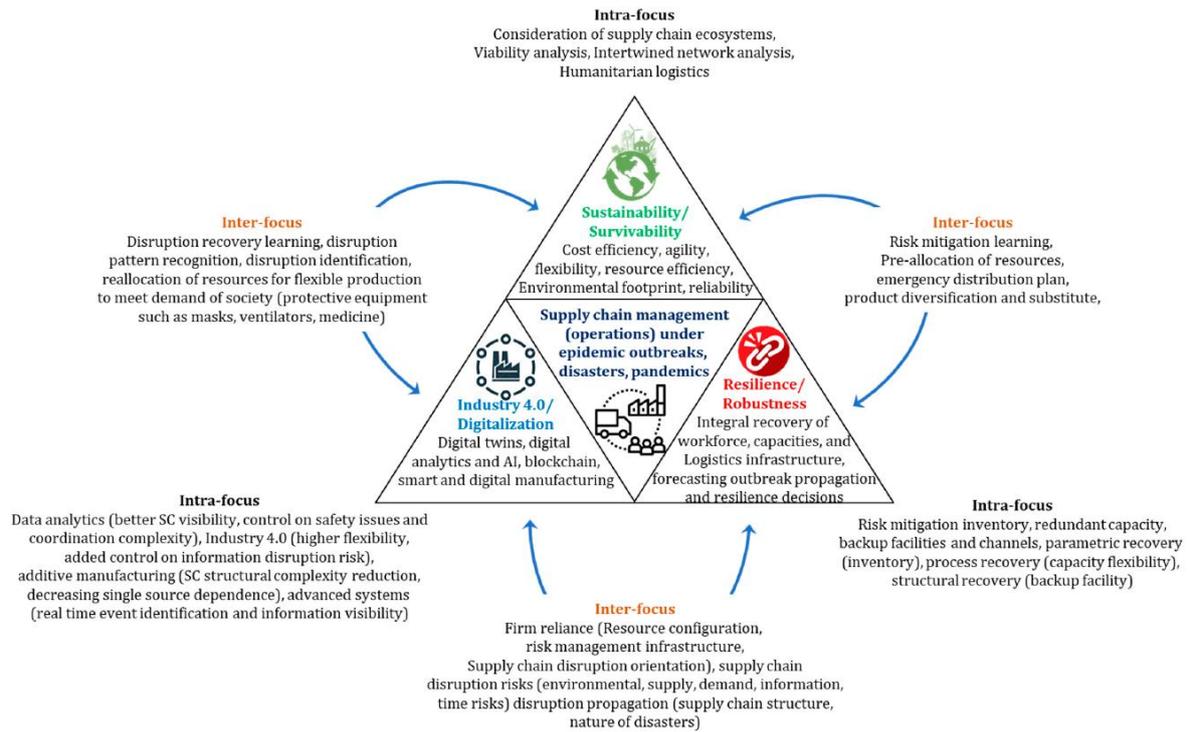


Figure 2.10: Framework for Readiness Supply Chain to Combat Pandemics

Source: Farooq et al.,2021: 24

A pandemic like COVID-19 (SARS-CoV-2) is one of the few notable exceptions that put the company and supply chain activities in grave jeopardy. Long-term interruption, cascading effects from propagating breakdowns, and an extremely volatile environment are all examples of effects from the pandemic. Furthermore, Covid-19 harms the food supply chain during the pandemics. Masudin et al. (2021) explored the impact of management initiatives on the implementation of traceability systems on the efficiency of the cold food chain. To enhance the supply chain's traceability system, required developing food business performance and management company activities. During the Covid-19 pandemic, management measures failed to limit the deployment of a traceability system, which had significant consequences for the food chain's efficiency. Traceability systems can significantly impact food chain efficiency and blockchain has had a significant impact on traceability systems (Masudin et al., 2021).

2.5 The Restaurant Industry

The number of studies on food logistics management continues to expand due to the recent growth in the attention paid to food supply chain management in operations management literature (Akkerman et al., 2010), particularly over the last decade. Given that production, transportation, and inventory management are the primary driving forces in a supply chain (Chopra and Meindl, 2009), the common goal of these models is to improve the performance of the connected food logistics systems by assisting decision-making. Because of public worries about food safety scandals and the globalisation of food production, the food business now has a global and interconnected system based on numerous complicated relationships around the logistics management of food items (Trienekens and Zuurbier, 2008). Furthermore, food security remains a significant issue due to the expanding global population, which is expected to reach 9 billion by 2050 (Economist Intelligence Unit, 2012), necessitating a focus on food waste reduction. Furthermore, the global pandemic has shone a light on the importance of food supply chain management and identified risks and why resilience/agility is so important.

Significantly, the restaurant industry is facing rises in both business costs and pollution fines; as a result, developing sustainable concept and practising sustainable services through innovative techniques and administration has become a critical issue for restaurants' long-term success (Gössling, 2002; Chou et al., 2018; Horng et al., 2018; Wang et al., 2013). The Green Restaurant Association (GAR), a well-known green organization, has established a recognized green restaurant certification in the United States, purpose that “green restaurants must meet seven environmental criteria: water efficiency, waste reduction and recycling, sustainable durable goods and building materials, sustainable food, energy efficiency, disposables and chemical and pollution reduction” (Park et al., 2020). Furthermore, the Sustainable Restaurant Association (SRA) based in the UK awards certificates to restaurants that demonstrate their commitment to environmental stewardship. SRA evaluate sustainable business by identified sourcing aspect, society aspect and environmental aspect with “six criteria: feature more veg, have a lower carbon footprint, include better meat, celebrate local and seasonal source fish sustainability and waste no food” (Maynard,2020).

Chung (2016) also shows restaurant patrons' preferred post-dining behavioural intentions for the green restaurant. Customers expressed a readiness to return to the green restaurant and to disseminate favourable word-of-mouth recommendations. When compared to other restaurants, implementing sustainability practices in a restaurant is intended to provide a competitive advantage by adding more value to the green organization (Han et al., 2009). Sustainability practice can bring emotional benefits to clients by fulfilling altruistic or socially conscious desires tendencies like the desire to contribute to a cleaner environment (Hartmann & Apaolaza-Ibáez, 2012). Although consumers' individual needs may vary, these sustainability practices may help to meet their needs and, as a result, increase customer happiness (Jeong et al.,

2014). Customers that identify as ecologically or health-conscious may be drawn to sustainable restaurants, resulting in favourable perceptions about these establishments (Chan and Hawkins, 2010). Park et al. (2020) used text mining to examine restaurant evaluations of 255 certified green restaurants in the United States to assess client content expressing consumers' attitudes of green restaurants. Customers' interest in sustainability is expanding, according to them. Furthermore, customers tended to rate the restaurant's sustainability practices favourably. The positive effects of sustainability practices were insufficient to compensate for their service failures (Park et al., 2020).

2.5.1 Food Waste Management

The United Nations 2030 Agenda for Sustainable Development purpose to food waste is a significant sustainability concern because of the social and environmental consequences it causes (de Moraes et al., 2020). As a result, wasted food has an unnecessarily negative impact on the environment and further ethical implications (FAO, 2013). Food waste can be described as the unintended loss or intentional dumping of succulent food mass at any stage of the supply chain (Gustavsson et al., 2011). It is a severe sustainability concern.

According to Wohner et al. (2019), losses in the supply chain before food reaches the customer are a problem in developing countries. Lack of technological and obstacle methods to dealing with product packaging are noted. Because removing food from packaging takes time, some retailers may opt to skip this step. If a package only contains partially ruined food, otherwise saleable items may be discarded. Food and packaging are disposed of together as residual trash, rather than being divided into organic garbage for food and plastic or municipal garbage for packaging. Separation does not always happen in downstream waste treatment, and even if it does, food-contaminated packaging reduces the chances of mechanical recycling, increasing the package's environmental impact.

A growing number of studies are raising concerns about the long-term viability of current food production and consumption trends. Within the framework of the term sustainability, there are many diverse definitions of what defines a sustainable food system. A sustainable food system could be thought of as encompassing a variety of issues such as “food supply security”, “health, safety”, “affordability”, “quality”, “the strong food industry” in terms of “jobs and growth” and environmental sustainability in terms of “climate change”, “biodiversity”, “water, and soil quality” (Leip et al., 2021).

Nielsen et al. (2019) mention that plastics are indeed becoming a more political component of humanity's relationship with nature. Analysis of 180 articles in the domains of environmental studies found that this subject is receiving more attention,

with the emphasis shifting over time. This assessment reveals how political discourse and analysis around plastics has focuses on the polluting and disposal ending of the plastics life cycle, with a particular emphasis on ocean pollution. Plastics manufacturing and overconsumption tendencies have so far received less attention. The entire life cycle of plastics is political but it has not yet been equally politicized.

Waste reduction and waste management are two cornerstones of sustainability, and much action has been focused on them. Innovations in waste product recycling, reuse, and remanufacture have resulted from government funding schemes. Seadon (2010) investigated trash collection and disposal systems by focusing on procedures, embodying adaptability, and diverting from disposal, and concluded that a higher level of waste management complexity is required for the transition to a more sustainable society. Morrissey and Browne (2004) investigated the many types of models now in use in municipal waste management and identified fundamental flaws in them. According to them, shortcomings of current waste management models include a focus on refining evaluation procedures “e.g., improving weight allocations) rather than addressing the decision-making process itself”.

Furthermore, while many models recognize that a sustainable waste management model must incorporate environmental, economic, and social factors, none of the models analysed took all three into account when applying the model. However, the degree and kind of progress toward sustainability vary depending on the country's economic situation. According to Shekdar's (2009) article, high-income countries such as Japan and South Korea can afford to spend more on 3R “(reduce, reuse, recycle)” technology. In order to develop sustainability, the 7R's of sustainability “(rethink, refuse, reduce, repurpose, reuse, recycle and rot in relation to water, waste, and energy)” is introduced. These seven concepts are ccentered on reducing waste and taking steps toward sustainability to save the environment and live a zero-waste lifestyle. Therefore, this study follows the technological 7R's of sustainability to monitor restaurant efficiency in conserving water, maintaining energy and reducing waste. The 7R's are a primary concept to guide restaurant staff actions from the environmental perspective. 7R's implementation of restaurant activity through the workplace may lead to changes in attitudes and habits and awareness of the restaurant community to enhance environmental sustainability in restaurants.

Food waste has numerous unfavourable economic and environmental consequences. In terms of economics, food waste is a waste of money that will diminish farmer revenue while increasing consumer costs (Lipinski et al., 2013). Food loss and waste have several adverse effects on the environment, including needless greenhouse gas emissions and inefficient water and land use, which can contribute to dwindling natural ecosystems and the services they supply. How loss and waste occur in developing countries in the future is also quite important. Improved techniques for addressing consumption waste will need to be a priority in research and innovation for a worldwide community dedicated to decreasing food loss and waste in the future. Food waste has risen to the point where it needs to be regarded as a global problem that affects every stage in the food chain, according to Vaque (2015). As a result, food waste must be minimized to the lowest level possible. Some food law measures could

generate a beneficial and efficient proposal to achieve this through focusing on the waste treatment applied to all stages of the food supply chain. As a result, Kaipia et al. (2013), who conducted an exploratory case study of three fresh food supply chains, conclude that the performance of perishable food chains could be enhanced by focusing on information sharing between enterprises along the chains. Shared data, in particular, speeds up delivery and allows for changes in the supply chain structure.

Supplier ties were shown to be insignificant in the prevention of food waste. Individual chefs could not make changes to their ordering to avoid waste due to company-wide agreements with specific suppliers. According to Charlebois et al. (2015), carbohydrates, which are low-cost products rather than high-cost proteins, are significantly more likely to become waste on a plate. Different supply chain partners accomplish operational collaboration and partially integrated support systems to manage the demand for speed and flexibility (Kittipanya-Ngam et al., 2011). According to Mena et al. (2011), companies do not share data openly and have not employed advanced forecasting tools to uncover reasons for food loss between suppliers and retailers. According to Parfitt et al. (2010), government interventions that support the food sector include: improving the clarity of food date labelling, providing food storage guidance, and assuring that a suitable range of packs or sizes is available to satisfy the demands of varied consumers.

Furthermore, Stöckli et al. (2018) investigated how to reduce customer food waste at restaurants by leveraging cues and social norms. Customers who were given prompts were more likely to request that their leftovers be taken away than those not given prompts. As a result, Stöckli et al. (2018) found that encouraging diners to take their leftovers home reduced consumer food waste in restaurants.

Effective waste treatment and reduction necessitates a multifaceted approach to foodservice waste management, involving procedural, technical, and radical new approaches. As a result, food waste innovation is applied to various foods is required. To accomplish environmental sustainability goals, restaurants must continue to implement waste and food waste management methods.

2.5.2 Restaurant Sustainable Supply Chain Management

The food and beverage business, according to Hu et al. (2010), is increasingly recognising its ability to contribute to the environment by reducing its use of solid waste, energy, and other resources. The emergence and development of green restaurants demonstrate the food-service industry's rising awareness of environmental and social issues. However, the restaurant business is recognised as one of the least environmentally friendly enterprises on the planet when evaluating its economic benefits against its contribution to greenhouse gas emissions. According to

Srivastara (2007), in early environmental management frameworks, various organisational units were responsible for ensuring environmental excellence in product development, process design, operations, logistics, marketing, regulatory compliance, and waste management. Dietary guidelines, which address a critical component of everyday life, can be a reliable method to combat global warming if everyone can be persuaded to adjust their behaviour following common sustainability objectives.

To enhance sustainability to food and beverage industry, Green Food and Beverage (GFB) also refers to the incorporation of environmental stewardship ideas into all management processes, as well as a focus on green food, production, and service to provide customers with healthy, safe, and environmentally friendly meals (Wang et al., 2013). The critical concepts of GFB, according to them, are “health, sustainability”, “low-carbon food”, and “environmental protection”. Universal participation in GFB behaviour could be a vital tool for combating global warming. Furthermore, Wang (2016) proposes that future research could look at the effects of these parameters on GFB behaviour. The descriptive environmental norms of leaders influenced their environmentally-specific “transformational leadership” and “workplace pro-environmental behaviours”, both of which predicted employees' harmonious environmental enthusiasm. “Descriptive environmental norms of leaders and the leadership and pro-environmental activities significantly impact the sustainability viability of businesses” (Robertson & Barling, 2013).

As a result, focusing in internal practice and improving the relationship between restaurant stakeholders will improve the industry's environmental sustainability supply chain. As seen in the literature description below, suppliers and customers play a crucial role in driving sustainability.

Dimensions of the customer:

Choi and Parsa (2007) propose several studies demonstrating that customers increasingly identify and reward businesses that display strong environmental and social responsibility and are willing to pay a premium for such services. Furthermore, managers' preferences for and participation in socially responsible behaviours increases their willingness to demand more incredible prices for them. As a result, the restaurant benefits customers because, even if managers have more positive views toward sustainability, this may have a minor influence on menu expenses. Due to their better attitudes about environmental sustainability measures, managers are more likely to absorb the higher costs of implementing sustainability policies as a cost of doing business rather than passing them on to customers.

In contrast, DiPietro (2017) argues that customers are interested in restaurants that take sustainability measures, and they are unwilling to pay a significant premium for those projects. Because many customers are ignorant of what restaurants are currently doing, businesses should concentrate their efforts on marketing the practises that they

do use. Guests are becoming more conscious of environmental issues in their daily lives, and they are beginning to evaluate the sustainable policies of the restaurants they frequent (DiPietro, 2017). Moreover, despite the growing sustainability trend, according to Schubert et al. (2010), consumer attitudes and behavioural intentions toward environmentally friendly activities in restaurants remain an under-studied topic in the hospitality literature.

Customers care about restaurants conserving the environment and would be willing to pay more to offset any extra expenses associated with 'green' operations, according to a data analysis of 445 restaurant customers. Hu et al. (2010). They suggest that consumer awareness of a restaurant's sustainable operations, environmental concerns, and ecological behaviour, as well as propensity to visit a "sustainability" restaurant, are all linked. Consumer awareness of sustainable restaurant practises, as well as environmental concerns, were crucial motivators for patronising sustainable restaurants. Customer age, education level, and income level were significant demographic determinants in the patronage of sustainable restaurants (Hu et al., 2010).

Dimensions of the supplier:

The buyer-supplier supply chain connection is determined by the structure of their supply chain relationship and the managers' capacity to have a clear grasp of the power dynamics (Touboullic et al., 2014). Furthermore, Chu et al. (2017) find that the impact of a strong relationship between a restaurant's business and its suppliers in terms of product innovation was much higher for endowment restaurants. In comparison, the beneficial impact of diversity was higher for established restaurants. To determine the impact of restaurant-supplier collaborations on product innovation and if such collaborations lead to long-term restaurant success. For start-up restaurants, the positive impact of supplier alliance strength on product innovation was substantially more substantial. However, for existing eateries, the extraordinary impact of variety was more substantial. Furthermore, using sampling frames that include a variety of domestic and international market sectors and a more comprehensive taxonomy of restaurant types could enhance the restaurant sustainability phenomenon (Chu et al., 2017).

According to a prior study, working with suppliers increases a company's competitive potential to obtain faster and more efficient access to new product development (Van Echtelt et al., 2008). As a result, the restaurant input management programme will profit from developing supplier relationships. Nutritional and calorific numbers should be publicly displayed to demonstrate food provenance, and these food attributes should become standard menu items to meet customer expectations. Filimonau et al. (2017) use a qualitative method for collecting and analysing primary data to investigate how various environmental-"provenance and carbon footprint" and

health-"nutritional and calorific" characteristics of food displayed on restaurant menus influence customer choice in the United Kingdom. According to Filimonau et al. (2017), while providing consumers with knowledge about their carbon footprint is usually acceptable, it takes managerial and governmental reinforcement to become a determinant of consumer choice.

2.5.3 Sustainable Supply Chain Management Practice

Organisations and the external environment can both benefit from SSCM signals (Zailani et al., 2012). SSCM techniques can help businesses save money by reducing resources, materials, and waste consumed. According to Pagell and Wu (2009), improved supply chain efficiency, the behaviours that lead to a more sustainable supply chains are a combination of classic supply chain management best practices and novel behaviours, some of which go against established "best" practices. Managerial cognition appears to be a prevalent feature in these cases. Eight companies have internalized sustainability goals that restaurant noneconomic performance is critical to their growth and financial performance (Pagell and Wu, 2009). In other words, financial and environmental objectives are in sync. As a result, sustainability has become an intrinsic element of their business, incorporating sustainability into every facet of their supply chain. Such collaboration enhances products and services contribution while also shielding the supply chain process from commodity hazards and enhancing financial benefit for the focal company and its suppliers. Many functions with the aim of realising SSCM practices currently include innovation, involving managers and employees, and adopting challenging and implementing models (Zailani et al., 2012).

Innovation and manager role:

Chou et al. (2018) claimed that innovation and organisational resources are linked to the relationships between sustainable services and the performance of an organisation. Furthermore, they discovered a substantial interaction impact between "encouragement" and "competition pressure modulating" the relationship between "perceived innovation" and the "organisation's ability" to harness resources in their research. In a poll of 38 restaurant managers or owners, the researchers identify a significant impact from the interaction between "encouragement" and "competitive pressure modulating" the association between "perceived innovation" and the "organisation's ability" to harness resources. Restaurant managers are also encouraged to participate in long-term service-related training to help them behave more creatively. To give employees additional opportunities to learn new things, innovative design competitions, and form teams to be accountable for developing and implementing sustainable service solutions (Chou et al., 2018).

Restaurant managers' views toward green practices were investigated by Chou et al. (2012). They discovered that behavioural intentions to adopt sustainable activities are

positively connected with attitude and perceived behavioural control. They discovered that eateries with a positive attitude and a sense of behavioural control are more likely to use green practices, believing that green measures would help the company and therefore adopting them more readily. Furthermore, two-way communication is demonstrated as one of the most critical operations. Information sharing for sustained service innovation in the restaurant business is significantly tied to the means and degree to which organisational members communicate information. Members are eager to share information, especially in the catering sector (Chou et al., 2016).

Furthermore, Raab et al. (2018) design and implement sustainable practices as well as investigating managers' responses to environmental challenges. Their study finds that the IT construct "organisational pressures" has a substantial and favourable impact on managers' intent to apply sustainable practices, indicating that the most motivating elements for managers are suppliers, customers, and staff. Stakeholder theory was also applied to managers' green practice inclinations by Choi and Parsa (2007). Interests, and participation with green activities and a significant relationship between psychological characteristics and managers' readiness to charge a premium to promote such practices. As a result, it appears that managers may prefer to absorb the additional costs of implementing green practices as a cost of doing business rather than passing them on to consumers due to their stronger attitudes toward green practice (Choi and Parsa, 2007). Furthermore, Flint and Golicic (2009) employed in-depth interviews with managers from vineyards, stores, and restaurants, as well as observations of their operations. They conclude that "pursuing and utilising sustainability", "creating a story around sustainability", "managing supply chain relationships around sustainability", and "experimenting with sustainability projects" are all part of the emerging theme of seeking advantages through sustainability (Flint and Golicic, 2009).

Regarding implementation of RSSCM, employees are one of significant factors that influence environmentally sustainable success. Yücedag et al. (2018) established and evaluated environmental awareness in hospitality industry from 200 employees in various hotels and restaurants, implying that meetings, seminars, and education related to environmental awareness also contribute to the tourism industry's environmental impact. According to Wang and Wang (2016), the theory of planned behaviour (TPB) can be used to validate the primary influencing aspects of restaurant employees' green behaviours. They argue that by building, testing, and comparing five models, the model may influence green behaviour. The study demonstrates that there are various advantages to incorporating elements like commitment into the TPB model, including a new understanding of restaurant employees' GFB behaviours

It can be found that restaurant managers encourage employees to participate in sustainable service-related training in order to "improve their creative thinking skills", "provide employees with more opportunities to learn new information", "organize innovative competitions", and "form teams responsible for developing and

implementing sustainable service”. Similarly, Guchait and Tews (2016) found that teamwork awareness had an impact on both team and individual outcomes in a study of 27 service management teams and 178 students in a real-life restaurant setting to explore the impact of taskwork and teamwork abilities on team satisfaction and success. Furthermore, team learning behaviour is revealed to buffer the correlations between collaboration experience and team results. As a result, enhancing sustainable practices has a direct bearing on the growth of practical cooperation.

Challenge in sustainable achievement:

It is critical to provide educational workshops and seminars on environmental issues in the food and catering industry. The legislation has increased public awareness of environmental issues and organisations' willingness to adjust business procedures and environmental initiatives for hotel and restaurant personnel in order to reduce the environmental impact. Yücedag et al (2018) also advise that the investigation's next step should be to conduct a survey among hotel and restaurant guests to compare and verify perspectives on some sustainability issues. According to Svensson and Wagner (2011) study "*enterprise has been a key driver of environmental concerns since the Industrial Revolution*". Consequently, given the lack of government action displayed at the Copenhagen 2009 gathering of nearly 200 countries, it looks that meaningful and immediate remedies will have to come from the private sector. However, the United Nations Framework Convention on Climate Change (UNFCCC) displayed the plans for 197 signatory countries to satisfy the Paris Agreement's criteria at the 26th Conference of the Parties (COP 26) in 2021. Due to the success required passion and sitting in a more dormant state, it has become critical to make COP26 agendas a success story (Arora & Misha, 2021).

In terms of food industry, Hutchinson et al. (2012), mention to enterprises in the food industry finds it challenging to become sustainable due to specific industry characteristics. Sustainability, on the other hand, is critical to company performance and competitiveness. Jung and Yoon (2016) maintain that a lack of competent counsel and resources are both significant barriers. Based on prior research, their study concludes that top management commitment, management attitudes, public concern, and perceived barriers are all antecedents for restaurant sustainability management. Internal implementation and monitoring systems are also encouraged in order to enhance business performance, according to Iraldo et al. (2017), who conducted a survey-based study of 317 Italian SMEs in the "hotel, restaurant, café" (HORECA) sector.

Implementation model:

According to the Green Restaurant Association (2015), restaurants can implement green practices in the following areas: “energy and water efficiency and conservation in food-service facilities; zero waste through reducing, reusing, recycling, and

composting; green food purchase via sustainable, organic, and local channels; reducing chemical use and pollution; and sustainable durability”.

According to Schubert (2008), a restaurant should practice three main areas of sustainability: (1) "green action: energy, water efficiency, recycling, pollution prevention, green building construction; (2) green foods: sustainable (organic and local) foods; (3) green donation: participating in community projects and donating money to green causes."

Szuchnicki (2009) finds that 28 green restaurant qualities drive four factors: “restaurant business methods; conservation; organic supplies; and carbon footprint reduction. The four environmental sustainability management concerns significant to the restaurant are identified, and related practices are explored, including sustainable food, energy/water efficiency, reuse/recycle, and socially responsible activities”. His study mentioned to restaurant green features include "(1) restaurant operation techniques, (2) conservation, organic, and (3) carbon footprint reduction." Two sustainable methods, according to Jang (2016), are: (1) energy/water efficiency, (2) long-term policy in relation to restaurant success measures like market share or cost advantage, as well as stakeholder satisfaction, had all been influenced significantly.

On the one hand, improving the management of sustainable firms can attract customers who care about ethical and environmental concerns. Incorporating internal sustainability monitoring systems into the direction of entrepreneurs and business owners is critical to improving their competitive performance (Moeller et al., 2011; Chen et al., 2016; Dolnicar, 2015).

According to research, personal views, customs, and behaviours are all influenced by bio aspheric values (Steg et al., 2014). As a result, it is critical to look at where favourable attitudes about sustainability come from and how they may be strengthened. For social reasons, such as being perceived as environmentally conscientious by peers, sustainable behaviour is frequently adopted (Steg et al., 2014). Owners and top managers must instil enhanced staff knowledge, employee dedication to sustainability, and recruit and retain innovative and talented people (Raab et al., 2018; Jones et al., 2016).

2.5.4 Restaurant Sustainable Model and Framework

This review has demonstrated a few examples of the types of research in Thailand of restaurants, especially sustainable restaurants. However, Thai restaurants lack knowledge and practice, and these has not yet been developed in this field. Methodological framework studies have shown that developing sustainable frameworks and practices can represent a competitive advantage. Mitchell et al. (1995)

wrote the article for sustainability indicators that propose a methodological framework can be applied to the construction of indicators of sustainable development. In order to be consistent with widely accepted definitions of sustainable development, considerations relating to the measurement of quality of life and ecological integrity are central to the methodology.

Accordingly, the global chain fast food restaurant McDonald's is a company with the power to help transform the global food marketplace and lead its industry towards sustainability. This company is developing and practising sustainability in its restaurant chain. The company developed a sustainable framework using five elements: food, sourcing, planet, people, and community. The framework is informed by a critical policy that is significant to the changes and challenges within the company. The first perspective is food, with the company providing balanced choices for their customers. Second, sourcing involves them sourcing all of their food and packaging sustainably. Next, the planet perspective is represented by the mission to develop and operate the most environmentally efficient restaurants McDonald's can. The people element focuses on being committed to their people. Finally, community the meaning of giving back to their communities (McDonald's, 2014).

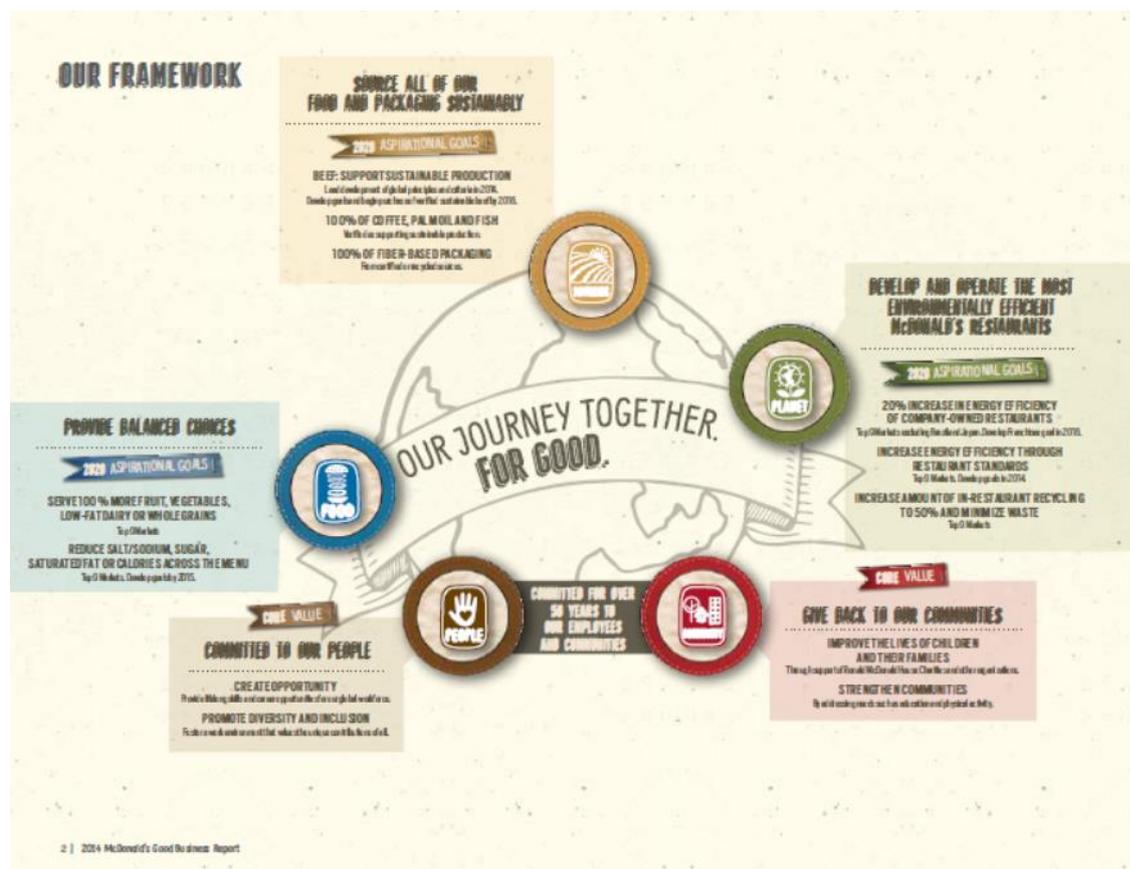


Figure 2.11: McDonald's Sustainable Restaurant Framework

Source: McDonald's Good Business Report, 2014

The Sustainable Restaurant Association was founded as a not-for-profit organisation based in the United Kingdom that drove 14 key focus areas for sustainability that consider sourcing, society, and environmental practices. Firstly, the sourcing aspect focuses on five areas: local and seasonal, ethical meat and dairy, environmentally positive farming, sustainable fish, and fair trade. Secondly, the sourcing perspective includes four elements: treating people fairly, healthy eating, responsible marketing, and community engagement. Finally, the environmental practice features supply chain, waste management, workplace resources, energy efficiency, and water-saving.



Figure 2.12: The 14 Key Areas of Sustainability

Source: Hospital Caterers Association, 2016

The frameworks driving McDonald's sustainable restaurants and the Sustainable Restaurant Association's sustainable systems reflect various functions, though neither company is involved with the other. On the other hand, both organisations may need

to maintain long-term frameworks and supply chain management expertise and strategy to serve the holistic vision and co-create value with suppliers and customers.

Furthermore, some studies demonstrated the framework elements to develop a sustainable supply chain in food and restaurant.

Schubert, (2008) investigated customers' perceptions of environmentally friendly in restaurants by survey customers from five different Columbus eateries in various parts of the city, totalling 455 cases. The study stated that the three main areas of sustainability practice: (1) "green action: energy, water efficiency, recycling, pollution prevention, green building construction; (2) green foods: sustainable (organic and local) foods; (3) green donation: engaging in community projects and donating money for green causes".

Szuchnicki (2009) conducted an online survey consisted of U.S. residents who were a member of the Zoomerang.com online survey community. He argued three factors among restaurant green attributes; "(1) restaurant operation practices, (2) conservation, organic, (3) carbon footprint reduction".

DeMicco et al. (2014) examined a number of scientific topics that are relevant to eco-friendly restaurant. He maintained that, in order to develop restaurant sustainability, venues should adopt a methodology based on an eight-element model: "(1) hydroponic, (2) recycling, (3) biodiesel process, (4) wine spirit oil mixtures, (5) renewable energy, (6) dining/interaction floor kitchen, (7) composite materials, (8) exhibition store".

In order to develop another sustainability model, Jang (2016) conducted a survey of restaurant managers in the South Eastern United States to collect data with a total of 450 restaurants completing responses in order to develop a conceptual framework of environmental sustainability management in the food-service industry and test the proposed model. He states that restaurant sustainability policies such as "energy/water efficiency", "reusing/recycling", and "socially responsible operations" are linked to commitment by top management levels and public concern. Furthermore, "reusing/recycling procedures" are significantly associated with stakeholder satisfaction. Therefore, sustainable practices – "energy/water efficiency" and "sustainable policy" – significantly impact on restaurant performance variables, including market share/cost advantage and stakeholder satisfaction.

The main sustainability areas above (McDonald's, 2014; Hospital Caterers Association, 2016; Schubert, 2008; Szuchnicki, 2009; DeMicco et al., 2014; Jang, 2016) was applied in this research. By focusing on restaurant sustainability policies, such as energy/water efficiency, waste and food waste management efficiency, and engaging the 7Rs of sustainability, restaurant owners' commitment and public concern are related. To properly understand the current state of sustainability practice, the researcher conducted an in-depth investigation of restaurant sustainability practices while also studying the core functions of both internal and external operations. This study also looked into the attitudes, beliefs, and expectations of restaurant loyal

consumers regarding environmental sustainability performance. Furthermore, this research broadens the views that lead to practical policy-making with government agencies, allowing for more consistent policy integration into practice. To establish an appropriate context in which to encounter environmentally efficient eateries. The researchers adopt the SRA framework to discover a framework for small and medium-sized firms in developing nations with plentiful natural resources and food ingredients, focusing on saucing and environmental issues.

2.6 Conclusion

In summary, Chapter Two has explored the existing literature, which has helped shape this research problem. This chapter has examined the explanation of the concepts of logistics and supply chain management, sustainability, restaurant best practice and frameworks, exploring the extant theories regarding logistics, supply chain, and, mainly, restaurant sustainability. However, a current review of the supply chain management situation in the food industry and other relevant issues has been necessary.

This chapter has examined the explanation of the concepts of SCM and SSCM, including a discussion on the sustainability practice gap and SCM theories. Sustainability issues are addressed in hospitality supply chains, but sustainability practices are treated as different concepts in a standalone restaurant. The literature also revealed that existing accounts must be improved for sustainable supply chain management. The little efforts are vague and lack conceptual understanding and operationalisation of the concept, which is necessary to design supply chain sustainability strategies for SME restaurant businesses.

A growing number of studies raise concerns about the long-term viability of current food production and consumption trends. The importance of a sustainable food system is numerous within the context of sustainability. Furthermore, food loss and waste have several negative environmental consequences, including unnecessary greenhouse gas emissions and inefficient water and land use. These can contribute to dwindling natural ecosystems and the services they provide. A multifaceted approach to food service waste management involving procedural, technical, and radical new approaches is required for effective waste treatment and reduction. As a result, food waste innovation is required for various foods.

Government regulation, industry rivalry, market forces, and customer expectations, on the other hand, have a significant impact on the environmental sustainability levels of businesses. Develop a sustainable supply chain; a company's institutional context positively influences a company's environmental management strategies in restaurants. As a result, when employing environmental management techniques to pursue long-term business development, organisational information systems such as environmental practice assess environmental performance.

Restaurant sustainable practices were an efficient means of achieving sustainability—previous research aimed at various indicators or criteria for implementing sustainability practices in various areas. First, product sourcing was mentioned as the first area for improving environmentally responsible and understanding sustainability. Second, internal operations such as energy, water efficiency, and recycling embrace best practices for restaurant sustainability. Furthermore, engaging the restaurant community and developing long-term policy embraced a creative approach to change those challenges and assumptions rather than focusing solely on improving existing practise. Sustainability indicators that propose a methodological framework can be used to build sustainable development indicators. As a result, developing a sustainable model or framework for a restaurant defines the business vision and strategy, sustainability goals and objectives, restaurant alignment with business sustainable development goals, and key performance indicators.

The next chapter concerns Thai restaurant performance and other relevant issues that influence sustainable restaurant development.

CHAPTER THREE

THAI RESTAURANTS AND OTHER RELEVANT ISSUES RESTAURANT FOCUS

3.1 Introduction

The first chapter of the literature section, Chapter Two, presented current knowledge before identifying gaps in the body of knowledge that this research had examined, logistical functions, supply chain management, and sustainability. This chapter will focus and continue to depict Thailand's social and environmental circumstances, which will be discussed first. Other essential topics, such as Eastern-Western business philosophies, benchmarking, and the sufficiency economy philosophy, will be explored later. As mentioned in the first chapter, Chapter Two and this chapter will summarise the key findings and gaps in a conceptual model, composing the resulting research questions/objectives for this thesis.

3.2 The Food Industry in Thailand

Thailand, originally known as Siam, is a country in Southeast Asia's mainland, situated in the centre of the Indochinese Peninsula. It is bordered on the north by Myanmar and Laos, on the east by Laos and Cambodia, on the south by the Gulf of Thailand and Malaysia, and on the west by the Andaman Sea and Myanmar's southernmost point. Vietnam borders the Gulf of Thailand to the southeast, while Indonesia and India border the Andaman Sea to the southwest. In terms of size, Thailand was placed 51st in the world, with a land area of 513,115 square kilometres, and it has a population of 69.9 million people (World Bank, 2022). One of the most competitive industries in the country is the restaurant business. The Ministry of Tourism and Sports (MOT) reported 32.5 – 39.9 million international visitors to Thailand during 2016 -2019 will note (MOT, 2020). This country produces a wide range of agricultural products. As a result of the plentiful natural resources and farming land, the food business has excellent potential. From little carts along every street and alleyway to five-star restaurants, food outlets are everywhere. Furthermore, Thailand had evolved in production technology, enhancing the value of agricultural products and contributing to the country's security.

Thailand is also the second-largest food-producing country in the Association of Southeast Asian Nations (ASEAN). The public sector has boosted the country's ability to export food items globally (Board of Investment, 2019). The government dubbed "Kitchen of the World" Thailand's world craggy kitchen. The policy emphasises

agricultural production leadership and increasing investment routes to larger global markets. As Thailand's food business increases, it will be the driving force behind it.

Office of the National Economic and Social Development Council (NESDC) developed *The National Economic and Social Development Plan, Vol 11, 2011-2016*, which mentions to economic restructuring strategies directed towards sustainable growth, focusing on restructuring the economy towards sustainable development by strengthening entrepreneurs. Further, a draft of *the National Economic and Social Development Plan, Vol 13, 2023-2027*, has developed on the sufficiency economy principle consistent with the Sustainable Development Goals (SDGs). The plan expands on the previous plan's aims for developing a circular economy and a low-carbon society to create sustainability economy value (ONESDC, 2022). As a result, about economic development between countries, it is strengthening businesses and restaurants to develop the economic base that can then grow in quality. Hence this represents a great country context to explore the issues of sustainability in restaurant business.

3.2.1 Situation of the agricultural and food industry

Agriculture is the primary sector of Thailand and has been operating continuously for a long time. The Office of Small and Medium Enterprises Promotion (2020) reports that economic value accounts for 8 percent of the overall economic value of Thailand. In 2018, the GDP of Thailand's agricultural sector was as much as 1.32 trillion baht, growing from 2015, when it was worth 1.22 trillion baht, or equivalent to a compound annual growth rate (CAGR 2015-2018) of is approximately 2.1 percent, as shown in Figure 3.1. The compound annual growth rate (CAGR) is the annualized average rate of revenue growth between two given years, assuming growth takes place at an exponentially compounded rate (Singh et al., 2021).

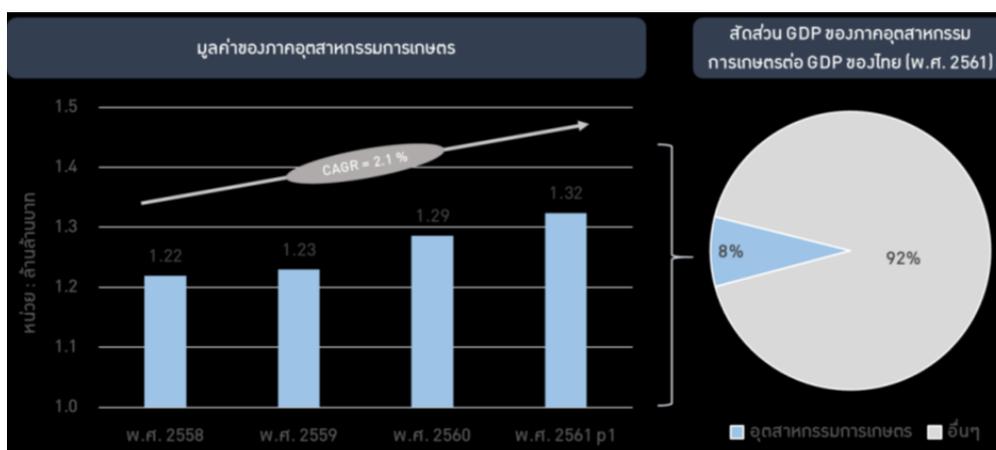


Figure 3.1: Value and proportion of the GDP of the agricultural sector to Thailand's overall GDP

Source: Office of the National Economic and Social Development Council as cited in The Office of Small and Medium Enterprises Promotion(2020:4)

However, taking into account the expansion of the amount of agricultural land, it was found that the average growth rate was only 0.23 percent during 2012-2016, with the proportion of land use for agriculture rising from 42.47 percent in 2012 to 43.28 percent in 2016. As shown in Figure 3.2, an area of 138 million rai (1 rai = 0.395 acre) in Thailand has gradually been taken over for agriculture; however, the value of the agricultural industry can be seen to continuously increase.

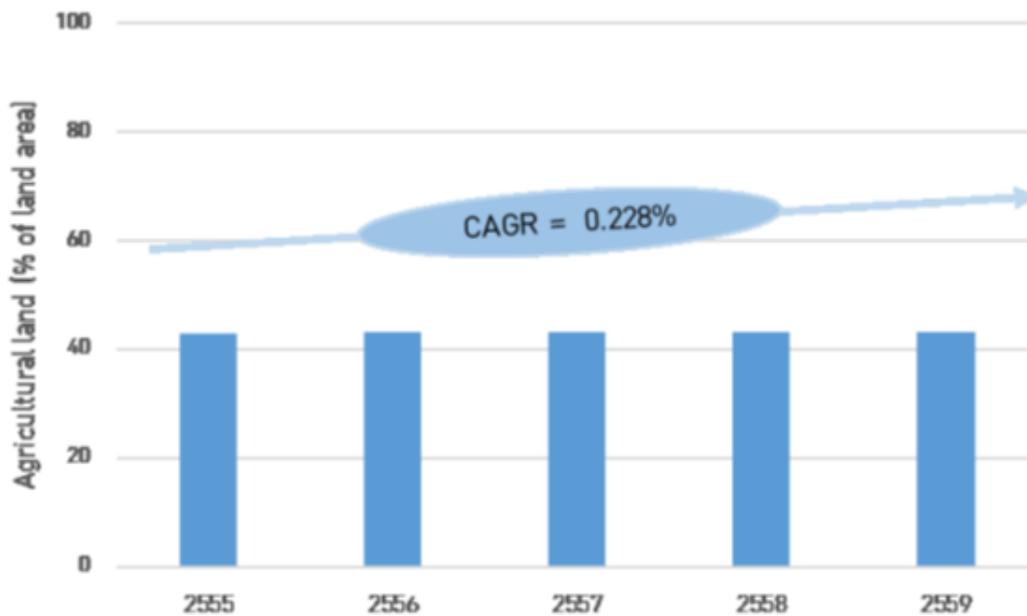


Figure 3.2: Proportion of agricultural land in Thailand

Source: World Development Indicators, World Bank as cited in The Office of Small and Medium Enterprises Promotion(2020:4)

In addition, the agricultural industry is an important sector of the economy that supports the country's workforce. As of April 2019, data from the National Statistical Office shows that out of the total number employed, 37.34 million people, 10.20 million are employed in agriculture, representing about 27.3 percent of all employment. The second largest, the wholesale sector, employs only 6.43 million people. As for the manufacturing sector, employment was 6.31 million. This figure reflects how agriculture is an industry of great importance to the Thai economy both at the individual and social levels. Thai agriculture still relies heavily on labour and thus a key part of food supply chain in Thailand.

The food industry then generates products from the agricultural sector, including products from plants, livestock, and fisheries to be used as the primary raw ingredient in food production, using food processing and preservation technology as well as the technology of machinery and equipment used in food processing (food processing equipment) and food packaging (packaging) to produce large quantities of food products. The process aims for consistent quality, safe and convenient consumption or extending the shelf life of the products. Food products may undergo primary or

intermediate processing, or be semi-finished or final products, which is the finished product.

The importance of the food industry:

The food industry was the first industry to be supported when Thailand enacted the National Economic and Social Development Plan, No. 1 in 1961. It is a low-investment industry that processes domestic raw ingredients to add value. Moreover, it can use the country's abundant resources to further develop the industry's benefits, making it easy to develop with investment. In addition, the food industry also creates links to other production activities. The supporting industries include packaging (such as cans) and lead to higher employment and a greater national income (Kasem & Thapa, 2012).

Thailand's food sector has a high potential for domestic consumption and export production because Thailand has a stable and prosperous agricultural production base, resulting in a product that can be used as a raw ingredient for various and continuous processes. There are many qualified workers and modern production technology is used. Product models have been developed that are more in line with market demands, and entrepreneurs in each industry have greater expertise in production and technology than other competitor countries. Many other countries in the same region can quickly produce products according to buyers' needs and be able to process raw ingredients from abroad to create added value (Distanont and Khongmalai, 2020). In addition, operators are ready in terms of production process management and quality control, and there are personnel with knowledge and experience, which overseas customers also recognize in terms of the delivered product. Moreover, product responsibility includes the various types of products, the quality of which is acceptable to the international market (Muangasame and Park, 2019).

3.2.2 The Restaurant Business

The Ministry of Health has classified restaurants into five formats:

1. High-end restaurant
2. Casual restaurant
3. Contemporary restaurant
4. Food Garden restaurant
5. Food truck, cart, or stand

Today, convenience is a human necessity. Eating out has been steadily growing in popularity, and the restaurant business as a sector has been growing continuously – generating more than 500 billion baht per year for the national economy. Consumer

behaviour in choosing to eat out of the house emphasizes the value received in terms of quality. The emphasis is on health care, cleanliness and taste, and the popularity of trying new restaurants with unique identities. Consumer satisfaction draws new customers to another channel (Kunasegaran et al., 2019). There is a limit on eating out in eateries due to the COVID-19 outbreak. All eateries must restructure their business models; some are temporarily closed, while others provide takeout and delivery services. This circumstance will impact restaurant operations, both in terms of raw material management and service quality. The quality of restaurant service influences customer trust. On the other hand, customer trust has a favourable impact on the likelihood of returning. However, the quality of a restaurant's service has no bearing on the likelihood of returning to the COVID 19 condition (Sirimongkol, 2021).

Restaurant recovery will be hampered to varying degrees by a new wave of COVID-19 local transmissions, severe corporate competition, and yet-to-recover purchasing power Limited-service eateries and street food stalls, particularly those with low- to mid-range prices, are at the epicentre of the epidemic. In contrast, full-service restaurants may only recover slightly. Furthermore, small growth is projected through market segment expansion and business model adjustments for mid-sized to big firm operators (Kasikorn Research Centre 2021). Nonetheless, the pandemic has become a significant concern for the Thai food industry. By devoting more effort to understanding the safety of supermarket purchases, Thai consumers displayed their commitment to raising knowledge about health concerns, product safety, and environmental challenges (McKinsey 2020).

Most of the Thai restaurant sector comprises small and medium-sized businesses that generate income for the local community from purchasing raw ingredients and employing local workers. It is an accessible sector to enter but a hard one to survive. Entrepreneurs must face variable sales and adjust their operational strategies for their business through employing continuous and timely monitoring and evaluation (Yaskun, 2021). Operators must be able to cope with and deal with rapidly changing environments and demonstrate management skills suitable for their restaurant. Entrepreneurs' personal characteristics can influence the survival of the business (Najib et al., 2021).

There is still a chance for businesses to survive and flourish sustainably during crises. To improve environmental performance inside the company and for environmental sustainability, the government has pushed small and medium companies (SMEs) to adopt ISO 14001:2015, an international standard for corporate environmental management systems. As a result, the food industry, which has the potential for continuous expansion, should reinforce its operations through long-term development strategies.

Business diversification:

The number of restaurants units legal by region represented in Table 3.1.

Table 3.1 : Restaurant unit legal entity by region

Business location	Number of Restaurant units		Business Value	
	Units	%	Million baht	%
Bangkok	6,035	41.48	69,252	69.84
The middle region	1,282	8.89	5,146.21	5.19
The east region	2,102	14.58	7,949.76	8.02
The north-east region	530	3.68	1,501.89	1.51
The northern region	1,036	7.19	2,566.80	2.68
The southern region	3,025	20.99	11,462.31	11.56
The western region	403	2.80	1,187.67	1.20
Total	14,413		99,155.96	

Source: Department of Commerce, 2019

The Department of Commerce (2019) represents, restaurant based in Bangkok, which has the most extraordinary capital value at 41.87 per cent of the business value. The southern region comes in second with 69.84 percent, followed by the northern region with 20.99 percent.

When looking at each province individually, it was discovered that the business provinces are the most prosperous ones. Bangkok, Chonburi, Phuket, Surat Thani, and Chiang Mai have the highest number of both restaurants and major tourist attractions in Thailand. They are also substantial urban cities with many people, who need convenience and speed. Therefore, there are numerous eateries to choose from as meeting spaces as well as dining areas.

The location of a corporation is linked to its growth in commercial development, particularly in supply chain management and customer service. Just-in-time had a favourable and substantial effect on company performance, according to Ralahallo (2021), Despite the fact that supply chain management has a favourable and considerable impact on the company's success. Similarly, Abu-Khalifaa and Al-Okdeh's (2021) study international companies' successful experiences that use a just-in-time manufacturing system. Small and medium-sized businesses can benefit from employing the just-in-time production system as a cutting-edge instrument for cost management and profit maximisation.

Kim et al. (2022) discovered that cognitive and emotive service ratings significantly impacted customer satisfaction, which was controlled by price. Furthermore, the study proposes that menu pricing, service standard-setting, and marketing and promotion strategies consider geographic restaurant distribution. Bangkok is located in the country's core region, including a large farming area and coastal territories. As a result, there are many nearby food ingredients, enabling transportation and supply chain management simpler.

3.2.2.1 Sustainable Development

Due to the abundant resources and the harvesting of crops throughout every season, Thailand has the potential to connect with communities in the form of upstream- to-downstream production and services. Community products creating cooperation in organic products or setting up a management system to integrate food waste represents is cost reduction, and the. The country has the opportunity to develop the concept in order to increase productivity and participation of local people or communities. However, the sustainable restaurant management concept is still a new issue in Thai society. In addition, effective operational process planning requires knowledge along with sustainable environmental awareness.

Freeman, (2011) suggested that the most significant challenges to implementing sustainable business practices in typical restaurants are cost, lack of awareness, and space. The hurdles for restaurants that promote sustainability were a lack of understanding or concerns. Lien et al. (2012) gathered data from 435 people, and the findings revealed that consumers' green consumption awareness cognition, green consumption attitude, green subjective norms, and green perceived behavioural control concerning a restaurant are all factors that had a substantial positive impact. Furthermore, consumers' green consumption awareness cognition, green consumption attitude, green subjective norms, and green perceived behavioural control concerning a restaurant substantially and positively affected benefit their behavioural intention to patronise the restaurant.

Furthermore, Legrand and his team (Legrand et al.,2010) established and reviewed a set of indicators to assess the level of sustainable performance achieved by individual restaurants and give a framework for all restaurant operations to adopt sustainable practices. The findings demonstrate that restaurants could may effectively use these variables to improve their long-term performance. Furthermore, the study intends to build a theoretical paradigm for future improvement in the sustainable management of restaurant operations by employing sustainable indicators.

According to Batra's article, "discovery", "advertisements in newspapers, magazines, or food guides", "menu display", and "culture cues in the décor and atmosphere" can all be used to determine the relationship between foreign tourists' motivation and information sources when it comes to eating out at ethnic restaurants in Bangkok (Batra, 2008). He polled 400 people, finding and found that the criteria listed above were crucial in shaping international tourists' impressions. Given the wide-ranging benefits of organic foods for producers, customers, and the environment, Pumhiran (2015) analyses the possible opportunities underpinning the organic food integration of organic food into hotel operations. Despite the high cost, scarcity, and lack of public awareness of organic foods, improved information transfer between to producers and consumers is critical to increasing Thailand's organic food production and consumption. Supportive government and educational institutions are fundamental

for in spreading knowledge and creating good attitudes towards about organic foods among growers and consumers.

Despite the vast list of organic foods' benefits from organic food to customers and hotel businesses and the global public's increased desire for them, organic food production and consumption in Thailand is still limited compared to conventional foods (Sangkumchaliang and Huang, 2012). Boosabong (2019) stated that Bangkok's municipal food governance participation, legal frameworks, policies, plans, programmes, and related infrastructure development are insufficient to promote the intelligent food agenda. According to the findings, “legal frameworks”, “policies, plans”, “programmes”, and “related infrastructure development”, are insufficient to promote the intelligent food agenda. According to Esichaikul and Baum (1998), Thailand lacks a developed and education-conscious private sector, government intervention in human resource development is necessary. The development of human resources in Thailand's hospitality business may be insufficient without significant government assistance and commitment dedication, and cooperation from industry and education (Esichaikul and Baum, 1998).

Studies looking at restaurants in Thailand – in particular, sustainable restaurants – are now represented by a few types of research. None suggested how Thai restaurants practise environmental sustainability efficiency. It seems that Thai restaurants still lack expertise and practice and have not been developed sustainably, but a new methodological framework is being developed for a driven, long-term approach in these domains. In developing countries, efficient restaurant frameworks have been implemented, resulting in a favourable influence on businesses and the environment. As a result, it is necessary to evaluate new frameworks as a challenge for expanding sustainable regions.

3.2.2.3 The Challenge of Managing Waste

The United Nations Food and Agriculture Organization (UNFAO) addressed the subject of food waste crisis behaviour for the first time under the heading "Food Wastage Impacts on Natural Resources: Footprint", which reported on the meaning of food waste and its impact on natural resources using a collection of statistics from the year 2009 and finding that one-third of global food production is wasted. In contrast, there are 870 million people on the globe who are hungry. Several billion individuals in impoverished countries continue to go hungry; meanwhile, many in rich countries eat nothing but calories until they can no longer eat (Hegnsholt et al., 2018).

Thailand, on the other hand, has proved that household garbage volume increases every year, with a total of 26.77 million tonnes of food waste in 2013, accounting for up to 64 percent of the total. In contrast, if 70 percent of the population can dispose of

their garbage, 70 percent of the waste produced generates waste residue, which causes various environmental problems and contributes to global warming. Bangkok, in particular, has a waste rate of 534.8 kg/person/year, indicating that people help each other create garbage. Bangkok is ranked 4th out of 10 major Asian cities. Foam plastic and paper scraps make up most of Bangkok's general garbage, accounting for 34.2 percent, 20.8 percent, and 13.6 percent, respectively. According to the Ministry of Natural Resources and Environment (MONRE), who report on problems with waste management such as the "Waste is a national agenda" campaign, the optimal method to resolve the issue as well as raise public awareness, comprehension, and behaviour change is not excessive consumption (Ministry of Natural Resources and Environment, 2019).

Food plans, merging all collaboration sectors, and consumer-manufacturer interaction are all ways to reduce waste along the supply chain from farm to table. They know that they can assist in resolving the rubbish situation and preparing meals. The waste reduction method for food from farm to table has centred on purchasing output directly from producers to assist farmers in planning their planting and reducing the problem crops market until it becomes rubbish food.

The World Commission on Environment and Development (WCED) is an intergovernmental organisation that promotes environmental and defines sustainability as "*development that meets current demands without jeopardising future generations' ability to fulfil their own needs*" (WCED, 1987). Sutthichaimethee and Sawangdee (2016) investigate an indicator with which to assess and rank environmental problems generated by output in Thailand's services industry. They mention that if Thailand used an indicator of environmental impact, particularly in the services sector, it might aid the government in formulating effective policies and plans in three areas of development (social, economic, and environmental development). Furthermore, Thailand's economic growth strategy must include environmental indicators to establish effective plans and policies for long-term development (Sutthichaimethee and Sawangdee, 2016). Furthermore, Kasim and Ismail (2012), who researches environmental management in the foodservice industry, studied 26 restaurant managers who run casual upscale businesses. According to their findings, the restaurant industry's implementation of environmentally friendly practices is insufficient and not spacious enough.

3.3 Other Relevant Issues

This section highlighted the relevant to the research including Eastern-Western business philosophies, benchmarking and sufficiency economy theory.

3.3.1 Eastern-Western Business Philosophies

Over time, organisations in many industrialized countries and cultures appear to have become more similar and embrace global labour and corporate culture patterns (Naor et al., 2010). Organisations have the power to influence people's behaviour and erode the influence of national cultures. The organisational structure and strategic policy, such as hierarchy and bureaucracy, significantly impact performance. Furthermore, the cultural factor of performance orientation has been influenced through incentives, compensations, and awards for great performances.

Each country has its own set of traits that influence the organisation's decision-making. Language, religion, culture, boundaries, beliefs, norms, and ethnic history were discovered to be standard features among numerous countries and their employees (Pagell et al., 2005). Furthermore, countries with more collectivistic societies, such as Japan, expect their community members to be more emotionally dependent on them, while in more individualistic cultures nations, such as the United States, where employees are held responsible for their work and compensated appropriately (Pagell et al., 2005). The level of individualism or collectivism will influence members' reasons for complying with organisational regulations, much like the types of people accepted into positions of extraordinary influence.

Several studies have suggested that cultural values are essential in explaining variances in an organisation's overall performance (Shane, 1993; Tse et al., 1988). However, it has been discovered that different organisations' differing levels of performance are primarily due to different cultures defining the desirable corporate performance in various ways. Customers from different countries and cultures have varied expectations, respond differently to service encounters, and have individual psychological intentions, according to multiple research (Zhang et al., 2008). Furthermore, Sultan and Simpson (2000) mention to a customer's nationality influences their perceptions and expectations of competence.

Koehn (1999) compares and contrasts Eastern and Western business philosophies, as well as how they each influence corporate ethics. The following are three significant distinctions between Eastern and Western business philosophies:

- 1) The definition of trust: trust exists in a range of relationships, including those between parents and children, as well as between employees and supervisors
- 2) Watsujian and Confucian viewpoints on life relationships, such as long-term relationships and friendships
- 3) Ethics beyond rights: Eastern cultures are centred on duties, whereas Western cultures are based on rights

Although this research focuses on Thai restaurants, one of the unit studies focused on Thai restaurants in the UK, the ability of operators to connect with development progress was influenced by law and specialized regulation in distinct regions. Furthermore, the social setting influences entrepreneurs' perceptions and awareness of environmental sustainability development.

3.3.2 Benchmarking

Benchmarking is a strategy for improving performance by attempting to be the best (Beadle and Searstone, 1995). The approach established in Japan, and Xerox was the first company to handle it in the US in the mid-1980s. Many authors have defined the benchmarking process from various perspectives. Benchmarking is described by Codling (1995:7) as "a continual process of assessing and improving products, services, and procedures against the best that can be recognized internationally". According to Vaziri (1992), Benchmarking is a means of evaluating a company's performance against critical customer criteria identified as "best practise." There are seven main types of benchmarking, as indicated in Table 3.2, according to the British Quality Foundation (2015).

Benchmarking is a useful enhancement technique for attaining and preserving competitive advantages through the pursuit of world-class performance. It may encompass similar or dissimilar industries, depending on the improvement goals. Environmental benchmarking is becoming an increasingly significant aspect of an organization's environmental management plan, despite the fact that most benchmarking studies focus on financial and management challenges (Shaw et al., 2010). As a result, performance benchmarking is employed in this study to compare restaurant sustainability performance between Thai restaurants in Thailand with best practice in Thai restaurants in the UK.

Table 3.2 : Types of Benchmarking

Type of Benchmarking	Explanation
1 Strategic benchmarking	This involves examining long-term strategies to improve a business's overall performance.
2 Performance benchmarking (Competitive benchmarking)	This type focuses on the performance characteristics in relation to key products and services in the same sector/industry.
3 Process benchmarking	This focuses on the improvement of the critical processes and operations through comparison with the best practice in performing similar work.
4 Functional benchmarking	This type compares a business with partners from the different sectors/industries to find innovative ways of work process improvement. It can lead to dramatic improvements.
5 Internal benchmarking	This involves benchmarking the businesses or operations from within the same company. It can be the same business units in different countries.
6 External benchmarking	This type analyses the best in class or best practices outside companies to provide an opportunity to learn from those at the leading edge.
7 International benchmarking	This identifies and analyses the best practices elsewhere in the world. However, this type can involve spending more time and resources to implement and the results may need careful analysis, due to national differences.

Source: British Quality Foundation (2015)

3.3.3 Sufficiency Economy Philosophy

His Majesty King Bhumibol Adulyadej of Thailand suggested the notion of Sufficiency Economy Philosophy (SEP) as a means to assimilate sustainability into the Thai economy (Suwanraks, 2000). The approach was introduced in 1974 to point out to Thailand's government that sufficiency should be taken into account as a more critical factor, although the right strategy to modernize Thailand's economy has been published since the 1950s. His Majesty had been exploring Thailand broadly and set up centres of study in various parts of the country to undertake research into possible ways to enable the growth of each area/region while considering the conditions of the available resources unique to these regions (Isarangkul and Pootrakul, 2001). The philosophy of SEP has resulted from this investigation. The SEP is aimed at assisting the country to progress toward a more balanced development. Overall, it requires thinking that is in harmony with globalisation's pressures but also safeguarding the environment, both the community and the nation, and from negative consequences caused by a variety of factors. The working group based its findings on the King's statements and a review of the royal development programmes. The theory of SEP is depicted in Figure 3.6.

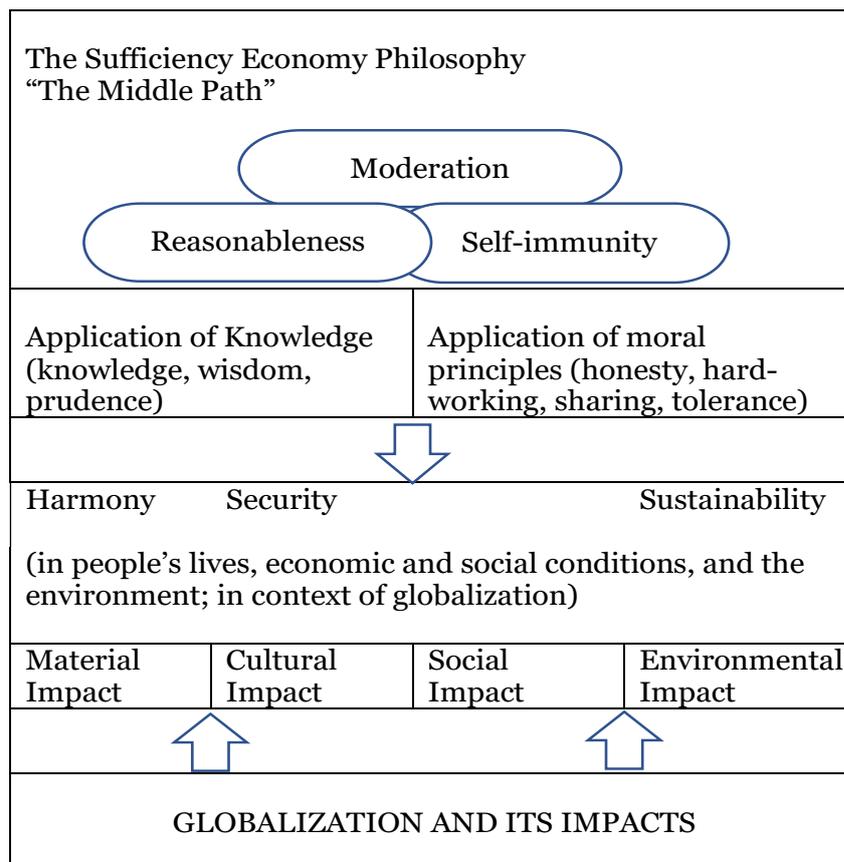


Figure 3.3: Sufficiency Economy Philosophy Conceptual Framework

Source: Thongpakde (2005)

1) Moderation refers to not doing too much or too little. It is, at its core, an “Eastern concept” that may appear to contravene the classic economic theory of behaviour maximisation. On the other hand, moderation is a subjective term that is dependent on one's financial resources. When living within one's means “individually”, “locally”, and “internationally”, moderation should be considered to protect one's long-term interests. This concept demands individuals practise restraint and proper consideration in all aspects of life and establish adequate prevention from internal and external shocks, according to the sufficiency economy philosophical framework (Isarangkun and Pootrakool, 2001).

2) Reasonableness is a three-part concept. Firstly, it refers to anticipating the causes and effects of specific interactions before they occur. Secondly, it entails being conscious of one's acts and the implications of those actions. Finally, it is a criterion for determining whether ideas, acts, or processes are reasonable. If an idea, behaviour, or procedure is feasible or something that a reasonable person would find acceptable, it is reasonable. When making judgments concerning of agriculture in community, the principle of reasonableness, ensure that people could grasp the circumstances of their existence and other aspects.

3) Self-immunity is a person's actual readiness for both massive and subtle changes. In order to better adapt to life's uncertainties, the notion of self-immunisation also underlines the significance of sound risk management tactics. Individuals, companies, and nations can all benefit from this guidance. These productions and consuming processes should, at the same time, foster an individual's inner resilience in the face of life's uncertainties. “The consumer”, “the producer”, “the seller”, and “the exporting and importing enterprises” are all protected from what Western economists refer to as “down-side risk”.

The sufficiency economy concept's three principles can be used to assess situations, create goals, make plans, and make decisions. This method can be used at every level of society and provides for more human growth. The two prerequisites of sufficiency economics philosophy support these principles and are described by Wibulswasdi et al. (2011) as follows:

1) Knowledge is the enhancement of “human capital” on an “individual level” and “the advancement of the knowledge economy” on a society level. This circumstance underscores the need of having the best possible level of information.

2) Moral fibre refers to an individual's, organisation's, or nation's ability to care for others. Moderation, self-immunity, and reasonability are all dependent on this ability. Each of these judgments must include ethical considerations. Before economic processes begin, commutative fairness assures equitable access to productive resources and occupations. Distributive equality, on the other hand, guarantees that the tangible outputs of various economic opportunities are used to meet all people's basic requirements.

According to Sathirathai and Piboolsravut (2004), "the philosophy of the sufficiency economy is a broad concept of moderation that takes into account all factors interdependence between people and nature". The sufficiency economics ideology offers solutions to difficulties in large cities and rural communities. Applying SEP to public issues such as social and environmental advancement, as well as community administration. The sufficiency strategy is better suited to dealing with globalisation's difficulties and achieving long-term growth while balancing conservation and development. Sufficient thinking necessitates a thorough shift of human ideals mentality.

As a development goal, it aims for long-term sustainability among the idea has earned widespread acclaim, therefore to develop environmental sustainability into restaurant industry should be in accordance with this SEP approach.

3.4 Summary of Research Gaps and Research Questions

In Chapter Two and this chapter, some gaps have already been identified. Gap statements and developing research topics, on the other hand, are as follows.

There are several gaps in sustainable supply chain management and logistics studies, according to academic journals. Winter and Knemeyer (2013) claim that the literature mainly focuses on personal sustainability and supply chain dimensions rather than an integrated elements approach. Their analysis identifies several opportunities for further research, including developing sustainable frameworks to analyse the impact of ideas on long-term supply chain management. Furthermore, Kuo et al. (2013) state that different sizes of firm might require different long-term supply chain management strategies. Cash et al. (2003) discovered that many effective knowledge systems incorporate numerous boundary organisations or organisations that execute specialized responsibilities in managing complicated system boundaries. Building more effective information systems for long-term sustainability, they suggest, requires time and patience. Strategies with the intention to promote such systems must adopt a suitably long-term view, considering the slow influence of ideas on practice, the need to learn from field experience, and the timescales needed to build the human and institutional capital required to do all of these things.

Since its inception, supply chain sustainability has evolved into one of the most effective and productive decision-making study disciplines. With the introduction of new themes, the number of "primary" and "secondary" research publications continues to rise year after year. Figure 3.3 presents the number of literature reviews by journal between 1995 and 2018.

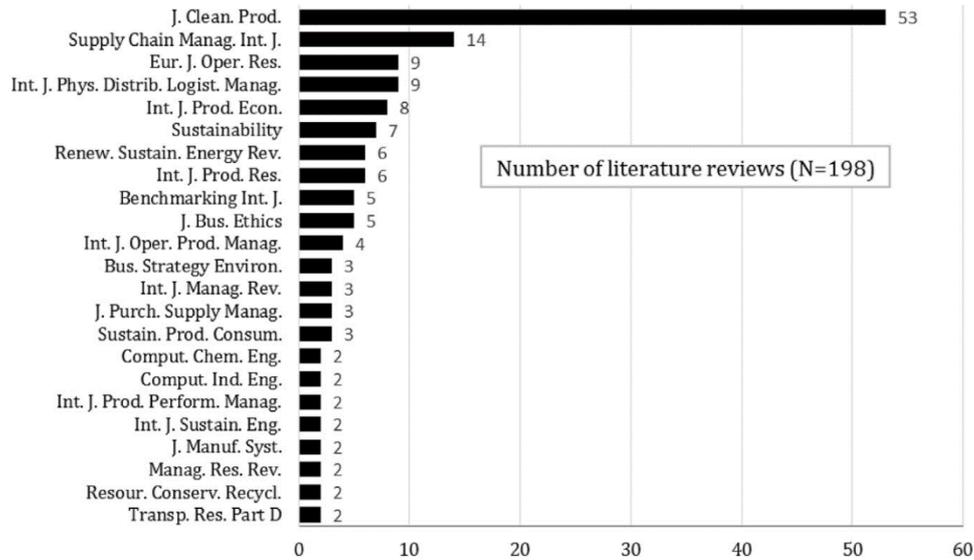


Figure 3.4: number of literature reviews by journal (1995 – 2018)

Source: Martin and Pato (2019:1002)

Since 1995, literature reviews have been conducted on the most critical supply chain functions. Some, such as scheduling and inventory, appear to be declining, potentially due to research saturation, as Asgari et al. (2016) predicted. On its own, performance is the feature that has gotten the most feedback (Bloemhof-Ruwaard et al., 1995). This attention can be explained that performance refers to non-complex decisions based on measures and indicators that are critical to success in “supporting strategic”, “tactical”, and “operational decisions”. Surveys have been conducted in critical areas such as agri-food and energy. According to Martins and Pato (2019), a systematic evaluation of the individual industry-focused SSCM literature, notably allowing for real-life related research, is a viable study opportunity that can aid in the growth of SSCM literature.

This research intends to focus on developing the RSSCM framework in particular. The execution of SSCM necessitates the participation of a large number of individuals. Internal and external SSCM practices on activities such as offering design specifications to suppliers containing environmental criteria, operating with customers for eco-design, and collaborating with other stakeholders have significant research value. Reviews of the literature Chapter Two and this Chapter summarize supply chain theory, stakeholder theory, and theory based on SCM, such as RBV, NRBV theory and institution theory, which can be used to comprehend better the complexity associated with broader organizational complications like supply chain linkages. A review of organizational theories applied to SCM concerns and future research directions Table 3.3 (Sarkis et al., 2011) related to SSCM development should be considered. The theoretical knowledge of the challenges related to the SSMC gaps of the study.

Table 3.3: Summary of organizational theories applied to GSCM related study questions and future research directions

Theory	General conceptualization	Current GSCM related study and theory application	Future research and theory application
Complexity theory	As complexity increases, firms find it more difficult to plan and predict their organizational actions, e.g., GSCM implementation. It is necessary for firms to be sensitive and responsive to their environments with co-evolution and interdependencies in adapting to the system (Crozier and Thoenig, 1976).	<ol style="list-style-type: none"> 1) The difficulty for implementing GSCM can be intensified by the complexities associated with broader organizational complexities, such as size and relationships (Vachon and Klassen, 2006b). 2) Complexities inherent in closing the loop for a supply chain have been observed (Guide and Wassenhove, 2009; Matos and Hall, 2007). 3) For managing a supplier system, Choi and Krause (2006) identified supply base complexity as a key area of managerial consideration. 	<ol style="list-style-type: none"> 1) How to reduce the uncertainty that arises from implementing the GSCM activities and guide system function. 2) The adaptive complex systems relationship to an inter-organizational learning theory in GSCM
Ecological modernization (EMT)	As a systematic eco-innovation theory, an EMT is geared towards jointly achieving industrial development and environmental protection through innovation and technological development, or 'modernity' (Jänicke, 2008; Murphy and Gouldson, 2000). At least two dimensions of an EMT can influence GSCM research and practice, new politics of pollution and technological innovation.	<ol style="list-style-type: none"> 1) To motivate GSCM related practice, proper institutional arrangement and a legal framework by government are needed (Kassolis, 2007). 2) The practice of GSCM is consistent with the concept of environmental innovation from the EMT view (Zhu, Sarkis et al., 2010). 3) Innovation typically occurs in the upper echelon of a supply chain. 	<ol style="list-style-type: none"> 1) A consensus on theoretical foundation for EMT at the GSCM level is necessary. 2) Innovation diffusion mechanisms and relationships between large and smaller suppliers and customers for GSCM need further investigation.
Information theory (information asymmetry and signaling theory)	Unequal environmental information exists between industry and customers. Managing under this information asymmetry environment may require 'signaling' and other information theoretic approaches (Simpson et al., 2007).	<ol style="list-style-type: none"> 1) If the natural environmental influences occur further upstream in the supply chain, it becomes more important to collect information from suppliers (Erlandsson and Tillman, 2009). 2) Organizations are more likely to certify their practices such as ISO 14001 certification when information asymmetries with their stakeholders (e.g., customers and suppliers) are high (Jiang and Bansal, 2003). 	<ol style="list-style-type: none"> 1) Whether coordination, closeness, congruence, and collaboration result in reduced information asymmetry and improved environmental performance and image need further study. 2) There is significant opportunity to study satisficing and dynamic signaling theory application to GSCM practices.
Institutional theory	Institutional theory examines how external pressures influence organizational actions (Hirsch, 1975). Within institutional theory, three forms of isomorphic drivers exist namely, coercive, normative, and mimetic (DiMaggio and Powell, 1983).	<ol style="list-style-type: none"> 1) Coercive pressures mainly originated from governments are key drivers for environmental management practices (Kilbourne et al., 2002). 2) Normative pressure from consumers have driven the adoption of GSCM practices (Ball and Craig, 2010), while exports and sales to foreign customers are two important drivers that prompt manufacturers on the adoption of GSCM practices. 3) Imitation plays a significant role for companies in developed countries to implement GSCM practices (Aerts et al., 2006). 	<ol style="list-style-type: none"> 1) It is unclear how external and internal factors interactively promote GSCM practices? 2) How to identify core companies along supply chains and how can governments exert pressure on such companies? 3) Why do heterogeneous responses to GSCM implementation from institutional pressures exist?
Resource based view (RBV)	The resource-based model of competitive advantage suggests that competitive advantage may be sustained by harnessing resources that are valuable, rare, imperfectly imitable, and non-substitutable (Barney, 1991).	<ol style="list-style-type: none"> 1) Extension of RBV to the competitive advantages across the supply chain can also be applied to greening of supply chains (Gold et al., 2010). 2) Internal organizational resources mediate the relationship to external forces (institutional forces) and GSCM practices adoption (Sarkis et al., 2010). 	<ol style="list-style-type: none"> 1) Knowledge management and learning theoretical perspectives those focus on inter-organizational learning and knowledge sharing for GSCM practice diffusion. 2) The development of scales that are capable of measuring the various competitive dimensions of value, rarity, inimitability, and non-substitutability are still in need of development for GSCM.
Resource dependence theory(RDT)	RDT suggests that, in the supply chain, member firms should depend and collaborate to seek higher performance gains in the long-run instead of pursuing short-term benefits at the expense of others. One important assumption of the RDT is that firms cannot be fully self-sufficient with regards to strategically critical resources for survival.	<ol style="list-style-type: none"> 1) In GSCM, eco-design of products and materials recovery are exemplary organizational resources requiring supply chain partnership to effectuate performance benefits (Shang et al., 2010; Zhu and Sarkis, 2004; Zhu et al., 2005). 2) From the RDT perspective, customer and supplier relationships are important linkages for firms to reduce the uncertainty surrounding their operating environment (Carter and Rogers, 2008). 	<ol style="list-style-type: none"> 1) Relationship between resource dependency and GSCM performance is fertile for investigation. 2) It is not clear how to facilitate and improve GSCM resources acquisition process considering the dependency of upstream and downstream supply chain partners.

(Continue)

Theory	General conceptualization	Current GSCM related study and theory application	Future research and theory application
Social network theory (SNT)	An SNT considers organizational outcomes as a function of the social relationships between organizations or individuals in an organization (Jones et al., 1997). An SNT has been described as having two major elements namely, density and centrality (Rowley, 1997).	<ol style="list-style-type: none">1) GSCM studies on buyer-supplier relationships for performance improvement can be explained or constructed around using an SNT lens (Seyfang, 2006).2) Using the notion of density from an SNT, it is observed that organizations with a greater number of locations, customers, suppliers, and general awareness in the public are likely to be under greater pressures to adopt GSCM practices and have less control on whether to adopt or not to adopt (Maignan and McAlister, 2003).	<ol style="list-style-type: none">1) The role of an SNT on the diffusion of GSCM from proactive companies to lagging companies.2) Whether employees in an organization accept, understand, and implement GSCM, across organizational boundaries, is important.
Stakeholder theory	Stakeholder theory suggests that companies produce externalities that affect many parties (stakeholders), which are both internal and external to the firm. Externalities often cause stakeholders to increase pressures on companies to reduce negative impacts and increase positive ones.	<ol style="list-style-type: none">1) Specific stakeholder influences on green purchasing (Björklund, in press; Maignan and McAlister, 2003); life cycle analysis (Matos and Hall, 2007); environmentally oriented reverse logistics (Sarkis et al., 2010); 'closing the loop' for GSCM (Zhu et al., 2008) and general GSCM or green logistics practices (Chien and Shih, 2007; González-Benito and González-Benito, 2006).2) Identifying and investigating roles of various stakeholders within GSCM practices has also been studied (de Brito et al., 2008; Gunther and Scheibe, 2005).	<ol style="list-style-type: none">1) Significant investigational opportunities still exist with respect to the roles stakeholder theory and pressures have on GSCM technology and innovation diffusion (Vachon, 2007).2) Internationally focused stakeholder theory may also be more relevant as the globalization of supply chains has caused the stakeholder sphere to continue expanding, implications for environmental standardization along supply chains may be investigated.
Transaction cost economics	Transaction cost economics focuses on how much effort and cost is required for two entities, buyer and seller, to complete an activity (economic exchange or transaction) (Williamson, 1981).	<ol style="list-style-type: none">1) Formal modeling study utilizing transaction costs and dynamics within mathematical programming and optimization model frameworks occurs in a number of environmental supply chain studies (Cruz, 2008, 2009; Cruz and Matsypura, 2009; Cruz and Wakolbinger, 2008; Sheu et al., 2005; Yang et al., 2009).2) Whether voluntary environmental initiatives standards are more likely to diffuse across a supply chain, if it improves the transaction costs of a relationship (Rosen et al., 2002).3) The use of the asset specificity and organizational action related to GSCM is another explanatory dimension of transaction cost economics (Delmas and Montiel, 2009).	<ol style="list-style-type: none">1) Exchange hazards investigation with GSCM may also be fertile ground for future investigation.2) Many dimensions of this theory will help to investigate relationships, investments, and organizational structure decisions in GSCM.

source: Sarkis et al. (2011:4-5)

The title, keywords, abstract, and literature review of each article were used to develop the paper's subject ideas. "Green dining", "sustainable restaurants", and "alternative food systems" were the most frequently encountered themes, as shown in Figure 3.5. Customers, restaurant managers or owners, industry stakeholders (e.g., "food producers", "industry associations", "customers and managers") and the general public were all included in the research perspective categories (Lu & Nepal, 2009). More than half of the papers (n = 44) focused on research from the standpoint of a restaurant manager or chef (58%). In comparison, 39 articles (52%) primarily focused on consumer or general public research; however, several researches included more than one viewpoint. Other views were mentioned, such as "tourists", "traders", and "producers" in a modest number of publications (n = 12, 16%). (Higgins-Desbiolles et al., 2017).

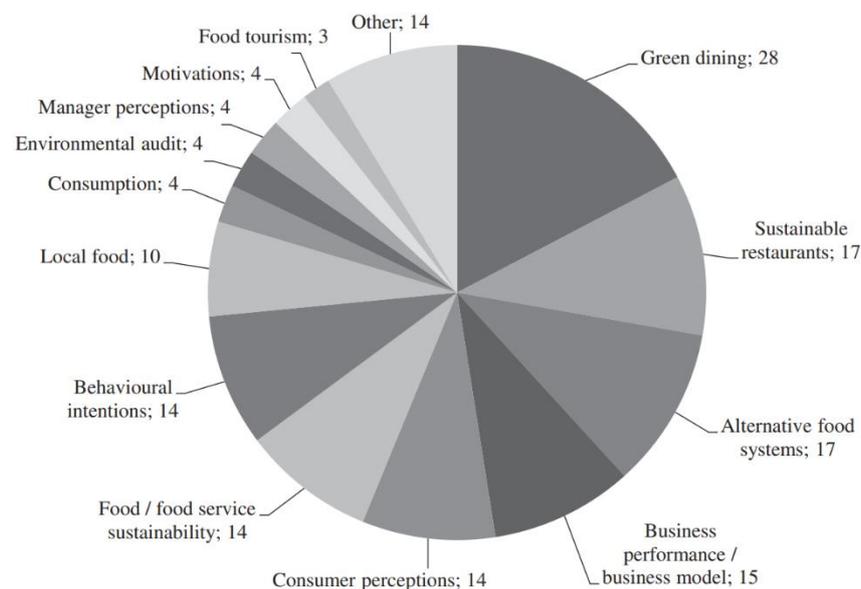


Figure 3.5: Overview of subject themes with corresponding number of articles

Source : Higgins-Desbiolles et al., (2019 : 1571)

TM- Arun et al., (2021) looks at 50 published research studies on consumer uptake of sustainable restaurant services. In terms of the country in which they conducted research, noted that the majority of the studies were undertaken in the United States. With 18 studies, Asian countries are swiftly catching up, particularly South Korea emerging as the new Asian centre for green restaurant research. Figure 3.6 shows that sustainable restaurant research has been fairly balanced between both "Western" and "Eastern" countries with different cultures. Furthermore, the majority of RSSCM research from Asia was published after 2015, hence they are relatively new. This

reflects an alteration trend toward eastern countries, as well as an increasing potential alternatively for food and restaurant researchers in these areas (TM-Arun et al., 2021).

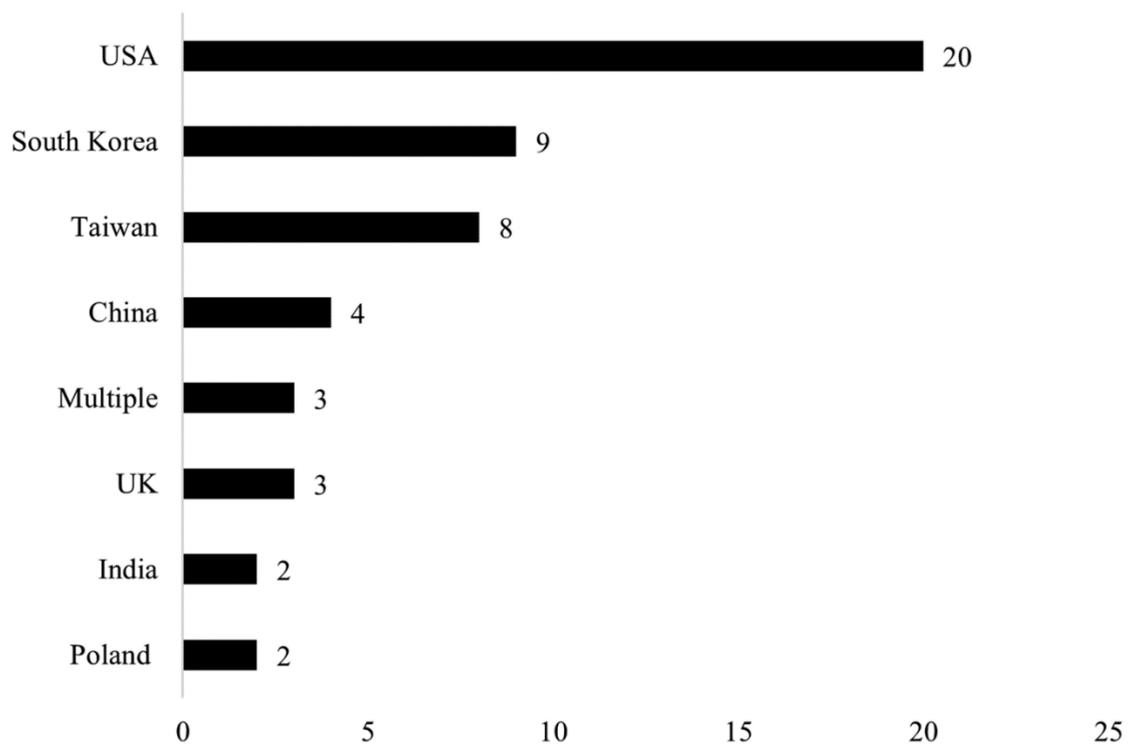


Figure 3.6: Country of interest in the studies (Multicountry studies have also been counted in both countries studied)

Source : TM-Arun et al. (2021: 2228)

In Thailand, the food business has much promise. This country produces a wide range of agricultural products due to its plentiful natural resources and farming space. Furthermore, Thailand had evolved in production technology, enhancing the value of agricultural products and contributing to the country's security. Thailand has a vast number of restaurants in all regions of the country and internationally. The restaurant sector is expanding in lockstep with the rising popularity of takeout and delivery. There are a few enterprises in Thailand that are concerned about or threatening the sustainability of the green supply chain. To provide a “holistic view” and “co-create value” in the sustainability supply chain with suppliers and customers, required to include sustainability supply chain management (SSCM) knowledge and set up sustainability strategy into business policy. Furthermore, the alignment of stakeholders and organisations can help the firm turn obstacles into competitive advantages.

However, compared to the number of restaurants around the country, there are very few Thai restaurants currently operating in an environmentally sustainable manner. Thailand declared its new pledge to become carbon neutral by 2065 at the 26th UN Climate Change Conference (COP26) in the United Kingdom. Thailand is also one of

the countries that have evolved based on the sufficiency economy, in line with the Sustainable Development Goals (SDGs). As a result, progress toward sustainability in the restaurant industry and food supply chain is achievable.

Thailand boasts a plethora of restaurant establishments, both in the country and overseas and is known as the "Land of Unique Food Culture" because of the abundance of resources and raw ingredients available for food production. Increasing the number of sustainable restaurants in Thailand appears significant to both the Thai people and the rest of the world. However, a few Thai enterprises are concerned about or driving out the reliability of sustainability supply chain. In particular, building a new sustainability framework in Thailand could result in numerous benefits for both Thailand and other developing countries encouraging nutritious food and preserving the environment.

Previous research had been overlooked:

Previous research has shown that the practice of environmental sustainability in the workplace necessitates both internal and external aspects to ensure its long-term viability. However, there are various barriers in the practice that need to be researched more in supply chain science, including:

- Lack of body of knowledge for applying the holistic concept of sustainability
- A lack of knowledge on sustainable development
- A lack of cultural awareness

Literature, framework, and advice were used to fill in the blanks. An examination of the literature revealed a few studies focused on environmental sustainability in restaurant supply chain management. In terms of supply chain sustainability, there is currently a dearth of current state studies or case studies to practice sustainability in supply chain sustainability. The availability of a framework or paradigm to encourage sustainability is currently restricted. As a result, knowledge for improving the sustainability of small and medium-sized restaurant businesses must be fully integrated into academic disciplines.

Previous research focused solely on environmental or cooperative social responsiveness approaches. A few supply chain studies give a comprehensive definition and measurement of sustainability, including environmental, social, and economic practices aimed at various stakeholder groups (i.e., employees, customers, suppliers, and community). Almost all previous research has focused on direct interactions on financial or operational firm performance (Rao et al., 2009). In comparison, there is currently a paucity of research on the relationship between sustainability and company performance via customer happiness and competitiveness.

Why Thai Restaurant?

Thailand is an agricultural powerhouse, with abundant resources from land to sea and a growing season that lasts all year. With its low prices and excellent quality products, the country is geared to lead the global food sector, allowing food processing corporations to source over 80 percent of the raw ingredients they require domestically. Thailand is connected to ASEAN and other countries due to its central location in Southeast Asia. With over 640 million people in Southeast Asia, the food business faces various challenges (Board of Investment, 2019).

Thailand boasts a plethora of restaurant establishments, both in the country and overseas and is known as the "Land of Unique Food Culture". Increasing the number of sustainable restaurants in Thailand appears significant to both the Thai people and the rest of the world. However, a few Thai enterprises are concerned about or driving out the reliability of the sustainability supply chain. In particular, building a new sustainability framework in Thailand could result in numerous benefits for both Thailand and other developing countries, encouraging nutritious food and preserving the environment.

It is necessary to consider developing a sustainable restaurant framework to encourage best practices. In summary, the previous studies illustrate that there has been limited research into the Thai environment, particularly in the restaurant sector. Furthermore, studies in this field are rarely published in academic journals in English.

3.5 Conclusion

In summary, Chapter Three examined the existing literature, which aided in shaping and disseminating this research subject. This chapter has looked at previous empirical studies in the context of Thailand's social and environmental issues to understand the existing methodologies, constructs/items, and prevalent theories regarding RSSCM, which are critical to the field's future success. Other pertinent aspects discussed in this chapter included Eastern-Western business philosophies, benchmarking, and sufficiency economy philosophy. The following chapter discusses the methodology used to develop and conduct empirical research to address the aforementioned research questions.

The resource-based view and the stakeholder theory are the most commonly used theories. Contextual variables can influence or change supply chain collaboration for sustainability in this way, enriching the understanding of the circumstances surrounding supply chain collaboration for sustainability.

The literature described the application of RBV to competitive advantages throughout the supply chain to develop greening of SCM. Furthermore, the NRBV extends RBV firm theories by explicitly identifying the natural environment as a resource

constraint, proposing that firms must develop strategic capabilities in pollution prevention, product stewardship, and sustainable development in order to pursue competitive advantage. However, the study of knowledge management and learning theoretical perspectives focusing on inter-organisational learning and knowledge learning for SSCM practise diffusion was limited. As a result, the cross-country study of transaction knowledge between firms could develop scales capable of measuring the various competitive dimensions of value, rarity, imitability, and non-substitutability for SSCM.

Although literature reviews are discussed to identify and investigate the roles of various stakeholders within SSCM practises, internationally focused stakeholder theory may be more relevant as the supply chain's globalisation has caused the stakeholder sphere to continue expanding. The literature discussed stakeholder theory to managers' sustainability practise preferences. Various functions discussed in the literature review to realise SSCM practises currently include innovation involving managers and employees. However, significant investigational opportunities in adopting challenging and implementing specific models still exist concerning the roles stakeholder theory and pressures have on SSCM technology and innovation diffusion.

The institutional theory examines organisations and management practises as the result of social rather than economic forces. As a result, changing the behaviour of individuals who work in restaurants can significantly impact the development of formal structures in an organisation. The government included institutional types that led to the adoption and spread of formal organisational structures, such as written policies, standard practises, and new forms of organisation to enhance RSSCM.

According to the literature, there are a few qualitative studies on sustainability in the tourism and hospitality literature, particularly in the restaurant industry. Furthermore, the literature reveals that only a few contributions have looked into firm-level benchmarking of sustainability practises and cross-country performance measurement. As a result, investigating the restaurant industry at large through the scale of RSSCM practises from various regions could improve restaurant performance and make it more sustainable.

The literature on sustainable management discussed various sources and strategies, but none suggested how Thai restaurants practise environmental sustainability efficiency. Furthermore, previous studies have yet to contribute to how the Thai restaurant industry can manage the sustainability of its supply chain. Similarly, the literature delicate that the large scale of sourcing products and the variety of food operator characteristics, most sustainable initiatives might be limited to integration into restaurant supply chains. However, there are no specific guidelines for the Thai restaurant industry on integrating sustainability into its supply chains.

This study aims to develop a sustainable restaurant framework to guide and support Thai restaurants in achieving sustainability. As a developing country, Thailand is an excellent context to enhance knowledge and increases sustainability knowledge for both restaurant operators and their supply chain.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

Combining research methodologies and a philosophical position makes it easier to generate new information and theory applied in academia and practice. Moreover, a fundamental understanding of the differences between philosophical underpinnings and research methodologies is critical for a researcher because the approaches chosen will significantly impact how the research is conducted and, ultimately, the quality and value of the empirical investigation's outcomes.

The researcher will first highlight various philosophical viewpoints and research paradigms that a researcher can adopt depending on the study topic and nature of the investigation. Next, there will be a discussion regarding research quality issues. In addition, the researcher will provide more information about the chosen philosophical perspective as well as steps to assure the study's quality. The research approach and data-gathering procedures will be discussed in the parts that follow. The interview guide and prototype interviews are also discussed in terms of improving data quality and gaining preliminary insights into the research topics. The data analysis approach used on the acquired data to produce relevant results is highlighted in section 4.9.

4.2 Research Philosophy and Strategy

The philosophical positions of epistemology, ontology, and axiology will be discussed in this section. The consequences of this study will be discussed in further detail in the following sections. Then, there is a discussion of research paradigms, paradigm types, and forms of research, both qualitative and quantitative, in the context of the SCM field.

4.2.1 Epistemology, Ontology, and Axiology

Epistemology: Epistemology is concerned with what constitutes or should constitute sufficient knowledge and the nature of knowledge, and how it can be acquired (Sobh and Perry, 2006; Saunders et al., 2012). Epistemology delves deeper into the link between the researcher and the study issue. There are two primary viewpoints: positivist, and interpretivist (Collis and Hussey, 2013).

Positivists believe that a phenomenon must be observable and measurable in order to acquire adequate knowledge. A positivist maintains an autonomous and objective posture from the subject of investigation as a researcher. Furthermore, throughout the research, a positivist assumes the role of a natural scientist and employs large samples in a controlled environment to test a theory or hypothesis (Holden and Lynch, 2004). Positivists embrace quantitative, statistical, and numerical data. Such data allows them to provide very exact and objective results with high reliability, low validity, and generalizability to the community from which the sample was derived (Collis and Hussey, 2013; Easterby-Smith et al., 2012).

Ontology: Ontology is concerned with the nature of reality and whether the social world creates social actors or is created by them (Sobh and Perry, 2006). The fundamental question in the ontology debate is whether social phenomena should be understood as unique objective things with a reality separate from social actors or as many social constructions based on those actors' actions and perceptions (Bell et al., 2018; Holden and Lynch, 2004). As a result, there are two extreme perspectives in ontology: objectivism and subjectivism.

Objectivists think that social reality is objective and outside the researcher's control and that research participants must adhere to this reality. Objectivism holds that social phenomena and their meanings already exist and are unaffected by social actors. On the other hand, subjectivists think that social reality is formed by social interaction and thus subjective (Collis and Hussey, 2013; Holden and Lynch, 2004). Furthermore, subjectivism asserts that social actors have their perceptions of reality, implying that multiple realities exist. According to Saunders et al. (2012), subjectivism views reality as a social construct, and it is critical for a researcher to interpret participants' perspectives in their social context to comprehend what they mean in essence truly and generate and claim new and meaningful knowledge.

Axiology: Axiology is concerned with the researcher's values and the function they play at various stages of the research process (Martin et al., 2010). Positivists believe that the study process is significant and unbiased, despite treating the phenomenon under examination as an object. Objectivists are more interested in looking into causal relationships between items while assuming that those objects previously existed before they started looking into them. Furthermore, objectivists believe that the objects under inquiry are unaffected by their research and will remain the same after it is completed. These ideas are widespread in natural scientific studies, according to Collis and Hussey (2009), but less so in social science studies, which deal with behaviours and activities. This argument leads to the interpretivism viewpoint, which recognizes that the researcher has views, that the research process is value-laden, and that biases exist in the research process. Because of how the researcher sets questions, the significance he or she allocates to specific concerns, and the way the researcher analyses and interprets data, these attitudes, views, and biases can cast doubt on study conclusions (Martin et al., 2010). On the other hand, Saunders et al. (2012) gave some suggestions for how interpretivism might prevent prejudice. According to them, the

researcher should use various sources, look at the thing from several angles, and employ approaches that can reduce or eliminate prejudice.

4.2.2 Research Paradigm

This section discusses paradigms, paradigm types, and research kinds (qualitative and quantitative) in the context of the SCM discipline.

4.2.2.1 Paradigm

There is no right or wrong paradigm; however, researchers must be conscious of their paradigm because it will affect their research and how it is carried out. The various paradigmatic views are examined in terms of a philosophical dichotomy between positivism and interpretivism in management research (Mangan et al., 2004).

People's ideas about the nature of knowledge and reality have changed over time, according to Collis and Hussey (2009), as a result of the perceived inadequacies of old paradigms. New paradigms have emerged in response, which, according to them, are captured in Kuhn's (1962: viii, cited in Collis and Hussey, 2009:55) paradigm definition: "Paradigms are universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners".

Guba and Lincoln (1994) regard the paradigm question as the most important consideration in approaching research, and this is echoed by Saunders et al. (2009), who depicted research progress as an onion, i.e., a multi-layered process with research paradigms as the outermost layer. Guba and Lincoln (1994) argue for paradigm as a "fundamental belief system or worldview that leads the investigator" and is based on "ontological, epistemological, and methodological assumptions".

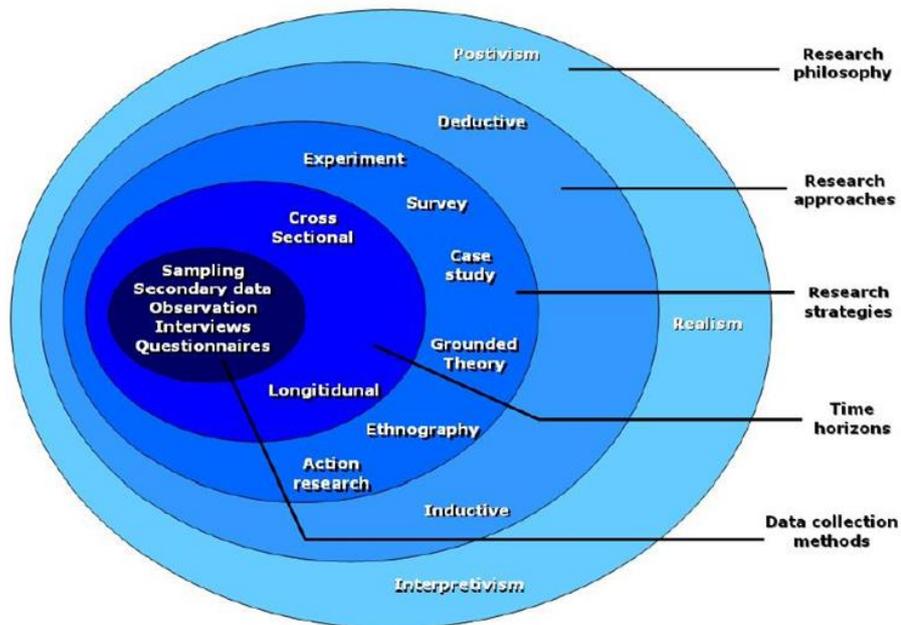


Figure 4.1 : The research onion

Source: Saunders et al. (2007)

According to Burrell and Morgan (1979), the functionalist paradigm differs from the interpretivist paradigm in terms of its ontological divergence from social-science assumptions that take objective versus subjective assumptions into account. However, the radical humanist subjective and radical structuralist objective paradigms, which are concerned with the sociology of radical change, the "sociology of regulation" or status quo is concerned with the sociology of the status quo. The identity paradigm is on the objective axis, but it is more fundamentally oriented toward change than the radical structuralist paradigm, as indicated in Figure 4.2.

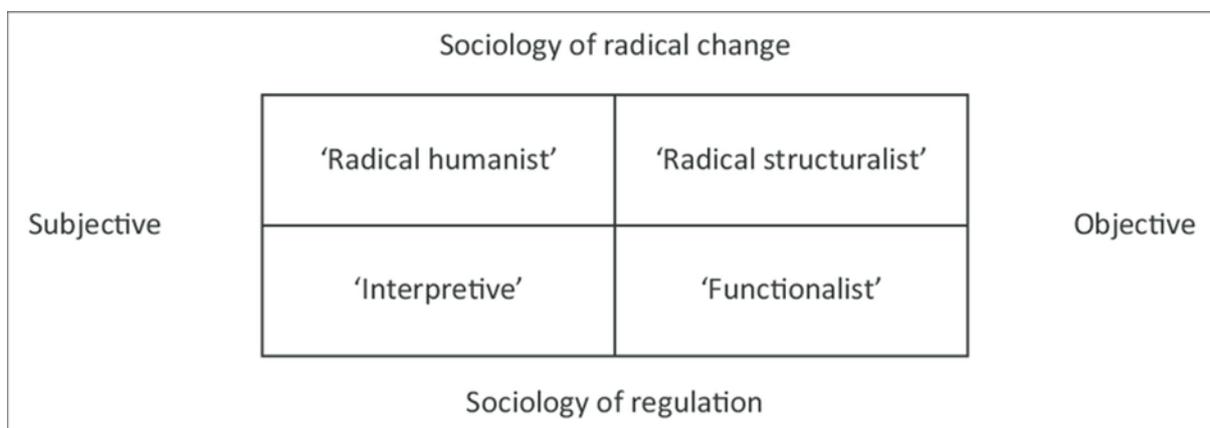


Figure 4.2 : Paradigmatic differentiation schema

Source: Burrell and Morgan’s (1979:22)

According to Deetz (1996), subjective and objective distinctions reveal political roles in the research production hierarchy based on the same erroneous logic. Furthermore, quantitative research frequently receives a favoured objective label and optimistic assumptions in the natural sciences because they promise a double technique and phenomena. Interpretivists, on the other hand, achieve the subjective label by claiming a double allegory that includes an interpretation of an interpreted reality (Deetz, 1996). Furthermore, neo-positivist researchers are able to bridge the gap between qualitative and quantitative research by collecting data in a variety of ways and then analysing it as a simple programme to provide further insights into the same event. This topic will be explored further in terms of the procedures used and how the research incorporates various data collection methods, management, analysis, interpretation, and triangulation.

Nonetheless, Mackenzie and Knipe (2006), Collis and Hussey (2009:61), and Nurrell and Morgan (1979:3) point out that there is a wide range of techniques and perspectives in between these two extremes. Figure 4.3 depicts Burrell and Morgan's study of subjective and objective argument consistency.



Figure 4.3: Objective and Subjective Dimensions

Source: Adapted from Nurrell and Morgan (1979:3)

The following discussion, which takes place above discrimination, also includes a debate on qualitative and quantitative research. In ontology, the interpretivist approach is considered subjectivist since it maintains a subjective posture. As a result, qualitative research methodologies are typically established in their interpretivist study methodology, whereas a positivist achieves an objective position in ontology and endorses quantitative research methods (Piyya, 2015).

The primary goal of this study is to determine the present state of the art for sustainable restaurants in Thailand and identify ideas and gaps across the country. It also aspires to delve into the ideal restaurant framework in terms of sustainability. As a result, subjectivism might be regarded as the research's ontological viewpoint. Because the restaurant owners and staff and other stakeholders' perceptions of sustainability in their current environment will necessitate the interpretation of numerous realities to determine what they mean by sustainability and how they refer to it (Bell et al., 2018). Accordingly, interpretivism approach is the epistemological research position and therefore this study includes quantitative research approaches.

There are two main approaches to research methodology in sociology: positivism and interpretivism. Positivists advocate quantitative scientific procedures, whereas interpretivists prefer humanistic qualitative approaches. The two dimensions are briefly discussed in the figure 4.4 below.

Positivism	Interpretivism
Relationship between society and the individual	
<p>Society shapes the individual - 'Society consists of 'social facts' which exercise coercive control over individuals' (Durkheim).</p> <p>People's actions can generally be explained by the social norms they have been exposed to through their socialisation, and their social class, gender and ethnic background.</p>	<p>Individuals have consciousness and are not just puppets who react to external social forces as Positivists believe.</p> <p>Individuals are intricate and complex and different people experience and understand the same 'objective reality' in different ways and have individual reasons for their actions.</p>
General focus of social research	
<p>The point of research is to uncover the laws that govern human behaviour, just as scientists have discovered the laws that govern the physical world.</p> <p>Sociologists should use similar methods and approaches to the natural sciences.</p> <p>Prefer quantitative methods which allow for the researcher to remain detached from the respondents.</p>	<p>The point of research is to gain in-depth insight into the lives of respondents, to gain an empathetic understanding of why they act in the way that they do.</p> <p>Sociologists need to use non-scientific methods to see the world through the eyes of the actors doing the acting.</p> <p>Prefer qualitative methods which allow for close interaction with respondents.</p>
Preferred research methods	
<p style="text-align: center;">Quantitative Official Statistics Social Surveys Questionnaires Structured Interviews</p> <p>Require research to be valid, reliable and representativeness</p>	<p style="text-align: center;">Qualitative Personal Documents Participant Observation Unstructured Interviews</p> <p>Prepared to sacrifice reliability and representativeness for greater validity</p>
Key Terms	
<p style="text-align: center;">Objective Detachment Trends/ Comparisons Correlations/ 'Causes' Generaliseability Scientific</p>	<p style="text-align: center;">Subjective Interaction/ Involvement/ Rapport Feelings/ Verstehen/ Empathy Thick Description Individual Motives Humanistic</p>

Figure 4.4: Fundamental differences between Positivism and Interpretivism

Source: Bryman (2012)

Quantitative approaches are advocated by positivists since they are dependable and representative, such as sociological surveys, structured questionnaires, and government statistics. Positivists believe that one's social status influences one's actions. Quantitative research, such as large-scale surveys, is essential for gaining a wide picture of society and identifying social patterns, such as the relationship

between educational achievement and social standing, according to the positivist school. This type of sociology focuses on trends and patterns rather than persons.

Positivists also contend that sociology may study the social world using the same procedures and approaches that "natural" disciplines such as biology and physics use to study the physical world. Sociologists should use "scientific" processes to uncover the principles that govern societies, just as scientists have uncovered the rules that govern the physical world. In positivist research, sociologists look for links, or "correlations," between two or more variables. This procedure is referred to as the comparative method.

4.2.2.2 Inductive versus Deductive

According to Engel and Schutt (2014), there are two sorts of research: deductive and inductive. They discovered that deductive research begins with a hypothesis and then tests it, but inductive research begins with data collection and then develops a hypothesis based on the evidence.

Deduction is described by Miller and Brewer (2003: 67) as "the process of reasoning through which logical conclusions are drawn from a collection of general premises". Deductive research features in a study that is founded on a social theory premise or assumption: "Empirical generalisations and theoretical conclusions should be generated from the data", as claimed by Miller and Brewer (2003: 154). According to Saunders et al. (2007), a deductive strategy is one in which researchers begin with a hypothesis and plan a research project to collect data in order to evaluate the theory.

"A strategy in social research that claims that empirical generalisations and theoretical conclusions should be developed from the facts" is in opposition to inductive research (Miller & Brewer, 2003: 154.). Furthermore, according to Saunders et al. (2007), an inductive strategy is when a researcher begins with data-gathering and then builds a new theory based on the patterns that emerge from the data.

A procedure known as a "generic inductive approach" is described by several writers describing qualitative data analysis in journal papers. This method may be seen in qualitative data analysis (Bryman and Burgess, 1994; Dey, 1993), though it is not often labelled. This article aims to establish a set of processes that can be used to analyse qualitative data and describe the critical elements of the general inductive approach. The inductive approach is a systematic method for analysing qualitative data in which the investigation is led by particular evaluation goals (Thomas, 2006).

According to Thomas (2006), the following are some of the goals that drove the development of the general inductive analytical technique.

1. To reduce a large amount of diverse raw text material into a concise summary format.
2. To develop obvious ties between the study objectives and the summary findings produced from the raw data, and to ensure that these links are both transparent (and hence defensible) and defensible.
3. To create a model or hypothesis about the underlying structure of experiences or processes revealed by text data.

Deductive and inductive techniques are commonly utilized in empirical research. The researcher can employ either of them or a combination of both, depending on the nature of the investigation. On the one hand, the deductive approach is associated with positivism and objectivism and so frequently employs a quantitative research strategy. On the other, the inductive approach is related to interpretivism and subjectivism and hence takes a qualitative approach (Bryman and Bell, 2015).

The deductive technique entails the researcher formulating a hypothesis based on what is known about a domain and theoretical considerations related to that domain (Bryman and Bell, 2015) and then designing measurable and quantifiable variables to test the hypothesis. Theory directs research in the deductive approach; the researcher first builds a theoretical or conceptual framework, which is then tested using large samples to generalize findings (Collis and Hussey, 2009). In a deductive approach, questionnaires and surveys are systematic approaches, and the entire process is directed by the theory or hypothesis developed from it.

The inductive approach, on the other hand, takes the opposite strategy and aims to develop theory. As a result, the theory is a result rather than a beginning point. The researcher first grasps the research context before drawing inferences or developing a theory based on the data. The inductive strategy relies heavily on qualitative data and is thus less organized than the deductive approach, which requires numerous iterations during data collection and analysis. Furthermore, conclusions from the inductive approach are less generalisable due to skewed opinions from research participants, the value-laden character of the research, and the researcher's strong dependence on subjective interpretations. In response to these critiques, Easterby-Smith et al. (2012) argue that the researcher might not wish to generalize but instead gain a deeper understanding of a complicated phenomenon with ambiguous limits in its virtual environment, where a tested hypothesis is impossible to create.

In summary, qualitative research is produced by the inductive technique, whereas the deductive approach produces quantitative research. The following comparison between qualitative and quantitative research (Table 4.1) was offered by Bryman and Bell (2011), which also reflects differences in the nature of data acquired using these methodologies.

Table 4.1: Some Contrasts between Quantitative and Qualitative Research

Quantitative	Qualitative
Numbers	Words
Point of view of researcher	Points of view of participants
Researcher distant	Researcher close
Theory testing	Theory emergent
Static	Process
Structured	Unstructured
Generalisation	Contextual understanding
Hard, reliable data	Rich, deep data
Macro	Micro
Behaviour	Meaning
Artificial settings	Natural settings

Source: Bryman and Bell (2011:410)

In terms of demonstrating diverse approaches of study analysis, Saunders et al. (2012) stated that quantitative and qualitative data differ in nature. As a result, they demonstrated how data collection differs depending on the method used.

The term "inductive analysis" is used in this study to denote processes that rely on extensive raw data readings. Without the limits imposed by established procedures, the inductive approach tries to allow research findings to emerge from the themes present in raw data. Deductive analyses, such as those used in major themes, are sometimes hidden, reframed, or rendered invisible due to the investigators' biases in data gathering and data processing methodologies.

4.3 Research Quality

The research process and methodology are influenced by research philosophy and paradigms. As a result, various quality metrics and methods to assure the validity and credibility of the research process and outcomes are developed. The use of quality measures developed for quantitative research methodologies in qualitative research, however, has been criticized (Bryman and Bell, 2015). Critics suggest that the definitions of the words should be changed using quantitative research quality measurements in qualitative research. "The question of measurement validity almost by definition seems to entail connotations of measurement", Bryman and Bell (2007: 410) write the question of validity would appear to have little influence on such investigations because measuring is not a prominent concern among qualitative

researchers. Reliability, validity, and generalisability are three conventional quality standards drawn from quantitative research.

According to Noble and Smith (2015), the tests and metrics used to verify the validity and reliability of quantitative research cannot be utilized in qualitative research. Alternative frameworks for establishing rigour are required if qualitative procedures are fundamentally different from quantitative methods regarding philosophical opinions and goals. As a result, introducing specific other criteria for proving accuracies in qualitative research, such as truth value, consistency, neutrality, and application, has a substantial impact (Table 4.2).

Table 4.2 : Terminology and criteria used to evaluate the credibility of research findings

Quantitative research terminology and application to qualitative research	Alternative terminology associated with credibility of qualitative research
Validity	Truth value
The precision in which data the findings accurately reflect the	Recognises that multiple realities exist; the researchers' outline personal experiences and viewpoints that may have resulted in methodological bias; clearly and accurately presents participants' perspectives
Reliability	Consistency
The consistency of the analytical procedures, including accounting for personal and research method biases that may have influenced the findings	Relates to the 'trustworthiness' by which the methods have been undertaken and is dependent on the researcher maintaining a 'decision-trail'; that is, the researcher's decisions are clear and transparent. Ultimately an independent researcher should be able to arrive at similar or comparable findings.
	Neutrality (or confirmability)
	Achieved when truth value, consistency and applicability have been addressed. Centres on acknowledging the complexity of prolonged engagement with participants and that the methods undertaken and findings are intrinsically linked to the researchers' philosophical position, experiences and perspectives. These should be accounted for and differentiated from participants' accounts
Generalisability	Applicability
The transferability of the findings to other settings and applicability in other contexts	Consideration is given to whether findings can be applied to other contexts, settings or groups

Source: Noble and Smith (2015)

Generalisability, formerly recognized as a quality measuring instrument in quantitative research but now described as external validity in qualitative research, is concerned with whether study findings can be generalized outside the immediate context of the investigation. The following section discusses reliability and validity before moving on to alternate metrics for qualitative research.

4.3.1 Reliability

According to Bryman and Bell (2011), there are four types of reliability in quantitative and qualitative research methodologies. Stability validity is used to verify the research's reliability and ensure that the measurement is consistent at all times. Second, there is inter-observer consistency, which is documented by observation and data translation. Internal reliability is the third factor to consider when assessing both quantitative and qualitative approaches. Finally, whereas external reliability correlation is a qualitative metric, stability and inter-observer firmness are just quantitative measures (Bryman and Bell, 2011).

Reliability is concerned whether the research would provide the same results if undertaken by another researcher in the same setting and whether the results generated would be the same under repeated trials (Healy and Perry, 2000; Golafshani, 2003; Riege, 2003; Bryman and Bell, 2015). As a result, the research method's consistency is called into question. According to Easterby-Smith et al. (2012), reliability may be determined by asking three questions. Do the measures produce the same results in other situations? Is it possible for other researchers to make/obtain comparable findings? Is it also clear how the raw data was interpreted, or conclusions were drawn? They go on to say that if the answer to these questions is yes, the data collected is very dependable since it will consistently demonstrate consistency and produce the same outcomes when collected, analysed, and presented.

Observer and participant biases and inaccuracies can harm the research's reliability. To minimize participant error, the researcher must ask the same questions and make sure that respondents use the same response categories and definitions (Healy and Perry, 2000; Riege, 2003). Respondents may understand sustainability differences in the context of this study, and they may also manage it differently. However, the researcher must guarantee that replies are comparable for reliability (Saunders et al., 2012). This was accomplished in two ways: first, by ensuring that respondents understood what was being asked; and second, by asking all respondents identical questions in the same language.

It is vital that new in-depth insights are sought during the development and testing of SSCM. However, in order to establish theory and allow for additional testing, it is also necessary to make generalisations across industries. This is the thesis' main contribution, as well as the justification for employing a combinatory research approach.

4.3.2 Validity

According to LeCompte and Goet (1982, quoted in Bryman and Bell, 2011), internal and external validity have been used to promote matching between observation and theoretical notions to accept the degree of discovery throughout the social situation as well as to ensure that the research findings genuinely reflect what is happening in the real world (Collis and Hussey, 2009; Healy and Perry, 2000; Riege, 2003; Golafshani, 2003). The categories of validity listed in Table 4.2 are the most commonly discussed types of validity in the literature.

Table 4.3: Types of Validity

Types of validity	Description
Internal Validity	Concerned with whether the researcher has demonstrated a causal relationship between two factors or what is determined as a cause actually produces what is interpreted as the effect, by demonstrating that other plausible factors cannot explain the relationship.
External Validity	The extent to which the research findings can be generalised beyond the immediate context or setting in which research was conducted.
Construct Validity	Reflects the extent to which the measurements in question actually operationalise the concepts being studied or actually measures the presence of the constructs it is intended to measure.
Face Validity	The extent to which the measure apparently reflects the content of the concept in question and is valid for the participants by themselves.

Source: Compiled by Piyya (2015) from Bryman and Bell (2015); Collis and Hussey (2009); Saunders et al. (2012); and Yin (2014).

In the SSCM context, it is critical to consider both internal and external elements when it comes to involving participants and the study environment. Specifically, this study engages with both internal and external restaurant stakeholders. As a result, possible respondents should be undertaken in areas such as study design, sustainability, and framework. Furthermore, all of the questions in the interview guide are relevant to the research topic, and valid conclusions will be proved through the use of particular restaurant instances.

In order to examine research quality in this research environment, case study methodologies were used to establish both reliability and validity. The most difficult aspect of using case study research in this context is changing the investigation from a descriptive account of "what happens" to a research project that may purport to be a useful, albeit tiny, contribution to knowledge.

According to Rowley (2002), case studies are an excellent tool for the preliminary tools required in surveys and experiments. In addition, case studies provided numerous advantages for building more structure in research projects. Case studies, for example, are "particularly well adapted to new research topics or study areas for which existing theory appears inadequate" (Eisenhardt, 1989: 548). This style of study is an excellent complement to traditional science research's incremental hypothesis building. "The former is valuable in the early phases of a topic's investigation or when a new viewpoint is required, whilst the latter is helpful in the later stages of knowledge" (Eisenhardt, 1989: 549).

Yin (2014) proposed that the criteria of trustworthiness, credibility, confirmability, and dependability can be implemented and are equally helpful in case of study research in order to add quality criteria. In addition, as indicated in Table 4.4, Yin (2014) utilizes the case study approaches for four design testing.

Table 4.4 : Case Study Tactics for Four Design Tests

Test	Case Study tactic	Phase of research in which tactic occurs
Construct validity	<ul style="list-style-type: none">– Use multiple sources of evidence– Establish chain of evidence– Have key informants review draft case study report	<ul style="list-style-type: none">– Data collection– Data collection– composition
Internal validity	<ul style="list-style-type: none">– Do pattern matching– Do explanation building– Address rival explanations– Use logic models	<ul style="list-style-type: none">– Data analysis– Data analysis– Data analysis– Data analysis
External validity	<ul style="list-style-type: none">– Use theory in single-case studies– Use replication in multiple-case studies	<ul style="list-style-type: none">– Research design– Research design
Reliability	<ul style="list-style-type: none">– Use case study protocol– Develop case study database	<ul style="list-style-type: none">– Data collection– Data collection

Source: Yin (2014:45)

Case study research is appropriate for current situations in which there is a lack of appropriate behaviour. This research technique consistently reflects a diverse variety of evidence sources; additionally, it goes beyond a wide range of source material that is useful for research (Rowley, 2002).

4.3.3 Triangulation

The use of qualitative and quantitative methodologies in studying the same phenomenon has received much attention from academics and researchers in recent years. As a result, using some “triangulation” in social research has become commonplace. The usage of “triangulation” in the social sciences can be dated back to the 1950s (Campbell and Fiskel, 1959).

The term "triangulation" refers to a verification procedure incorporating several perspectives and methodologies to boost validity. It is used in quantitative and qualitative studies in the social sciences to combine two or more hypotheses, data sources, methodologies, or investigators in one study of a single phenomenon to converge on a single construct. The question over whether and how to integrate social research methods dates back to discussions over whether to employ surveys and

fieldwork or interviews and participant observation to be identified. Most lately, Blaikie (1991) has been debating the link between quantitative and qualitative methodologies.

Rather than using a single source of data in a case study research approach, Yin (2014) and Ma and Norwich (2007) suggest using many sources of data while taking into account how to recognize the inconsistency in the phenomenon. In this regard, the researchers used various approaches to gather data for triangulation, including interviews, observation, and documents, to improve the research's quality in terms of both reliability and validity.

4.4 Applied Research Methodology

The research will be exploratory, inductive, and focused on determining how questions lead to the invitation of qualitative research, as evidenced by the methodology used. (Ellram, 1996; Cooper and Schindler, 2003; Naslund, 2002). This study requires criteria for a research technique that may be useful in developing informed alternatives in business management and social sciences research. As a result, the study uses a qualitative technique to confirm the research findings by conducting in-depth interviews. The particular research purpose, research questions, and anticipated research methods in this study are all listed in Table 4.5.

Table 4.5 : Classification of Research Methods According to key Research Objectives and Questions

Objective	Question	Examples of appropriate methodology
Exploration	How, why How often, how much, how many, who, what, where	Qualitative — Experiment — Case study — Participant observation Quantitative — Survey — Secondary data analysis
Explanation	How, why	Qualitative — Experiment — Case study — Grounded theory — Participant observation — Ethnography — Case survey
Description	Who, what, where how much, how many	Qualitative — Experiment — Case study — Grounded theory — Participant observation — Ethnography — Case survey Quantitative — Survey — Longitudinal — Secondary data analysis
Prediction	Who, what, where Who, what, where, how much, how many	Qualitative — Experiment — Case study — Grounded theory — Participant observation — Ethnography — Case survey Quantitative — Survey — Longitudinal — Secondary data analysis

Source: Ellram (1996:98)

As shown in Table 4.5, Yin (2014) proposes a strategy for selecting research techniques, research topic, behaviour control requirements, and modern focusing as a guideline for selecting research method selection.

Table 4.6 : Relevant Situations for Different Research Methods

Method	Form of Research Question	Requires control of behavioural events?	Focuses on contemporary events?
Experiment	How, Why?	Yes	Yes
Survey	Who, What, Where, How, Many, How Much?	No	Yes
Archival Analysis	Who, What, Where, How, Many, How Much?	No	Yes/No
History	How, Why?	No	No
Case Study	How, Why?	No	Yes

Source: Yin (2014: 9)

Tables 4.5 and 4.6, which focus on case study research, demonstrate the appropriateness of techniques based on research aims and questions. According to Yin (2014), case study research necessitates investigating how and why questions, with the focus on a current event in a real-life setting. Furthermore, various case studies and other research methodologies have been accepted. The limitation of the survey method is that it deals solely with phenomena, whereas contextual information is minimal. In order to utilize many sources of information, case studies differ from previous research techniques in that they include interviews and direct observations.

Inductive analysis is a word used to describe techniques that rely on detailed readings of raw data in this study's research methodology. On the other hand, the inductive approach employs the opposite tactic, aiming to construct theory. As a result, the theory is an outcome rather than a starting point. As a result, this method primarily focuses on qualitative data to gather more knowledge about the current situation and draw conclusions about how to construct a framework or model for environmental sustainability.

Companies collaborate in delivering products and services to clients, which is what supply chain management entails. As a result, data from multiple supply chain stages should be collected in an associated empirical study.

Case study research is one research strategy that is applicable to analyze restaurant sustainability supply chain development study. This strategy provides for flexible data collection, which is ideal for examining supply chains and the difficulties that arise in them. While supply chain management research presents additional challenges, it also offers the opportunity to confirm acquired data by triangulating information obtained at various stages of the supply chain (Seuring, 2005).

The case study method was used in this study because it is particularly useful when a thorough grasp of a topic, event, or phenomena is required in its natural, real-life situation. To comprehend the current situation in the Thai restaurant context and assess restaurant sustainability practises through the construction of a new framework, a case study approach can be used for descriptive research.

It is critical to emphasize three key reasons for choosing a case study research technique. Firstly, the researcher lacked and refused to control the working environment at any point during the study. Secondly, the majority of the study topics included how and why concerns, which could not be investigated in a controlled setting such as an experiment or a survey. Third, to investigate the phenomenon of sustainable development, the researcher focused on the current setting of the Thai restaurant business. Furthermore, because the participant managers regularly implement sustainability in their supply chains in their workplace, the context and phenomena could not be separated. These three arguments support using a case study as a research approach in this study (Yin, 2014; Ellram, 1996).

After carefully considering all study methodologies, the aforementioned two tables and subsequent discussion are recognized as useful. Therefore, these competencies will be integrated into an existing sustainable restaurant framework using various approaches such as case study, interview, and observation.

4.4.1 Case Study

Different researchers involved in case study research have described various case study forms. Although case studies are commonly used to develop theories, they can also be used for descriptive research and to test theories (Yin, 2014). As a result, some scholars (Yin, 2014; Eisenhardt, 1989) considered case study as a research methodological approach rather than just a data-gathering tool. Furthermore, the case study methodology is exceptionally versatile because it may be used with several data-collection techniques such as interviews, documents, and observations. Types of case studies research methods are listed in Table 4.7.

Table 4.7: Types of Case Study

Types of Case Study	Description
Explanatory case studies	In this research, existing theory is used to explain and understand a phenomenon.
Descriptive case studies	This form is intending to describe a phenomenon, practice or process.
Experimental case	This form intends to examine the difficulties in implementing new strategies, practices or techniques in a firm and further evaluating the resulting benefits.
Illustrative case studies	This form of research intends to illustrate new or possibly innovative practices or processes adopted by a particular company or organisation.
Intrinsic case study	Undertaken to better understand one particular case in depth. Here the case does not demonstrate a particular trait or represent other cases, but is undertaken due to an intrinsic interest.
Instrumental case studies	Here a particular case is examined mainly to provide insights into another issue or to redraw generalisation.
Collective case study	Here the researcher jointly studies a number of cases in order to investigate a phenomenon, a population or a general condition. This is also a type of instrumental study but is extended to several cases and cases may or may not be similar.

Source: Compiled by Piyya (2015) from Scapens (1990) and Stake (1995)

Stake (1995) proposes that, in order to emphasize the importance of study quality, collective examples should be picked based on how well they can be understood since this will lead to a better knowledge of a phenomenon or better theorizing of cases. In a nutshell, a collective case study includes a good balance between the uniqueness of the instances in the collection and the objective of the study to reach a more generalizable proposition, theory, and knowledge (Stake, 1995). In the food industry, case study research is instrumental since it allows for the capture of details, meanings, and social embeddedness (Hingley, 2005; Matopoulos et al., 2007).

The issue around employing single or multiple cases as a research method will be analysed in the next section with a view to grasping the characteristics of both before proceeding on to data collection.

4.4.2 Single versus Multiple Case Study

In order to determine the "case" and the "type" of case study that will be adopted, researchers must determine whether a single case study or a multiple case study methodology is required in order to provide a better knowledge of the phenomenon (Baxter, 2008).

A single comprehensive case could be the decision of one woman or a group of 30-year-old women undergoing post-mastectomy breast reconstruction. Aside from that, it is critical to evaluate the context: "*Are you going to look at these women in one sitting because it is a one-of-a-kind or exceptional situation? If that is the case, you might want to think about doing a single case study that's all-encompassing*" (Yin, 2014).

Multiple case studies are a term that is frequently used interchangeably with multiple experiments. Baxter and Jack (2008) suggest that a multiple-case study is required when there is more than one case in the study. In addition, multi-case research looks at analysing each setting as well as across settings. It examines various examples and multiple case studies to understand the similarities and differences between the situations. A single case study, on the other hand, enables only one unique session to be understood. Yin (2014) mentions that using multiple case studies allows analytic conclusions to emerge independently from two examples rather than a single case.

Another topic of discussion in case study research is the number of cases that should be used. In this regard, Eisenhardt (1989) states that there is no perfect number; however, she suggests between four and ten. Six to ten cases, according to Ellram (1996), should provide sufficient proof. Perry (1998) offers a more in-depth look at the number of case studies, arguing that the most appropriate range is between two and

four as a minimum and 10, 12, or 15 as a maximum. Yin (2014) stated that when researchers have the resources and the option, they should choose multiple case studies or at least two cases because there is a possibility of direct replication. Logical conclusions will emerge independently from two cases instead of a single case.

Multiple case studies allow analytic conclusions to arise independently from multiple case examples rather than a single instance when considering the number of case studies. Due to the capacity to compare, contrast, replicate, and more incredible opportunity to create a theory or proposition, several case studies are considerably more valuable than single case studies. Five Thai restaurants in Thailand and one Thai restaurant in the UK were theoretically chosen for a multiple case study in this study.

This study intends to investigate the phenomenon of sustainability practices and learn how and why different organizations in the Thai restaurant industry manage their supply chain sustainability development. Finally, to provide a framework for managing supply chain restaurant sustainability. As a result, multiple case studies were beneficial in gaining insights from various firms and exploring current supply chain sustainability management strategies and limits.

4.5 Unit of Analysis

The most crucial factor in a unit of analysis is determining what the researcher aims to communicate after the investigation (Miles et al., 2018). The relevance of the unit of analysis is underlined by Collis and Hussey (2009), who state that the unit of analysis sets the boundaries of the phenomenon under inquiry, and the research topic reflects and defines which data to gather and analyse. According to Yin (2014), the unit of analysis within a case study could be anything, such as a corporation, department, person, country, or policy. Whatever the case may be, it will necessitate a unique research design and data collection technique. In this study, the unit of analysis is Thai restaurant units.

Case selection is crucial for developing theories from case studies in case study research (Eisenhardt, 1989). For the purposes of this study, a *case* is defined as a Thai restaurant, either in Thailand or the UK catering industries. Therefore, six Thai restaurant cases were chosen as study units.

4.5.1 Case Restaurant Units

The Thai restaurant in Thailand and the UK restaurant industry served as the study's units of analysis.

Five Thai case restaurants were chosen based on their ability to conduct significant operations in Thailand. In order to gain access to the case restaurants, the researchers decided to phone head offices and speak with the managing directors and owners of the businesses utilizing the Thai restaurant database. The researcher was able to gain entry to five case restaurants due to this method. The unit of analysis criteria are met because the participant case companies are SMEs.

A Thai restaurant case in the UK was chosen, the researcher decided to contact the managing directors and the owners of the companies by calling head offices using the Sustainable Restaurant Association (SRA) database. The Thai restaurant Sustainable Restaurant Association's members represented only two companies.

All restaurant cases, therefore, were selected by purposive sampling method to achieve depth of understanding. Further, consent process and ethic form were used to dealing with the case restaurants. Five Thai case restaurants in Thailand were selected. In order to enable detailed research of the SSCM phenomenon, it was also decided that the selected restaurants must meet the following three requirements.

1. The case restaurant must be managed by a Thai operator and offer a Thai menu at least 80 percent of the time.
2. The case restaurant has prior expertise with or was interested in incorporating sustainability practices into its operations.
3. The case restaurant is medium-sized to provide 40-80 seats of service.

Thai case restaurant in the UK was selected based on its experience using sustainable technology to practice environmental sustainability development into the restaurant. The main objective of this was to gain a cross country comparison to understand the difference between developing and developed nations and if best practice exists. A Thai case restaurant in the UK was selected because the company represented as a member of SRA.

The SRA is a non-profit organisation based in the UK and driven by the mission statement "To accelerate change toward an environmentally restorative and socially progressive hospitality sector in the UK". Moreover, SRA brings together restaurants that agree to follow specific guidelines, such as treating their employees properly and obtaining their food from environmentally friendly sources. Therefore, selected a Thai case which is SRA member led to extend sustainability development understanding in Thai restaurant context.

4.5.2. Multiple Lenses Units

To expand environmental sustainability perspectives, this research extends restaurant sustainability phenomenon more than case study research. Therefore, the first tier - customers and the second tier - government officials were selected as analysis units to provide environmentalism perspectives of the multiple lenses.

Therefore, this study involved interviewing customers from five case restaurants in Thailand with one customer from each business. Because, the customer in Thailand perceives environmental issues and management in Thai context. Customer visualization of activities in the supply chain and individual satisfaction lead to specific developments in each case study. The customer unit was selected from the customer lists recommendation by the manager from each case study. The research designed to contact them via telephone directly by convenience. The first regular customer from each restaurant unit who willing to participate in the interview were chosen.

Purposive sampling was used to select the government official units. The researcher considering the decision of the selected group in accordance with the research objectives. Selecting a specific sample requires knowledge, expertise and experience in restaurant and sustainability context. Therefore, a senior officer in a position at the Bureau of Food and Water Sanitation (BFWS) and an authorized government officer from the Department of Environmental Quality Promotion (DPQP) were selected. The researcher contacted the government official units by telephoning and emailing to conduct the interviews from their convenience date and times.

The value of interviewing a government official extends beyond data collection. Literature increasingly supports the notion that better communication, interaction, and collaboration between policymakers and researchers improve the impact of policy research (Invaer et al., 2002; Kuruvilla et al., 2007) and maximises effective policy implementation. A primary reason for interviewing government officials is to gain knowledge beyond the official line or to gain access to sensitive information and institutional knowledge (Duke, 2002).

Generally, interviewee skills and competence in policy are essential to obtaining quality data. Interviewing the representative person in charge of specific tasks aids in understanding the restaurant industry situation and supplements the data used in the analysis. It also includes research with various participants to ensure that all groups' voices are heard.

The researcher will go through the pertinent respondents for this study in detail in the next section and how data was acquired.

4.6 Data Collection

The majority of crucial information is typically gathered by analysing and comprehending what respondents are aiming to indicate (Stuart et al., 2002). Data analysis methodologies used in case study research may come from quantitative or qualitative fields, depending on the type of data obtained (Ellram, 1996). The initial stage in collecting data is to identify possible respondents. Purposive sampling, a qualitative research sampling approach in which respondents are chosen based on their relevance to the study topic, as well as their knowledge and competence to answer the research questions, was used (Sekaran and Bougie, 2011).

To collect research data, the researcher enhances methodology data collection more than case study collecting method. Customer and government respondents including in interview participation as multiple lenses to shed lighter in developing environmental sustainability in the Thai restaurant industry.

The primary responses are listed in Table 4.8 along with the rationale for their selection.

Table 4.8: Respondents' reasons for participation

Respondents	Rationale for selecting them (purposive sampling)
Owner/Manager	From their role and relevance to the research topic. To find how they plan sustainability and whether perceive it a unified concept or an isolated. Further, how they manage the practice and if not, why not.
Sourcing/Purchasing/Marketing Manager	From their boundary spanning role in the restaurant and to see how are they managing sustainability
Head chef	From their important role to dealing with the main function of the restaurant and their expertise and knowledge in developing sustainable practice and why not
Second chef	From their important role of dealing with the main function of the restaurant as a second chef and their knowledge in developing sustainable practice and why not
Waiting staff	To explore whether at the very basic stage of design, they are familiar with sustainability or not. Additionally, how they practice sustainability.
Customer	From their role as the key stakeholder to influence sustainable development into restaurant. The experience and knowledge as service recipients and what their sustainability service expectations are.
Government officers	From their authorization that leads policy to implementation directly to restaurant. In addition, they experience a wide role in dealing with different issues and their expertise and knowledge in dealing supply chain sustainability.

Interviews with the above-mentioned individuals were undertaken to collect data for this study. However, the researcher was open and flexible in terms of respondents if additional managers or other positions were selected or highlighted by the above respondents as more competent and relevant to answer the research questions during data collection. Because of heterogeneity in different workers in Thai restaurant.

Interviews have the advantage of providing a wealth of information about research topics and questions. "*When conducting an interview, the interviewer should aim to create a friendly, non-threatening atmosphere*", according to Connaway and Powell (2010: 170). The interviewer should give a brief, casual introduction to the study, underline the importance of the person's participation, and ensure anonymity, or at least confidentiality, when possible, much like a cover letter."

Furthermore, Engel and Schutt (2009) caution against interviewee bias throughout the initial data gathering procedure, claiming that interviewee prejudice will jeopardize the project's conclusions. Others, on the other hand, suggest that "*some interviewer bias can be prevented by ensuring that the interviewer does not overreact to the interviewee's responses.*" Other strategies to eliminate or reduce interviewer prejudice include dressing inconspicuously and adequately for the context, holding the interview in a quiet setting, and keeping the conversation as informal as possible (Connaway and Powell, 2010: 170).

When comparing the four interview methodologies, the variations in advantages and disadvantages can be traced back to their disparities in the dimensions of synchronous and asynchronous communication in time and/or space. The four interview approaches relating to these dimensions are listed in Table 4.9.

Table 4.9: The four interview techniques

	Time	Place
Synchronous communication	Face-to-face MSN messenger Telephone	Face-to face
Asynchronous communication	E-mail	E-mail MSN messenger Telephone

Source: Opdenakker, (2006)

Face-to-face interviews are distinguished by synchronous communication in terms of both time and location. MSN Messenger and phone interviews have synchronous communication in time but asynchronous communication in location. In terms of time and place, e-mail interviews are classified as asynchronous communication. One may

claim that synchronous communication in cyberspace is defined by MSN messenger and telephone interviews. Because cyberspace is defined as "the no place" (MORSE, 1998), communication in a virtual environment has different benefits and drawbacks to communication in a physical setting like face-to-face interviews. As a result, when we talk about synchronous communication of place, we are talking about a real place, not a virtual one (Opdenakker, 2006).

Interviews will be used as a required research approach in this study. According to Silverman (2013), interviews, which are a qualitative method, give a deeper understanding of social conversation than questionnaires, which are purely quantitative tools. When contrasted on a per-person basis—the amount of data collection instances in which personal or sensitive material was revealed—individual interviews were more effective in obtaining a wide range of items (Guest et al., 2017). The interview was conducted for restaurant employees in various positions to participate. Individual interviews were thus more effective in representing independent perspectives on policy implementation, examining work methods, and mentioning firm performance.

As shown in the table above, semi-structured interviews were chosen to obtain data from relevant respondents. However, there are other sorts of interview methodologies stated in the literature.

Structured, semi-structured, and unstructured research interviews, according to Gill et al. (2008), are the three most important varieties. Structured interviews are vital presented questionnaires, with little or no abnormality and no scope for making inquiry questions to responses to decide on a list of questions in advance. (Gill et al., 2008). Structured interviews, according to Collis and Hussey (2009), identify as part of the positivistic paradigm, making them more acceptable for questionnaire surveys.

On the other hand, unstructured interviews do not reverse any concepts and are limited in scope (May, 1991) neither do unstructured interviews aim to manage the conversational style and themes; nevertheless, these sorts of interview methods can make analysis challenging, particularly when comparing and contrasting (Collis and Hussey, 2009).

Doody and Noonan (2013) concentrate on semi-structured interviews, which appropriately reflect specific issues involved in the interview and obtained a clear list of questions or themes). The design of an interview guide can also refer to research questions and research themes, and it can be used throughout the interview interaction to influence respondents' responses plus it gives interviewees the flexibility to speak in any way they choose throughout the interview duration. As a result, the interview proceeds in a prearranged order (Doody and Noonan, 2013; Dearnley, 2005) and, during interviews, the researcher has direct control over the flow of primary data collection and the flexibility to probe and prompt themes that seem intriguing from a research standpoint or might offer fresh insights.

As a result, the preprepared questions may not be strictly adhered to by the interviewer; however, all of the questions in the interview guide will be asked in similar words, indicating that many interviews are recommended (Bryman and Bell, 2015).

Overall, the technique is more useful and helpful in case analysis and comparison. Semi-structured interviews are popular because they are flexible, provide a lot of

information, make it easier to pursue a topic of interest, and allow for in-depth exploration.

The importance of data gathering is measured in terms of the number of data collection interviews. According to Perry (1998), the rule of thumb is 35-50 interviews. Otherwise, in the case of any constrained circumstance, to ensure comprehensive study questions, thorough inquiry, and insights, the researcher conducts and organizes follow-up interviews until all data conflicts are resolved and no new themes emerge. When no new subject or insight emerges and previously studied themes begin to reoccur, the saturation threshold is reached (Bryman and Bell, 2015).

A total of 37 interviewees were conducted between 2019- 2020, coupled with an appointment at the restaurant being researched and an organisation associated with restaurant authority or long-term duty. Visits to the restaurant sites, owner or manager, and other significant operational places, speaking with the owner or manager, and travelling around the working environment (usually the kitchen or bar) to make observations were all methods used to supplement the semi-structured interview data.

Observational evidence, according to Yin (2014), supplies more information about research issues and is also relevant and meaningful within a research approach. Furthermore, according to Silverman (2013), the purpose of observation is to observe and enrich information by looking at what respondents are actually doing and thinking. A typical aspect of case-study research is the observational research approach (Stake, 1995). According to Adler and Adler (1994), "Observations, like other qualitative research methods, have similar criticisms and shortcomings, such as a lack of methodological and procedural rigour, reliance on subjective interpretations, and a lack of tools to confirm observations are real rather than chance effects". Consequently, they advocate for combining observations with other methods such as interviews and keeping a log of observations to assure consistency and improve credibility, reliability, and study quality.

Overall, this study design uses the interviewing method to collect data from three types of core respondents: restaurant sites, the customer, and the authorities. Firstly, restaurant case studies will be selected from Thai restaurant that are involved or interested in sustainability practices: five restaurant cases in Thailand as well as one Thai restaurant in the UK, which is a member of the SRA leading sustainable development association in the UK.: the UK case involving in restaurant sustainable development programme. Second, the customers will be selected from the regular customers of the restaurants in Thailand. Third, authorized government officials will be identified and invited to interviews to discuss policies and perspectives in order to promote sustainable restaurants in the country.

Semi-structured interviews can be conducted in a flexible situation for interviewees. In total, there were 37 interviews with respondents:

1. Thirty interviews at six restaurant sites to identify best practices in sustainable restaurant supply chain management. In order to assess information throughout the chain, the researcher designed interviews with owners or managers and the restaurant staff, including the sourcing/purchasing/marketing manager, head chef, second chef, and waiting staff in each restaurant. This instrument was used in all of the restaurant sites. Five of the respondents per unit preferred that interview methodology was involved.
2. Five interviews from customer participants of the five restaurants in Thailand.
3. Interviews with specialist interviewees from the authorities to confirm information findings

4.6.1 Translation and Back Translation

The initial draft of the interview guide was written in English. However, because Thai restaurant businesses usually communicate in Thai, the interview guide must be translated from English to Thai. To maintain conceptual equivalence, Douglas and Craig (2007) suggested that researchers use a collaborative and iterative translation approach. This study necessitated the use of a cross-cultural translation interview guide. As a result, two translators were hired, one to obtain an academic perspective from one of Thailand's best institutions and the other from a Thai organization. Both experts independently translated the questionnaire into Thai. After that, the researcher combined the two versions. They then evaluated and approved the Thai questionnaire version before moving on to the next step of back-translation.

Back-translation was also used in this investigation. The researcher initially recruited the two experts that translated the interview guide. Table 4.10 lists the translators and back-translators in detail.

Table 4.10:Translator and Back-translator detail

Types	Detail of translator	Academic degree
Translator and Back-translator 1	Associate Professor in Economics department, Mahidol University, Thailand	PhD in Marketing management, University of Southampton, UK
Translator and Back-translator 2	English school owner, English school company, Songkhla, Thailand	MSc Computer science, San Francisco University, USA

4.7 Research Ethics

The safeguarding of individuals' dignity and of the dissemination of study data are two functions of research ethics. As a result, data obtained through semi-structured interviews and triangulated by observations and documents as part of a multiple case study research technique leads to the other key feature of research method ethics. Ethical guidelines are essential to highlight ethics and ensure they are observed in research processes, particularly in data collection, as well as to ensure that the correct information is collected and that the participants involved in data collection processes are appropriately treated, and that the overall research follows ethical guidelines (Murphy and Dingwall, 2007; Oliver and Eales, 2008). This study followed research ethics guidelines as shown below.

- “ - Organisational consent was obtained from the managing directors or owner of the companies.
- Respondents' consent was obtained afterwards when the owner or the managing directors have highlighted potential respondents
- Respondents were given the right to withdraw consent at any time, should they perceive any doubt regarding the research process or the use of the information. For this purpose, more than one contact information of the researcher and the research supervisors' was provided to the participants and to the company.
- University ethic guideline set for the conduct of research were followed and the consent form were submitted to the university research ethics committee.
- Respondents were requested to propose the interview date and time recording to their convenience and availability.
- Respondent and organisational anonymity and confidentiality was ensured by not mentioning organisational and respondent name or information with has potential to impact their confidentiality.
- The interview guide was sent before the interview date and before conducting the interviews, permission for recording was requested, with respondents' right to turn it off any time.
- The interview transcripts were sent to the respondents for two purpose, first to validate that the interviewer had understood correctly and second, in case they wanted to change anything from a confidentiality perspective.
- Data collection, analyses and interpretations were further submitted to the research supervisors to ensure that there is no invasion in privacy and deception. Based upon the research supervisors' feedback, case companies were further disguised.”

4.7 Semi-Structured Interview Protocol Development

The content of a semi-structured interview is composed of a set of items and following those alternate items based on the respondent's responses, probes and prompts, and the order of questions (Robson, 2002). If data is to be collected through semi-structured interviews, several researchers (Bryman and Bell, 2015; Yin, 2014; Saunders et al., 2012) advocate developing an interview guide. Other than the subject matter, the collection of items created for the semi-structured interview are open questions that place no limits on the substance or method of the response. As a result, this interview is constructed with open-ended questions. According to Robson (2002), open-ended inquiries are adaptable, allowing for more depth and knowledge of the subject. Open-ended questions allow the respondent's knowledge to be tested to its fullest and promote cooperation and rapport between the interviewer and the interviewee. A pilot study was conducted to examine the effectiveness, use, and validity of the preliminary interview guide for this purpose, which is addressed in section 4.10. The pilot study results were used to improve the first guide and create the final guide for collecting data from the case companies.

4.7.1 Preparing the Interview Guide

According to Bryman (2012), an interview guide should not be equated to formal interviews. According to Doody and Noonan (2013), the word can be applied to a more structured list of issues to be addressed or questions to be asked in semi-structured interviews. However, they did warn that interview questions should not be overly precise and that alternate routes of investigation should not be ruled out if they present themselves. In qualitative interviews, various types of questions are posed. In an interview guide, the majority of the researchers (Bryman and Bell, 2015; Leech, 2002; Turner III, 2010; Guion et al. 2011) recommended the following main questions:

- “- Introducing question: Introducing each other and setting the scene by relaxing the environment, starting the purpose of the interview and treatment of interview data and measure taken to ensure the confidentiality.
- Follow up question and probing question: Asking the interviewee to elaborate the answer and following up what has been said through direct question.
- Indirect question: Are asked to get an individual’s own view.
- Silence: Instead of asking something, interviewer pauses to signal the interviewee opportunity to reflect and amplify the answer.
- Initial open-ended question: the main purpose of these questions is to ease the environment and led the conversations start. Questions such as, what events led to...? What was your life like prior to...?
- Intermediate questions: These questions aim to explore the main topics, issues and areas of interest. Questions such as, how did you feel about...when you first leaned about it? What immediate impacts did...have on your life?
- Ending question: these questions intend to capture last but important thoughts of the interviewee and to present an opportunity to add or modify previous statement. For example, how have you view about...changed? If you had your time again, would you choose to work for this organization? Being an ethical researcher, it is advised (Yin, 2014; Bryman and Bell, 2011) that the interviewer must thank you and appreciate interviewee’s time and cooperation with research.”

The interviewer may inquire about various topics, including the interviewee's values, beliefs, behaviours, official and informal roles, relationships, locations, emotions, experiences, and anecdotes, among others (Bryman, 2012; Leech, 2002; Turner III, 2010). This reminder is especially pertinent in the context of this study, and particularly for the sustainability-related questions, which tend to delve into the aspects mentioned above. In such cases, Bryman (2012) recommends asking a variety of questions, both in terms of the types of inquiries and the types of phenomena the researcher is investigating. They also advise interviewers to avoid using jargon or difficult academic words, as well as asking complex, double-barrelled, or leading questions.

The final portion of any interview is the most crucial. At this point, many critical steps can be taken to enrich data and improve interview quality (Saunders et al., 2012). Saunders et al. (2012) also advise that the researcher can assess his or her comprehension by summarising the interviewee's explanation. The interviewee will have the option to remark on whether the summary is adequate, whether additional points should be included, or to correct the interviewer's interpretation where necessary. This technique might also be useful for probing and elaborating on the interviewee's comments.

4.7.2 Core Questions and Probe

The research questions and probes had to include discussion around the restaurant's current status, sustainable management, best practice and sustainable restaurant frameworks. As a result, this section emphasizes the major themes presented in order to respond to the research questions and probes for sub-topics.

Many academics (e.g., Grant et al., 2015; Anderson and Anderson, 2009) believe that businesses will eventually face liabilities and significant fines if their methods and procedures are no longer considered sustainable or if the law makes sustainable measures mandatory, which are currently voluntary. As a result, this issue was added to the interview guide to determine whether respondents consider sustainability critical or otherwise.

In creating the interview guide, the researcher used a pre-structured case outline. The pre-structured case is an excellent technique to cope with the problem of data overload in qualitative studies (Miles and Huberman, 1994); it allows respondents to examine reports for accuracy and the researcher to discover data pertaining to a specific topic across all instances (Ellram, 1996). For all of the cases in this study, this semi-structured interview guide was used as a standard framework. Because there are four types of key respondent groups in this study – Thailand, the United Kingdom, customers, and government personnel – the specifics of and restaurant staff, the questionnaire differ according to the context of the respondents. The primary structures, on the other hand, were grouped according to the research question. The appendix contains copies of the semi-structured interview guide.

The following set of activities and questions was used to perform the semi-structured interview for this investigation, as shown in Figure 4.5.

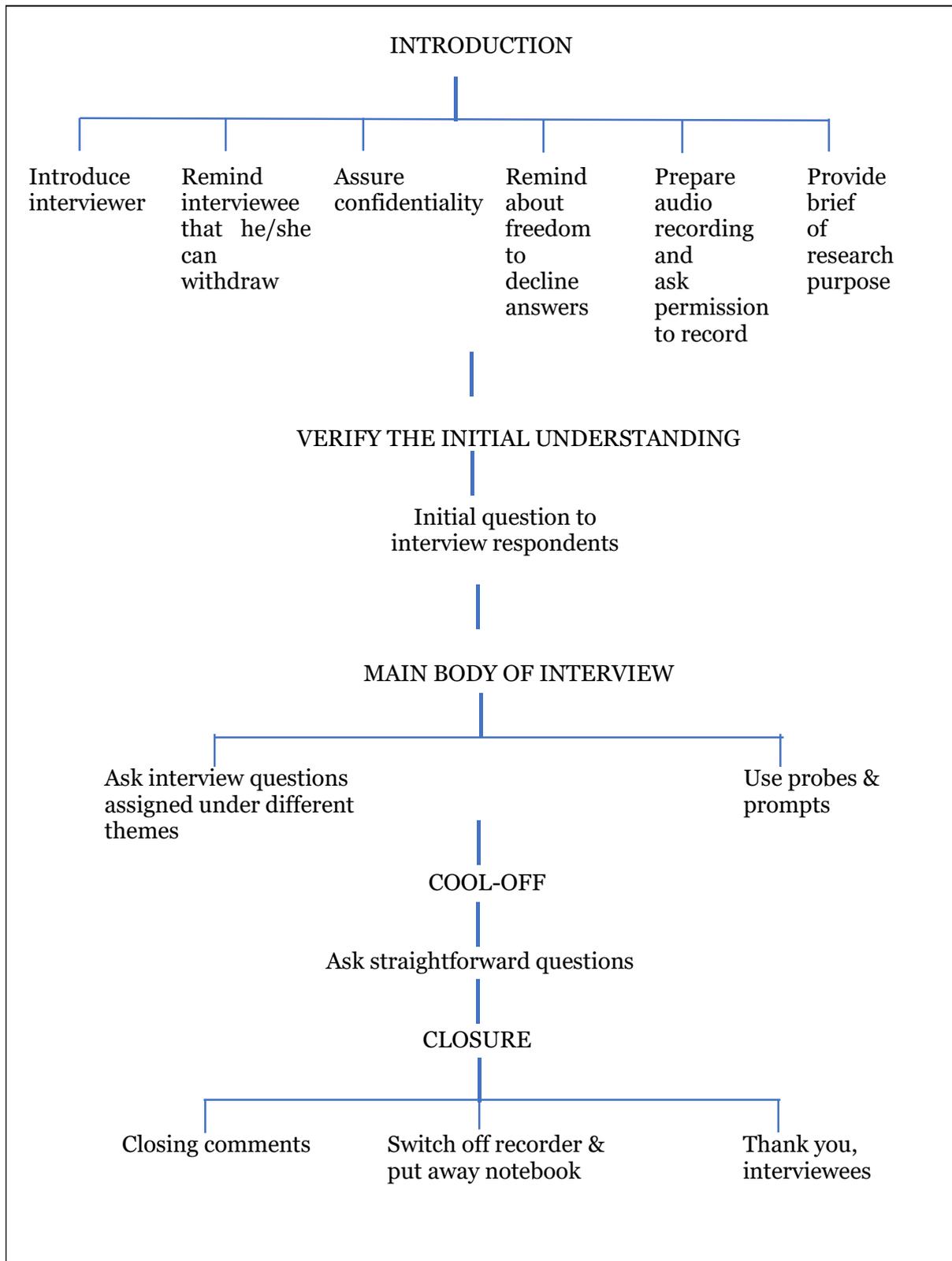


Figure 4.5 : Applied Semi-structured Interview Schedule (Adapted from Robson, 2002)

For an empirical study, there are many different styles of interviews; as Converse and Schuman (1974: 53; cited in Denzin and Lincoln, 2011: 650) correctly state, "There is no single interview style that fits every occasion or all respondents". However, semi-structured interviews were favoured above the other types of interviews indicated in the literature for the purposes of this study. Structured interviews, for example, are better suited to questionnaire surveys and are associated with the positivistic worldview (Collis and Hussey, 2009). Unstructured interviews are difficult to regulate in terms of the range of topics because they are casual and conversational, making analyses challenging, especially when comparing and contrasting (Collis and Hussey, 2009). Furthermore, a significant number of researchers state that semi-structured interviews are compelling for qualitative research in general, but especially for case-study research (Bryman and Bell, 2015; Denzin and Lincoln, 2011; Saunders et al., 2012).

In a semi-structured interview, the interviewer has a predetermined set of questions or themes to cover relatively narrow topics (Doody and Noonan, 2013). This set of questions is sometimes known as an interview guide, and it may vary during and after the interview based on responses. During the interview, the interviewee has complete freedom to talk in any manner they want and to discuss any topic they choose; as a result, there is no predetermined order of interview questions (Doody and Noonan, 2013). On the other hand, the researcher has the freedom to probe and prompt on subjects that seem interesting from a research standpoint or provide fresh insights. As a result, the questions may deviate from the interview guide's schedule. All of the questions on the interview guide will be asked, and similar wording for future interviews is encouraged (Bryman and Bell, 2015). This method also aids in the analysis and comparison of cases. Semi-structured interviews are recommended because they are flexible, produce rich information, allow for in-depth exploration, and enable the researcher to grasp anticipated and unanticipated events and difficulties. They also aid in determining and investigating what the interviewee considers to be the essential factors in explaining events, patterns, and certain types of behaviour (Bryman and Bell, 2015).

"If the researcher begins the inquiry with a pretty defined focus, rather than a very general notion of wanting to perform research on a topic, the interviews will likely be semi-structured", argue Bryman and Bell (2007:479). Semi-structured interviews, they believe, make qualitative data analysis more accessible and more effective. However, in terms of technique, Bryman and Bell (2015) assert that if a researcher uses multiple case-study approaches, the researcher requires some form of structure for cross-case comparison, which semi-structured interviews provide by offering a flexible construction. As a result, the researcher concluded that semi-structured interviews best, met all of the criteria and conditions for this study and would be the optimal data collection strategy. Please see Appendix for the Interview Guide and Protocol.

Details of research questions and probes:

Discussions about sustainable management, sustainability practice, and restaurant supply chains must be included in the study's research questions and probes. As a result, this section emphasizes the primary themes presented to respond to the research questions and probes for sub-topics.

The current sustainability stage is coloured into applying strategy to build sustainability into restaurants, as stated in the literature study chapter. As a result, the interview guide asked the respondents about the current condition of environmental sustainability (for example, concerns, challenges, gaps, and benefits) from the researcher's perspective or the literature. In addition, the replies were compared to the circumstances to identify whether there were mentioned similarities and variances current stage. The respondents perceived and described the current condition of sustainability as a single phenomenon or as a separate idea.

The following question in the interview guide was designed to determine how sustainable the restaurants in the case were. As a result, inquiring about the sustainability management process and practice will aid in not only gaining a better understanding of these organizations' overall sustainability profile and the Thai restaurant industry.

Furthermore, as stated in Chapter Two, supply chain management and sustainability depend on the organization's culture, structure, management, product and market characteristics, and the geographic location in which it operates. As a result, it was decided to investigate this claim by looking at the behavioural and organizational components of RSSCM. This question will help you understand why the Thai restaurant business may not be managing its environmental sustainability, and if it is, what progress is being made. Further investigation would reveal the Thai restaurant industry's awareness of supply chain sustainability management.

The interview guide's following question was intended to elucidate supply chain sustainability best practices. As a result, respondents' experiences and viewpoints were used to determine the best approaches to adopt sustainability. These inquiries will aid in investigating and comprehending how the Thai restaurant sector may develop and include environmental sustainability.

The following question in the interview guide asks participants to build and implement a framework or model to support best practices in restaurant sustainability. As a result, major emphasis areas, key facilitators, and challenges in achieving environmental sustainability were investigated as a tool for developing a sustainable framework for restaurants.

Environmental sustainability, as discussed in Chapter Two, necessitates long-term planning and a focus on resource conservation and a holistic approach that includes long-term relationships, information sharing, collaboration and cooperation with supply chain partners, and encouragement of government regulation and policy. As a result, a theme question was created to investigate the Thai restaurant industry's most sensitive regions to sustainability. This question would aid in exploring and understanding how environmental sustainability affects the Thai restaurant industry's operational performance, with the potential to reveal significant problems in developing a restaurant sustainability framework to encourage best practices.

4.8 Data Analysis Strategy

Data analysis is at the heart of theory development in case studies, but it is also known as the most challenging component of theory development, partly due to the lack of well-developed methodologies and instruments (Yin, 2014; Eisenhardt, 1989). In the case of study research, data collection and analysis frequently coincide, necessitating a chain of evidence. In this regard, Ellram (1996) proposed that documentation be the initial step in data analysis. As a result, each interview was meticulously documented, along with background material on each case company. This study used interview transcripts, documents, visits, observations, and other methods to conduct a thorough investigation of within-case and cross-case analysis, examining similarities, differences, and pattern matching in the Thai restaurant industry's environmental sustainability and supply chain sustainability management.

4.8.1 Data Analysis Method

The qualitative data for this study was acquired through a semi-structured interview. The key issue in case research analysis is the volume of data (Voss et al., 2002). The research strategy method also breaks down into four steps: data documentation, data reduction, data display and analysis, and discussion and conclusion.

1. Data documentation

In order to maximize recall, enable -up, and fill data gaps, detailed write-ups were completed promptly following each site visit. The qualitative data in this study was documented through the transcription of recordings, and the typing up of notes collected during the semi-structured interview. Furthermore, documentation insights are developed during or after each site visit. Each semi-structured interview resulted in case of narrative accounts as a result of this procedure. By allowing important informants to examine draught reports, documentation accuracy can be improved (Voss et al., 2002). As a result, each interviewee was given a draught copy of the interview report to review and address any necessary changes.

After completing a full transcription from audio recordings and field notes, documentation, and a review of the semi-structured interview data from the audio

recordings and field notes, the next step is to send the information back to the participants to verify the accuracy before analysing the data.

2. Data reduction

Data reduction is the process of reducing and organizing a large amount of qualitative material (interview transcripts, field notes, observations, etc.) by coding, creating summaries, writing memos, deleting irrelevant data, and so on (Miles and Huberman, 1994).

Logical decisions include what to choose, what to summarize, what to exclude, and how to organize the data. The coding of observations and data acquired in the field, which allows incidences of phenomena to be grouped into categories, is essential to good case research (Voss et al., 2002).

It is critical to attempt to categorize study data (Miles and Huberman, 1994). Each code is effectively a category into which a piece of data is placed. Coding is the organization of raw data into conceptual categories.

NVivo:

NVivo, a computer assisted qualitative data analysis software (CAQDAS), was also employed during the data analysis. NVivo is a well-known data management, coding, classification, analysis, and conclusion-making programme (Leech and Onwuegbuzie, 2011; Welsh, 2002; Bazeley and Jackson, 2013).

In this research NVivo version 12 English version was used to analysing research data. As a result, the researcher primarily used NVivo12 for data administration and coding purposes. The researcher printed the codes with their hierarchy and sources after they were coded. The remaining work was done manually, which included generating sub-categories or sub-themes as well as central themes, for the following reasons:

- “ - The NVivo feature such as developing models, relationships networks, word frequency did not found useful because these features only established relationships and developed models for the research subject areas instead of sub-themes and major themes and highlighting insights or something interesting in the data.
- Due to the nature of research, most of the NVivo features were not required such as assigning attributes and creating values.
- In case of completely relying on NVivo, there was a danger to lose the actual context in the data.”

The empirical data was uploaded into NVivo coding software to begin the coding process after a comprehensive transcription, documentation, and review of the semi-structured interviews. The coding approach used in this study is similar to that used in thematic analysis, which entails analysing and revising data to identify emerging themes, patterns, and linkages that explain a phenomenon (Fereday & Muir-Cochrane, 2006). This method aids in the summarization of data segments (Ellram, 1996) and the development of theories.

The summaries of all six cases formed the study's within-case analysis and were the ultimate product of this coding process.

3. Data display and analysis

A data display is a visual structure that shows information logically to allow users to reach valid conclusions (Voss et al., 2002). Miles and Huberman (2018) also indicate that a decent display of data in tables, charts, networks, and other graphical formats is necessary when summarising a large amount of data. The purpose of data display is for the researcher to get to know each case as a separate entity and allow the case's unique patterns to emerge before drawing any generalisations across cases (Eisenhardt, 1989).

Following the data reduction procedure outlined above, six case study write-ups were displayed in detail, resulting in six within-case analyses. A systematic search for the cross-case pattern is an important stage in case research, and it is crucial for improving the generalisability of case results (Voss et al., 2002). Because this is a multiple case research study, within-case-category/cross-case and cross-category analyses were significant activities in the data analysis process of this study, aimed at improving the validity, reliability, and generalisability of the research findings (Voss et al., 2002).

4. Discussion and conclusion

The discussion's goal is to evaluate and characterise the significance of research factors that determine the accuracy of what was previously known about the research problem under inquiry and describe any new understanding or findings obtained as a result of a study. After the reader has finished reading the article, the conclusion includes identifying and interpreting common patterns to assist them in understanding why the research is essential to them.

According to the above method, data collection and analysis proceed hand-in-hand, interactively and iteratively. It further necessitates creating a data collection strategy that can assist the researcher in answering research questions and achieving research objectives.

In order to present the research results from research questions number 1 and 2, the researcher conducted a current stage diagram and restaurant SSCM diagram from each case, as represented in Chapter Five. NVivo12 was used to analyse data and created the diagrams by choosing Explore function – Mindmap and created Central

idea then used Child idea and Sibling idea to demonstrate the results' relationship. On the other hand, questions 3 and 4 represent using tables.

4.9 Pilot Study

A case study is an effective research technique for examining complicated social, technical and management phenomena in real-world situations. When the phenomenon has not been fully discovered or understood, pilot case studies are required to refine the research problem, research variables, and case study design before moving on with a full-scale investigation. The value of performing a pilot study has been emphasized by researchers (Saunders et al., 2012; Bryman and Bell, 2015; Gillham, 2000; Yin, 2014; Ellram, 1996), and pilot interviews are significant when testing and improving the validity of the interview guide and data collection. Existing questions can be eliminated or altered as probes, and new ones can be added.

“A pilot test is a small-scale study to test a questionnaire, interview checklist, or observation schedule to minimize the likelihood of respondents' problems. Further, a pilot study allows the researcher to answering the questions and data recording problems, as well as to allow some assessment of the questions' validity and the reliability of the data that will be collected. (Saunders et al., 2012:606).”

Depending on time, money, and access to participants, different researchers have varying viewpoints on the number of pilot interviews that should be conducted (Bryman and Bell, 2015; Yin, 2014). However, according to Gillham (2000), at least two pilot interviews should be conducted. The researcher opted to conduct three pilot interviews as a precautionary measure due to the qualitative nature of the investigation and the possibility of bias. Respondents with a similar background, preferably experienced in the field of research, and who authentically represent the research participants are recommended for pilot interviews, but they should not be the actual respondents or from the case study's actual organisation (Yin, 2014; Bryman and Bell, 2015; Gillham, 2000). Pilot interviews were therefore chosen from outside the case companies. Furthermore, the narrative analysis approach, Creswell's framework, and social constructionism were tested in these pilot interviews to see if they were helpful from an analysis standpoint.

4.9.1 The Pilot Study Cases

The prototype interviews served as a snapshot and reality check for the actual interview guide creation and data gathering and analysis. The following is a description of the three pilot interview respondents.

The first pilot interview (PS1) was conducted with a restaurant owner with over 20 years of expertise in the hospitality business. He established his firm in 2005 after working as a chef in a catering and beverage company, so he had plenty of experience with food production and manufacturing. He has experience with sustainability at his restaurant, but he described more challenges that mid-sized restaurants encounter in the country with supply chain sustainability. He had grown his company and was planning to open a restaurant in Bangkok. He had completed a Master's degree in Business Administration (MBA) at this time and was therefore knowledgeable about restaurant supply chain management.

The second pilot interview (PS2) was performed with the proprietor of a long-established restaurant business inherited from his father, which has been in operation for over 40 years. This family-owned business has a legacy of feeding locals with local ingredients passed down from generation to generation. He has prior experience picking local raw ingredients and managing supply chains. However, because the practice is not widespread and lacks effective marketing within the Thai hospitality sector, sustainable restaurant concepts are still new and require much experience.

The third pilot interview (PS3) was with a restaurant owner interested in incorporating sustainability into her business. She was eager to learn how to grow her company. There is also a need to build a long-term supply network. Her restaurant is located in Bangkok, the capital city. However, it serves a diverse menu that includes foods from all across Thailand, including the South, North, and Northeast. As a result, she places a high value on the growth of the supply chain process. Furthermore, she requires outside assistance as a fledgling businesswoman – both from the government and a group of restaurant owners. The interviewee was well-versed in sustainability issues while also having a diverse understanding of supply chains.

4.9.2 Pilot Study Analysis

PS1:

The interview with PS1 was conducted at his place of business. He is enthusiastic about ecologically responsible company techniques. In terms of upstream to downstream supply chain operations, he also understands sustainable restaurants. However, the most significant issue for restaurant sustainability remains the duty of both restaurant operators and other stakeholders. Raising awareness among practitioners to develop a sense of responsibility for service recipients as family members who came to eat the food, we gave depends on him, he added, based on his job experience. Practitioners' common sense differs from one to the other. As a result, learning sustainable restaurant practices for entrepreneurs will take time. In terms of the benefits of practising sustainability, he believes that using local vegetables or meat benefits his restaurant in many ways, not only in terms of providing a high-quality product for customers but also in supporting farmer income.

Input: PS1's owner stated that 70 percent of the raw ingredients are organic and come from local sources. The majority of the key ingredients come from local fishers and farms, although other raw ingredients and ingredients were purchased from the community and modern-trade supermarkets.

Process: He also adhered to his restaurant's process in terms of how they manage the sustainability process and how successfully this part will cover their waste management, water conservation, and energy conservation as follows.

Waste management: PS1 separates their waste into three sorts: general waste, recycled waste, and food waste. After work, general waste is separated, placed in the trash, and then transported into the collection container. While some of the many forms of waste are sold to outside operators' recycling firms, others are recycled. However, despite efforts to classify recyclable material, PS1's owner explained that many other sorts of rubbish should be pledged for future use. Furthermore, unlike used cooking oil, which a friend set up to collect every week, he has no external partner on the supply chain to collect food waste.

Water conservation: He stated that his restaurant does not yet have water-saving equipment, so they strive to conserve water by relying on experience and knowledge, such as using water for watering plants and using a water container for washing meat or vegetables.

Energy conservation: He saves energy by turning on the lights or the air conditioner only when needed. The automatic electrical system is used in the restroom in his restaurant, and 80 per cent of the light bulbs are energy-saving. To save gas, which is one of the most expensive forms of energy in these businesses, he has the option of cooking some menus with charcoal instead of gas. However, this will not cut smoke emissions because cooking charcoal produces plenty of smoke.

Output: In practice, the problem is that the owner has given data about how well each employee is aware of their surroundings and how their practices are based on their job position and expertise. Although mistakes may happen, especially during busy times, restaurant owners and managers must constantly monitor and improve. Even though the PS1 owner attempted to decrease the amounts of all sorts of garbage, the office nevertheless contained a lot of plastic. Furthermore, food trash and food scraps were only partially handled, with which he attempted to fertilize the restaurant's backyard gardens and trees.

Best Practices: When it comes to developing a restaurant for the long term, best practices are critical in assisting the restaurant to achieve high-level practices. As a result, he stated that knowledge, product quality, waste separation activity, and community food supply chain development are the keys to achieving best practices. He stated that preventing negative environmental impact throughout supply chain operations is exceedingly difficult to do in Thailand. However, he emphasized that managing organic or local raw resources to help hospitality operators in all sectors is a significant component. He also noted that both government organisations and the public sector should be given tools or materials to help Thai restaurants learn about sustainability and grasp it.

Framework: He discussed major focal areas that must be addressed to increase environmental sustainability in the restaurant and its supply chain, including planning, organising, and practices in specific areas. He cited his extensive experience in the hospitality industry as an external factor influencing succession planning rather than an internal factor. The restaurant may take its responsibility seriously because the government's policies and rules are clear, but he stated that farmers and the community play a significant role in driving operations to reduce environmental impact and deliver high-quality ingredients. He acknowledged his role as a critical focus person who must be included in environmental discussions to advance workplace sustainability.

PS2:

PS2 was interviewed in his workplace. He characterized environmental sustainability from the perspective of simplicity in their livelihoods, interpretation of information, and a personal perspective with both positive and harmful repercussions on the environment, based on his own experience with sustainability. He noted that he pays more attention to environmental issues, particularly in trash separation practices, due to global warming and growing public awareness of energy and ecological conservation. However, the restaurant broadly addresses ecological issues by implementing trash separation and other activities in the same way other restaurants in the country do, even though it lacks specific knowledge and understanding. Furthermore, the owner described difficulty implementing sustainability activities during peak times, and as a result, he frequently made mistakes when sorting trash and raw ingredients.

Regarding the advantages of implementing sustainability, he believes that the consumer is an essential stakeholder who benefits from hospitality service. He also mentioned that clients are satisfied with the quality of food products and organic

components, both in terms of fresh product supply and the scope of the food tasting menu. Furthermore, the restaurant benefits financially, but it also benefits in terms of customer royalty.

Input: He claimed that around 60 percent of restaurant products are obtained locally. The majority of vegetables and meat items are purchased from neighbourhood partners. To assure product cleanliness and safety for consumers, he sourced seasoning sauces and herb ingredients from suppliers accredited for food safety requirements.

Process: He followed his restaurant's process for waste management, water conservation, energy conservation, and improvement, and explained how they manage the sustainability process.

Waste management: PS2 manages waste by categorising it into general garbage, recyclable waste, and food waste. General rubbish is sorted and thrown in the trash before being collected, whilst recycling waste is separated by housekeeping to be sold to outside recycling firms. The revenue serves as an additional source of income. PS1 separates food waste into garbage bags and then leaves the bags near the general collection bin to manage food waste because the local authority does not contribute to a particular food waste bin.

Water conservation: Despite this, PS2 lacks a strategic plan to cut water consumption or implement an alternative circulating water system. As a result, he tried to utilize water as sparingly as possible by not leaving the water tap open and using a container to ensure that the proper amount of water is used when washing raw ingredients. In addition, he placed all the crockery in the dishwasher's full range before starting the machine to conserve water. To put it another way, PS2 employed traditional methods and common sense to conserve water throughout operations. In terms of increasing water efficiency, he offers personal suggestions for doing so while maintaining the excellent water quality: for example, replacing an old dishwasher with a new one that is certified to conserve water and electricity.

Energy conservation: One of PS2's missions is to reduce overall energy usage by implementing energy conservation strategies such as employing energy-efficient equipment and using charcoal as a substitute for gas in some aspects of kitchen management. Furthermore, because his business only offers a few main menus, he planned to cook the majority of the menu for a large group at the same time. He suggested making a schedule for turning on and off the lights and air conditioning to save electricity.

Output: PS2's operation revealed a disconnect between operating models and energy-saving capabilities, which has a detrimental impact on energy-saving efficiency. He also cited sustainability expertise as a means of gaining knowledge not

only in terms of energy conservation but also in terms of other aspects of sustainable operation. According to respondents, the main issue in sustainability practice is a lack of understanding about how to improve and build instruments to attain a higher sustainability score. PS2 does not have a particular plan to action, assess, or incorporate sustainability into its strategy.

Best Practices: Food waste reduction was mentioned as a critical priority area for developing restaurant sustainability. According to the restaurant owner, waste separation practices minimize waste in the business, dramatically. Teamwork was recognized as one of the most excellent strategies to apply sustainability. In his opinion, these elements directly impact on the operation's success, both in terms of arranging for a team leader to continue overseeing and of exchanging knowledge among co-workers.

Framework: The PS2 owner also indicated two points that should allow critical enablers to manifest concrete sustainability, including farmers and restaurant operators, and achieve environmental sustainability best practices. In terms of farmers, he continued his commitment to improving knowledge and expanding understanding among those who cultivate vegetables with the use of chemicals in order to raise awareness of environmental sustainability challenges. Governments also play a critical role in ensuring that people have access to information and developing agricultural sustainability skills. To achieve environmental sustainability in PS2, the owner asserted that precise knowledge of all restaurant departments and practical training as routine in every employment position are required to achieve sustainable development in a short period. As a result, in his opinion, ongoing improvement towards becoming sustainable restaurants was necessary to achieve long-term success in the sustainability debate.

PS3

The proprietor of PS3 stated that obtaining organic raw ingredients is a complex undertaking, both in locating a good supplier and monitoring restaurant ingredient lists. However, because the major components are delivered from various regions throughout Thailand, she believed that the seasonal ingredients provide high-quality food. Furthermore, she continued to work with other suppliers to acquire new raw ingredients more easily, such as ordering particular ingredients from a specific local location, preparing high-quality meat, and purchasing some ingredients from a supermarket local to the restaurant.

The most challenging aspect of implementing sustainability activities during busy periods is that it frequently leads to mistakes in sorting trash and raw ingredients. She maintained that incorporating sustainability in the restaurant will provide numerous benefits, including the potential to source locally, improve the quality of seasonal food products, and develop a value-added menu. She also has experience reducing energy

usage by decorating restaurant areas with biological concepts, which helps a business save electricity while creating a modern, natural-light ambience.

Input: About half of the PS3 items are acquired locally or organically. Raw items and delivery from diverse places were featured prominently on specialties menus. As a result, it was difficult to keep track of the supply chain and the quality of the ingredients.

Process: She tracked the waste management, water conservation, energy conservation, and improvement processes at her restaurant, as well as how they handled the sustainability process.

Waste management: Based on earlier pilot studies, PS3 categorized garbage into three types: general waste, recyclable waste, and food waste. General garbage was separated and placed in the trash, then collected every day after work, whereas recyclable waste was classified by the type of waste that a company comes to the office to buy. Regarding food waste management, she noted that returning food waste to the farmer to feed animals was a challenge because she did not have direct communication with the farmer. PS3 also categorized food waste as a different sort of garbage to handle, although the local authority did not provide the operator with food waste collection.

Water conservation: She also had a water conservation process, which was especially true for the PS3 operation as it demanded a lot of water because water is used in nearly every step of the process, from preparation to cooking, steaming, and washing. As a result, PS3 tried to conserve water by using hand rinsing cycles or conducting regular assessments of water consumption areas. A tap device had also been added to prevent water from complicated rinsing and spread in a broad radius.

Energy conservation: The PS3 owner suggested conserving electricity by creating a schedule for turning lights and air conditioning on and off. She noted, for example, “during a quiet period between 3 and 6 p.m., we generally switch off the lights and air conditioning to save energy and then provide customer service in only one zone with natural light and a pleasant ambience to maintain customer satisfaction”. In terms of gas conservation, PS3 had no plans to change any other alternative features to save energy in the restaurant.

Output: She also lacked knowledge of the restaurant’s environmental sustainability practices. However, PS3 allowed for sustainability through a common characteristic such as waste separation as much as was feasible, the use of locally sourced components, or energy conservation through lower production costs. As a result, the company’s performance could not be evaluated; nonetheless, she was aware of and emphasized environmental sustainability, and she was willing to adopt practices following the guidance of appropriate agencies.

Best Practices: In her opinion, the best practice for developing sustainability in restaurants was to manage a wide range of organic or locally sourced raw ingredients in order to support hospitality operators in all areas. She also advised that both government organisations and the public sector be given tools or materials to help Thai restaurants to learn about and grasp the concept of sustainable restaurants.

Framework: The PS3 owner noted external factors that influence succession planning, such as farmers, the private sector, and suppliers, within her framework for improving environmental sustainability in the restaurant and its supply chain. She also clarified that the government and other organisations supported the operators in terms of providing regulations and guidelines to assist the relatively new sustainability entrepreneurs at the beginning to practice environmental sustainability.

4.9.3 Pilot Study Learning Information

The pilot interviews were highly beneficial in terms of identifying flaws and areas for enhancement. The following are the key highlights from the pilot interviews, incorporated into the final interview guide used to collect data on the case restaurants.

According to the research, the interviewee chooses the interview location in the majority of cases (Yin, 2014). The interview location was chosen by all three participants independently. Furthermore, conducting interviews in the interviewee's natural environments aided with conducting research and observing ongoing activities and work. When complicated concerns were highlighted, interviewees provided documentation for further explanations and arranged for site visits to clarify their statements. The most crucial component of the restaurant tours was the informal discussion and remarks provided by interviewees about environmental sustainability, food supply chains, and the company's efforts to improve procedures, activities, and technology. The visiting tour took approximately half an hour in most cases, while the interview process took an average of 45 minutes.

Consequently, interviewing at the interviewee's workplace was highly beneficial in terms of deeper explorations, depth of information, opportunities to supervise learning, and overall understanding of the case restaurants. As a result, there are three key lessons thus far. First, it is preferable to interview at the interviewee's place of employment. Second, the time spent after the interview would be just as important as the interview itself, and it should be factored into the data analysis. Third, because the interviewees offered a restaurant visit and there was adequate time to investigate such topics during the visit, it was preferable not to add technology-related or probing questions.

The format of the interview guide is the subject of this section. During the interview, it was discovered that allocating a particular amount of time to each question was impossible, and the interviewee was in charge of the mood of the interview. The researcher employed several probes and prompts throughout the interview with P1, which took longer than intended. By integrating specific questions and converting others into probes, learning from PS1 was incorporated into the interviews with PS2 and PS3. One of the most important lessons learned during this phase was the necessity for a relevant question about sustainability's best and worst aspects.

Even though it was explained that the material would be kept private and used only for research purposes, the respondents were hesitant to participate initially. Furthermore, it was realized that there is much work to be done to establish confidence prior to an interview. As a result, the interview began with a very descriptive and informal start by describing the research aims and the steps taken to safeguard the confidentiality of the interviewee. Permission was obtained to switch on the interview recorder after determining that the interviewee was at ease and confident. However, interviewees were told that they might withdraw at any point during the interview if they so wished. In addition, interviewers were told they might request a summary of the results subsequently if they desired.

The most significant advantage of conducting a pilot interview was determining the best data analysis method: narrative analysis. The interviewees began answering questions in the form of storylines as soon as the researcher began the interview. For example, myths about sustainability practice in the restaurant environment, how to manage waste (especially food waste), and conserve water and energy: the output of sustainability practising. This prompted the researcher to conclude that narrative analysis, which is performed as a temporal data analysis method and employed for existing organisational routines, processes, and activities that are characterized in terms of stories, would be the best method for analysing the interview data (Bryman and Bell, 2015). The questions the key challenges in implementing sustainability and parts of the restaurant more or less sustainable were added.

The conversation above was about how to study and develop an interview guide, increase its quality, and evaluate a data analysis approach. Another reason for conducting pilot interviews, as previously stated, was to gain preliminary insights into the phenomena of environmental sustainability in the Thai restaurant business.

Overall, completing the three pilot interviews was incredibly beneficial for improving interview questions, improving data quality, determining the correct analytic approach, and learning about the business, supply chains, and current significant challenges.

The context of the case restaurants will be discussed in the next chapter, and the within-case analysis will be presented.

CHAPTER FIVE

WITHIN CASE ANALYSIS

5.1 Introduction

This chapter will now represent the case context and within-case analysis of each of the six case studies. Creswell (2007) states that a single case intensity analysis contributes to a thickened comprehensive investigation of multiple cases. The most important tool for generating novel theory from the case studies is data analysis. Therefore, the case study inductive process determines which research questions enhance theoretical congestion in order to gain the preparatory theory and achieve data familiarity (Eisenhardt, 1989). Accordingly, the current state regarding environmental sustainability, sustainability supply chain management processes, best practice, and sustainability framework for each case will be presented. Within-case evidence and narrative-writing related to the individual case should be allowed for evidence integration from different data components (Yin, 2014). Moreover, each case was analysed using intimate familiarity to demonstrate a stand-alone entity to allow the unique patterns of individual cases before generating patterns across cases (Eisenhardt, 1989).

Table 5.1: Six cases settings

Case Restaurants	Year Established	Restaurant Type	Ownership	Restaurant Size	Geography	City/Town
CRA	2009	Casual Dining	Independent Restaurant Ownership	Medium	Thailand	Bangkok
CRB	2012	Casual Dining	Independent Restaurant Ownership	Medium	Thailand	Bangkok
CRC	1981	Casual Dining	Independent Restaurant Ownership	Medium	Thailand	Bangkok
CRD	2008	Casual Dining	Independent Restaurant Ownership	Medium	Thailand	Bangkok
CRE	2005	Casual Dining	Independent Restaurant Ownership	Medium	Thailand	Bangkok
UKCR	2008	Casual Dining	Independent Restaurant Ownership	Medium	UK	London

As represented in Table 5.1, each of the six restaurants under investigation are case-research companies, and each is coded alphabetically. In order to preserve the uniqueness of each case research company and maintain the confidentiality of each organisation, this coding technique was used. Therefore, the first case research company was coded as CRA (Case Restaurant A), the second was coded as CRB (Case Restaurant B), the third was coded as CRC (Case Restaurant C), the fourth was conducted as CRD (Case Restaurant D), the fifth was conducted as CRE (Case Restaurant E) and the last research restaurant coded as UKCR (United Kingdom Case Restaurant),) respectively.

5.2 Case Restaurant A (CRA)

CRA was established in 2009 to offer traditional Thai food an original taste that inherits the original cooking culture. CRA uses ingredients that can be obtained in the season and selects raw ingredients materials cooked with sophistication.

The restaurant owner was born and grew up in Bangkok, the capital city of Thailand. She graduated in nutrition, historical food, Political policy, culture, local wisdom, agriculture. Therefore, she is also interested in traditional food, nutrition, and environmental issue led to applying knowledge into cooking philosophy. She is not only managing the business but also being a chef as well. She experienced cooking in restaurants in the country and abroad for many years before starting her own business.

The location of CRA is located on one of Bangkok's top traffic roads; however, inside the restaurant areas represent a cosy wooden house atmosphere. Further, both little and big trees are planted around that show the restaurant is tastefully decorated.

Due to the abundance of food resources conducive to Thai cooking in Thailand, CRA has a belief and culinary ideas that are determined only to use ingredients and condiments in Thailand. Therefore, it is essential to promote and support agricultural products and natural food resources that are diverse, both biological and genetic.

Their food items are thought to be cooked and change with each season. They focus on raw ingredients materials and therefore scout out local products. Due to the lack of raw ingredient material system and organic information system, CRA was also searching and trying to find out for their great ingredients and stable raw ingredients materials themselves by seeking and travelling back to the source of the desired raw ingredient material production.

CRA owner mentioned that *"our restaurant is not the nicest restaurant or the best choice for all customers. Rather, it is a Thai restaurant that offers every customer an understanding of the true taste of Thai food. We believe that a good restaurant does not need a star rating or many reviews. Nevertheless, a good restaurant must be meticulous in every step, from ingredients, making methods, thinking methods to environmental awareness"*.

5.2.1 Current State of Sustainability

To answer research question 1: What is the current state (e.g., issues, challenges, gaps and benefits) regarding the environmental sustainability of restaurants in Thailand? CRA respondents represented the current central state, as shown in Figure 5.1.

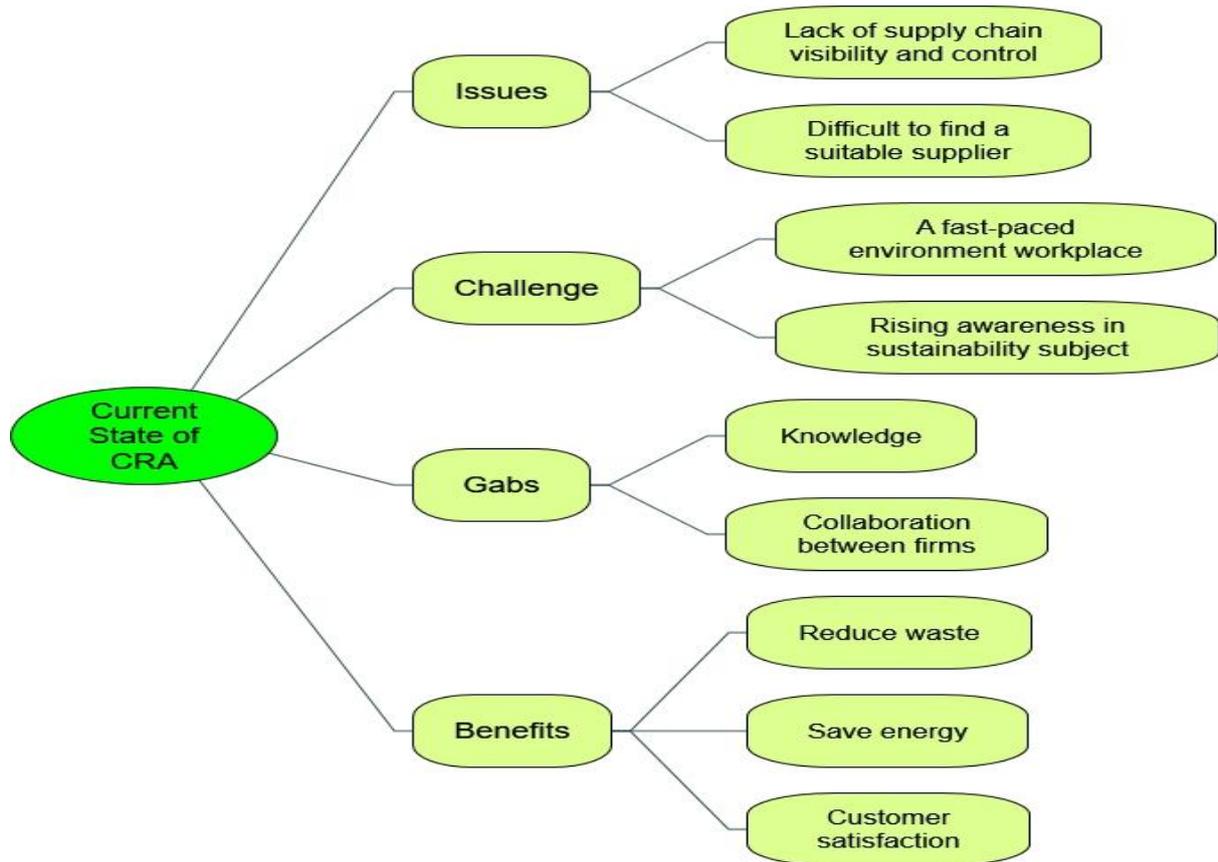


Figure 5.1: CRA current state of sustainability

Issues:

CRA respondents argued that sustainability in restaurant areas is quite a new issue in both the community and society. Therefore, there is still a lack of supply chain visibility and control, especially in the organic raw ingredient system. Hence, their material handling needs to start with finding all the raw ingredient sources themselves. For example, the restaurant owner has to travel to the local fishing area to find fish, shrimp, crab and other seafood that operates local fisheries offer according to the season. Furthermore, they also find and contact the entrepreneurs who grow organic vegetables by travelling to the production site to know the production process and establish a commercial relationship. In addition, CRA has also provided information

about difficult it was to find a suitable supplier that could meet the restaurant's raw ingredient needs in terms of organic ingredients and general conventional raw ingredient.

Challenges:

The main challenge in order to achieve sustainability mentioned by the respondents at CRA was practising sustainability in a fast-paced work environment. For example, the daily separation of large amounts of vegetable scraps, fruit peels or food waste that should be done becomes complex and flawed at busy times. Besides this, some of CRA respondents argue that the most challenging in practice is teamwork. Due to employees performing in different roles, there are varieties of knowledge and experience, which means that the awareness of and responses to environmental issues are demonstrated as a different behaviour by each person. One respondent commented that raising awareness and encouraging action in sustainability is difficult because employees prefer to work in their primary roles. For example, chefs have to perform the duties of a chef; therefore, garbage sorting may not be a thing that chefs expect to become part of their routine.

Gaps:

Gaps of knowledge and collaboration between firms were also mentioned by CRA respondents as there are several separate divisions in the organization which consist of performers of different roles which relate to the understanding of environmental sustainability management. In sustainability practice, they have distinct expertise and experience; therefore, it is essential that increasing the expertise of the operators is carried out on a regular basis. Furthermore, there is also a gap in coordination between government agencies. Some government authorities are responsible for encouraging waste sorting, while local councils cannot collect each type of waste separately. For example, CRA separated the used oil from general waste for the local council to collect. Instead, it was found that the waste collection department had taken the separated fuel with other types of waste. Therefore, the respondents shared their negative opinion that separating waste before putting it into the collection bin wastes time. However, the restaurant owner included further details that she has asked the local authority about this matter and discovered that waste disposal in each area is distinct and cannot function as a single method. Therefore, some authorities may also be able to accommodate some forms of recyclable waste better than others.

Benefits:

CRA respondents believed practising sustainability in the restaurant brought benefits to all parties, both the restaurant itself and its stakeholders. CRA initiated major initiatives to reduce waste to save costs and conserve the environment, such as taking advantage of food scraps and baking and grinding food waste for further use. From regular practice they found that they can reduce a lot of waste in the restaurant when sorting waste continuously. Furthermore, reducing energy consumption and using biological concepts to design and decorate helps them save electricity costs and create a modern, natural-light atmosphere. CRA respondents also mentioned that maintaining and developing sustainability skills leads to customer satisfaction as they become more well-known among sustainable restaurants.

5.2.2 Sustainability Supply Chain Management Process

In terms of answering research question 2 (: How sustainable are restaurants in Thailand?), the researcher demonstrated the supply chain management process as input, process and output in a CRA sustainability operation in Figure 5.2.

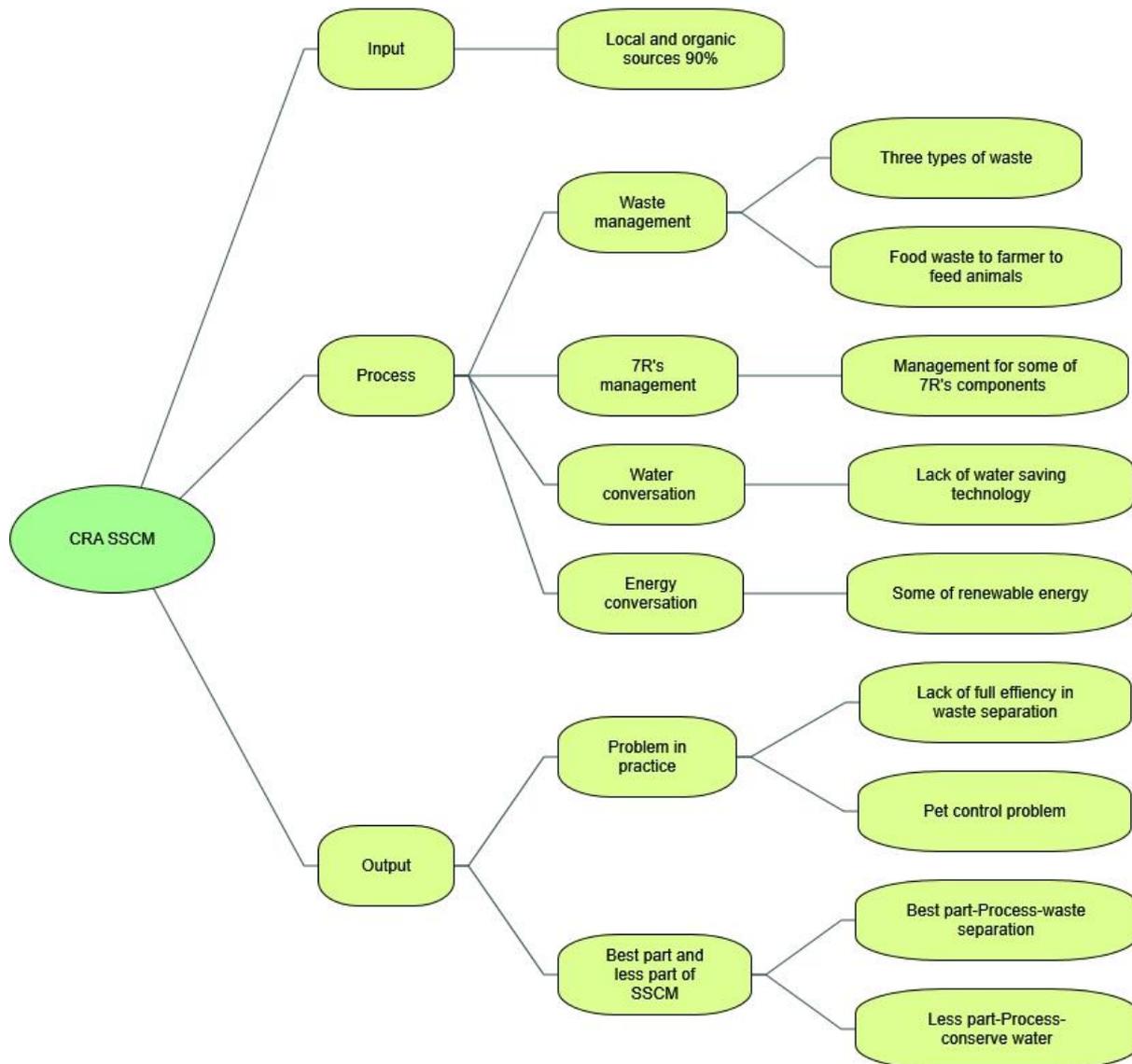


Figure 5.2 : CRA Sustainability Supply chain management process

Input

CRA respondents mentioned that raw ingredients were from local and organic sources approximately 90 per-cent of the time. Most of the main ingredients were delivered from local fisheries and organic farms. However, they also bought some raw ingredients and ingredients from the organic market and the general community market.

Process

The CRA sustainability process was developed continually, from the restaurant owner perspectives and influenced by influences of external factors. In order to understand how they manage the process of sustainability and how effectively, this section will provide the details of their waste management, 7Rs management, water conservation and improvements, and energy conservation and improvements.

Waste management:

In terms of waste management, waste was separated into three types of wastes, including general waste, recyclable waste, and food waste. General waste is sorted and placed in the trash and then put into the collection bin every day after work, whereas recyclable. Whereas, recycle waste, the different types of waste, are handled for recycling, then given to another person to recycle and sell to external recycling firms. CRA respondents explained that although they sorted out the recyclable waste, there are still many other types of waste that should be pledged for further use. For example, there is still no technology to recycle this type of glass wine bottles in this country. Therefore, they garnered the idea to reuse as much as they can in order to reduce waste in landfills. Regarding food waste management, CRA respondents provide information in the same direction as they collect food waste and then give it back to the farmer to feed their animals when they come to deliver raw ingredients.

Water conservation:

CRA respondents provided information about the lack of water-saving technology. They had a concept of a renewable water supply, and. Therefore, they tried to conserve water by relying on experience and the knowledge that has been treated: such as taking some used water used to water the plants as well as using water container for washing meat or vegetables. However, CRA still lacked the knowledge and understanding of how to apply technology to the context of the business.

Energy conservation:

CRA respondents stated that they used some energy-saving light bulbs because some areas needed a different light shade and energy-saving technology could not meet the requirements. Due to the lack of dimmer-switch technology, the bulbs still gave out an old-fashioned to decorate some areas to fulfil the traditional atmosphere. Furthermore, they conserved electricity by turning on the lights or air conditioning only during conditioner on time of services. Because CRA is a premium restaurant that serves dinner recipes only further, most customers have made reservations in advance. As a result, they are able to manage the time to turn on the air conditioning and other energy-consuming devices in each zone used to service the customers. CRA consulted technicians about solar cell technology; however, the restaurant location was

surrounded by tall buildings. Consequently, this type of equipment was not suitable and, furthermore, the cost was prohibitive. In terms of conserving gas, the CRA alternative was using charcoal for cooking some of the food on the menu to reduce gas expenditure; nonetheless, it was not possible to reduce the smoke emission because cooking charcoal produces a lot of smoke.

7Rs management:

In terms of achieving environmental sustainability, the CRA practiced the 7Rs of sustainability to ensure the effectiveness of conserving their natural resources and protecting the environment: rethink, refuse, reduce, repurpose, reuse, recycle, and rot. CRA respondents also provided details of practising the 7Rs in order to reduce all types of waste from various experiences and duties. For example, the head chef mentioned the 7Rs as they were binning packaging from suppliers such as plastic bags as well as plastic wrap; further, they were trying to repurpose materials by creating new menus to reduce food waste. In addition, the restaurant owners mentioned reusing packaging from suppliers by exchanging the packaging to the farmer when they delivered raw ingredients as well as recycling used materials, like handmade soap from used cooking oil. However, CRA was still limited in response to 7Rs practice owing to a lack of a formal plan.

Output

Problems in practice:

Although they have continued to practice and develop working methods to meet environmental sustainability criteria, there were still problems that needed improvement. CRA owners and managers were always spending time training and auditing staff in order to improve in waste separation or managing food waste. They provided information on how aware each employee was and adopted different practices, depending on their job position and experience. Although mistakes always happen, especially during busy times that force restaurant owners and managers to monitor and try to improve continually. CRA was practising the 7Rs to reduce all types of waste. There was still a lot of plastic in the workplace. This is because some suppliers were unable to work out materials that could substitute plastic. A problem they faced was a rat situation that damaged ingredients and harassed the restaurant. CRA respondents argued that restaurants in the capital city often face these problems, and the Department of Pet Control is absolutely unable to deal with the problem. Therefore, they must try to adjust the storage methods to be as safe as possible and remember cleanliness throughout the area.

The best part and less part of the sustainability supply chain:

In terms of answering the question of which parts of the restaurant are more or less sustainable than others, most of the respondents mentioned waste separation is the best part in terms of environmental sustainability practising whereas water-saving processes and electrical conservation were also the most part that needed most improvement.

5.2.3 Restaurant Practice and Framework Contribution

Table 5.2 : CRA’s perspective on sustainability best practice and framework

Key Theme	Element	Key perspective
Restaurant Best Practice	Key activity	<ul style="list-style-type: none"> • locally and organic raw ingredient • waste separation • conserve energy
	Best way	<ul style="list-style-type: none"> • created an understanding • coaching • communication between firms
	SSCM	<ul style="list-style-type: none"> • integrating between firms • government • farmer • supplier • restaurant
Sustainability Framework	Key focus areas	<ul style="list-style-type: none"> • farmer • seasonal fishing • community • government regulation • water
	Enablers	<ul style="list-style-type: none"> • government policy • education and training • pilot programme
	Barriers	<ul style="list-style-type: none"> • farmer attitude to chemicals and pesticides • redundant work problem
	Quick win and long-term win	<ul style="list-style-type: none"> • restaurants policy and guideline • continue to improve

Best practice

Research question 3 was designed to find ‘best practice’ in terms of restaurant sustainability in Thailand that represented respondents’ perspective as follows.

Key activity:

To achieve best practices in terms of restaurant sustainability in Thailand it seems from the CRA respondent’s perspective that continuing to improve and maintain local and organic raw ingredients was the critical activity that must be developed sustainably. Respondents argued that government played an important role to promote sustainable materials to all stakeholders – farmers, suppliers, the restaurant itself, and customers – to drive sustainability throughout the restaurant supply chain.

In the respondent's view, waste separation remained an important factor in enhancing sustainable development. Furthermore, conserving energy was mentioned as the key factor that provided many benefits to restaurant practice.

The best ways:

In the respondent's view, the best way to implement sustainability in CRA was to create an understanding of how well-known environmental sustainability treat their staff, continue to practice, and evaluate all departments – coaching and supervising – to maintain a quality business service via a standardisation process. Furthermore, CRA awareness of the sustainability subject through two-way communication with external stakeholders, such as suppliers and customers, ensures that operations continue within an atmosphere and a shared perception of sustainability and contributes to organisational effectiveness.

SSCM:

In terms of creating a sustainable restaurant, CRA has extensive experience in sustainability practice as well as the opportunity to collaborate and exchange experiences with various organisations, both in the public and private sectors, operating in the field of sustainable restaurant development. Therefore, CRA is aware and assigns importance to cooperation between the organisation and all its stakeholders. The respondent also mentioned government guidelines that motivate and support stakeholders throughout restaurant sustainability supply-chain areas. For example, they provide policies supporting general farmers to produce environmentally friendly crops, and develop the necessary regulations to support manufacturing firms to produce environmentally friendly products. Furthermore, the respondents also mentioned collaboration between public and private organisations throughout hospitality areas to prevent negative environmental impact.

Framework

Research question 4 mentioned the framework or model that could be developed and used to encourage best practices in terms of restaurant sustainability in Thailand. CRA has maintained focus in key areas, enablers and barriers and achieved sustainability components as shown below.

Key focus areas:

Regarding key focus areas that must be addressed to improve environmental sustainability in Thai restaurants and their supply chain, the participants mentioned a wide range of what they saw as elements and issues from their perspectives. However, the critical component was the first-tier stakeholders relevant to CRA operations, such as farmers, fisheries, the community, and government. The restaurant owner, who had experience in sustainability management areas for many

years, mentioned that knowledge and awareness that should be considered at the planning stage as crucial success factors in maintaining and developing sustainability in restaurants.

Enablers and Barriers:

CRA had extensive experience practicing sustainability and disseminating and sharing knowledge with other organisations and individuals. As a result, CRA had a positive view of environmental sustainability development; therefore, to enable the conversation, the respondents proposed that “the government and university devised a pilot programme” to encourage best practices in terms of restaurant sustainability in Thailand. In terms of the barriers that need removing to make this happen, most of them stated two main problem areas: widespread use of insecticides on plants, and over-fishing. Furthermore, some participants also discussed the controversy of future changes in government legislation to solve the unemployment problem.

Achieving sustainability:

The restaurant owner and manager provided a clear policy and environmental sustainability guideline covering all the job duties considered a quick win in order to achieve environmental sustainability at CRA. To manage a long-term win controversially requires continual training, practising and improvement.

5.3 Case Restaurant B (CRB)

Founded in 2012, CRB is a royal Thai cuisine restaurant decorated with a selection of local Thai elements such as flats, zinc wares, fish traps, woven baskets and loincloth cushions. These materials are locally sourced and made from natural materials. In terms of the emphasis on openness, CRB featured clear glass that allowed people to see inside the restaurant and it was surrounded by trees that provided shade and brightness.

Most of the restaurant's food consisted of royal recipes as the restaurant owner completed her traditional royal Thai cuisine course at a famous school. She also discovered that traditional Thai food is delicious; however, there were many dishes on the menu that most Thais do not know. Therefore, the restaurant owner took the initiative and passed on these royal recipes to the next generation so that they knew and experienced the authentic tastes.

CRB paid attention to environmental issues, and especially environmental conservation practice, which involves modifying biodegradable materials to replace environmentally destructive materials. However, they still lacked knowledge and understanding of sustainable restaurant conservation. This resulted in a lack of

understanding of how the association between the restaurant and other stakeholders throughout the supply chain can achieve sustainability. Furthermore, they lacked the knowledge of how to manage the sustainability of the entire restaurant system. However, CRB was ready to learn and adapt its business operations to be more environmentally friendly and sustainable.

CRB served traditional recipes; therefore, many ingredients had to be ordered directly from the local cultivation area. However, raw meat materials were not supported by local farmers. Therefore, they could not know where to source the raw ingredients, how manufacturers handled them or whether they were sustainable. Most of the meat ingredients were ordered from wholesale suppliers in order to focus on food safety standards and convenience.

5.3.1 Current State of Sustainability

To answer the research question “What is the current state (e.g., issues, challenges, gaps and benefits) regarding the environmental sustainability of restaurants in Thailand?”, Figure 5.3 demonstrates the current primary state from the CRB respondents' perspectives.

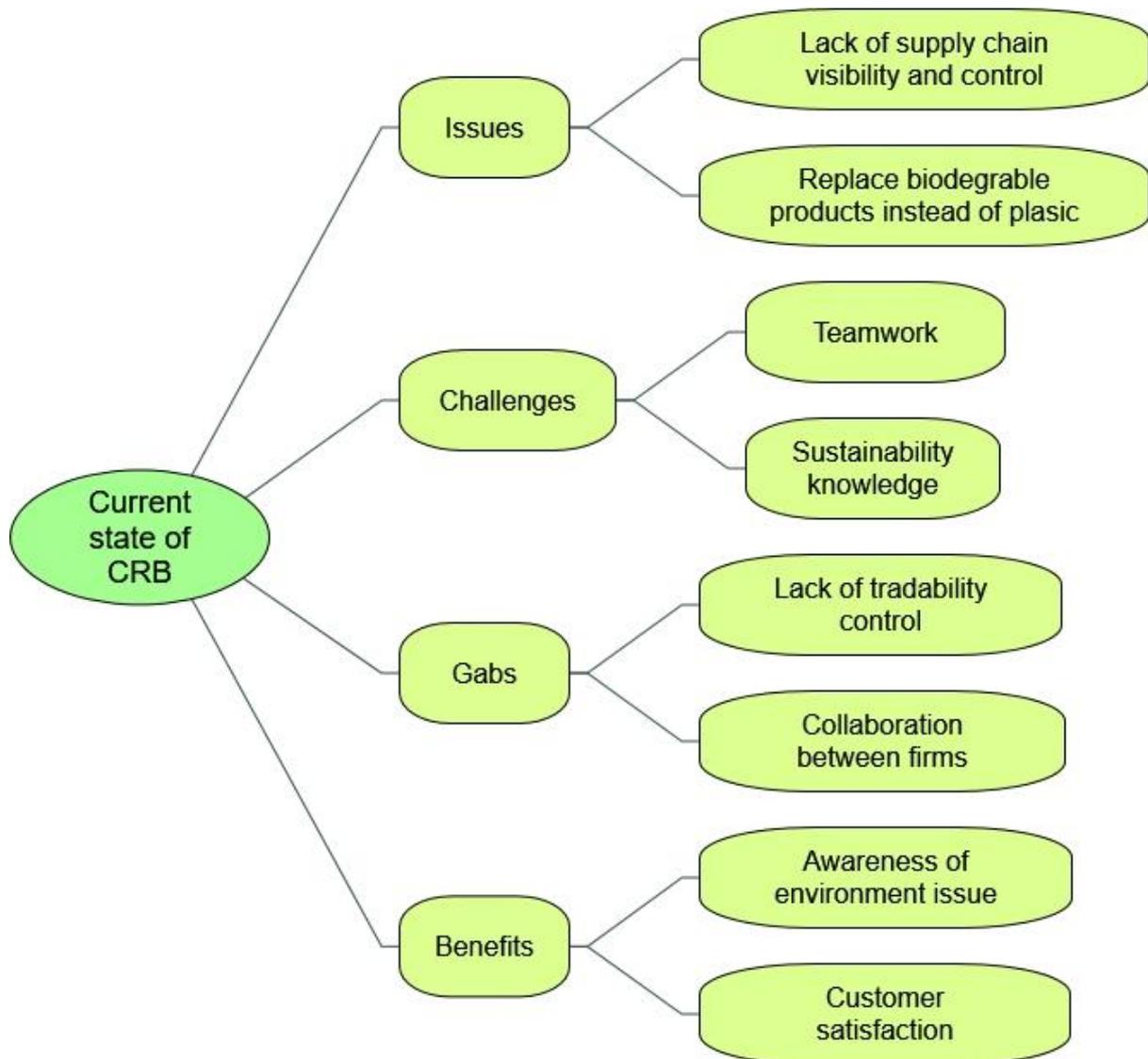


Figure 5.3 : CRB current state of sustainability

Issues:

CRB respondents mentioned that procuring organic raw ingredient was a pretty tricky task in terms of finding a suitable supplier and managing restaurant ingredient lists. Therefore, they still dealt with raw ingredients for convenience, such as ordering specific ingredients from the local area, procuring quality standard meat, and purchasing some ingredients from the supermarket located in the local area.

Regarding reducing the use of plastic bags and straws, CRB was very proactive in replacing plastic straws with biodegradable paper versions and reducing plastic bags, specifically for take-away consumption. However, CRB still faced plastic problems because most of the dishes were stored in plastic boxes to keep them warm and prevent food from spilling.

Challenges:

The biggest challenge to enhancing sustainability in CRB was teamwork, especially considering the duties and responsibilities to the new policy being promoted. The staff was very varied both in terms of work experience and age, which resulted in some miscommunication and challenges when trying to move their visions in the same direction. Furthermore, CRB lacked the knowledge to develop sustainability across departments and restaurants; they had no specific guidelines for improving its environmental sustainability.

Gaps:

There were some gaps in terms of accessing sustainability to improve and develop a strategy to achieve the sustainable goal. First, the problem of traceability: CRB respondents provided information about the local ingredients and raw ingredients they used; however, they did not know the particular methods and processes that farmers or fishers used to control their agricultural or fishing practices. As a result, the case faced difficulties in tracking ingredient items back to their sources. Secondly, the uncertainty surrounding waste separation after leaving the collection bin out and whether the local council would simply combine the waste again.

Benefits:

CRB gained knowledge and became more aware of the environmental issues around their practice in separating waste and reducing plastic, and that allowed them to develop routines both for the restaurant and their personal lives. The respondents recognized that customers were satisfied with the service as a result and that it also enhanced the business's image.

5.3.2 Sustainability Supply Chain Management Process

In terms of answering research question 2 (“How sustainable are restaurants in Thailand?”), the researcher showed the supply chain management process in the CRB sustainability operation as input, process and output in Figure 5.4.

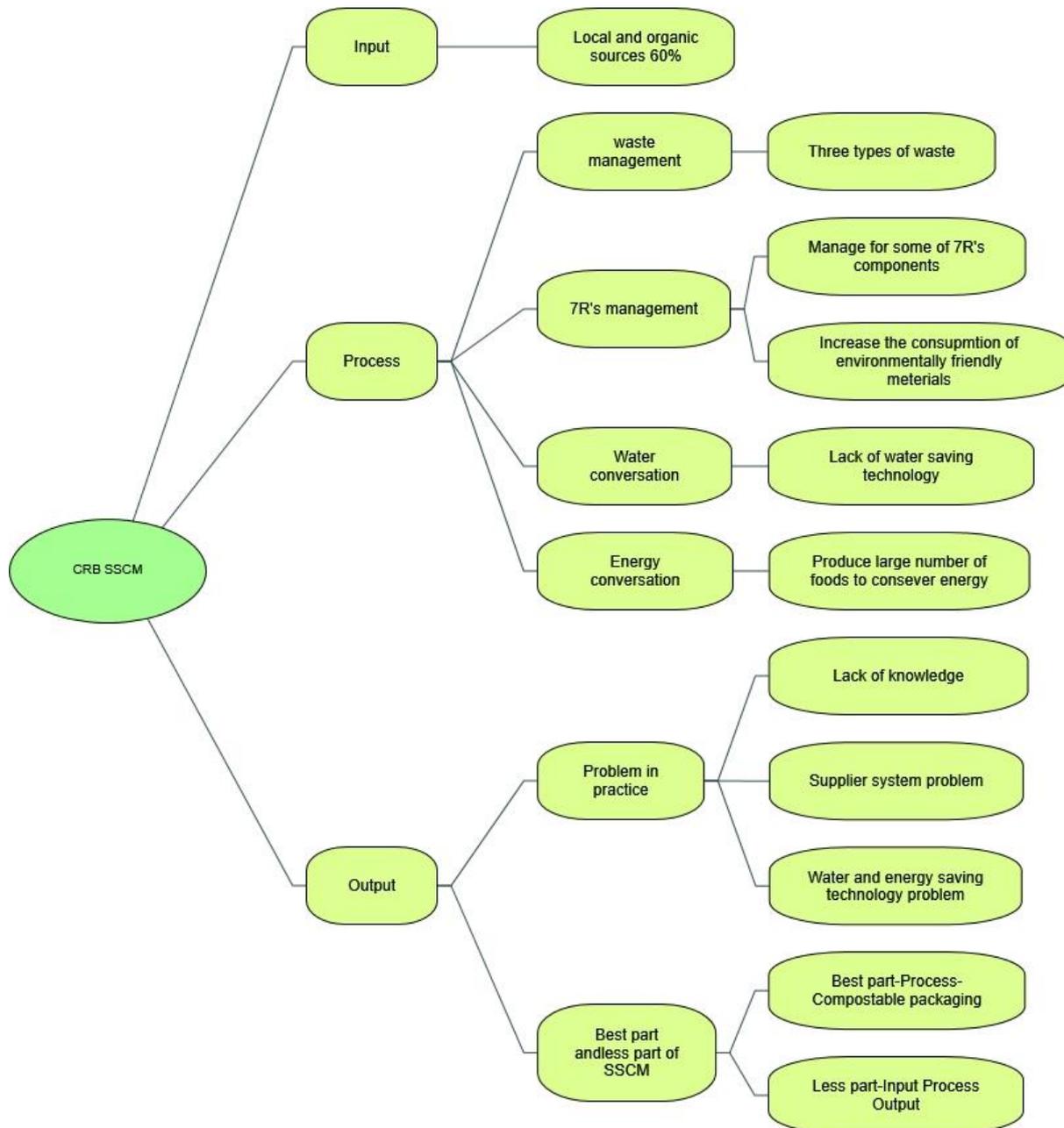


Figure 5.4 CRB Sustainability supply chain management process

Input

Organic or local materials comprised approximately 60 percent of what CRB used. The delivery method for raw ingredients also varied, depending on the type of raw ingredient and the sources. For example, specific vegetables from the south of the country were delivered separately by suppliers, while some general vegetables were purchased from the community market.

Process

Waste management:

CRB separated waste into three types: general waste, recyclable waste, and food waste. General waste was sorted and placed in the trash and then brought out to the collection bin, while recyclable waste was separated by housekeeping to sell to external recycling firms, the revenue from which meant extra income for the restaurant. In order to manage food waste, CRB separated food waste into garbage bags and then left the bags near the general collection bin, as the Bangkok Metropolitan Administration (BMA) do not supply a separate food-waste bin. CRB had no external partner to collect food waste in their supply chain, unlike cooking oil, that a partner collected every week. However, CRB respondents stated that they did not know how the collector managed the used cooking oil.

Water conservation:

Participants also described various methods to conserve water and ways to improve water efficiency, although CRB lacked knowledge and guidance for how to deal with this. Therefore, they tried to use water as economically as possible, such as not leaving the tap on or using containers to measure the right amount of water when washing raw ingredients. Furthermore, they ensured dishwashers were full before starting the machine to maintain an economical water supply. In other words, CRB used conventional methods and common sense to conserve water in their operations. Regarding improving water efficiency, the respondents provided unique ideas. For example, kitchen staff suggested buying a new dishwasher that was certified to save water and energy. Despite these ideas, CRB had no strategic plan to reduce water consumption or construct an alternative water-circulating system.

Energy conservation:

Most CRB respondents mentioned conserving electricity by scheduling usage in terms of turning lights and air conditioning on and off. For example, the manager argued that “*at a quiet period between 3 and 5 pm we normally turn off the lights and air conditioning to conserve energy and then use just one zone in the customer service area using sunlight and a comfortable atmosphere to maintain customer satisfaction*”. In terms of conserving gas, CRB managed to cook most of the dishes in large numbers at the same time than separate portions for freezing; therefore, they preheated a freeze menu before serving. The respondents had no energy efficiency plans, as they were uncertain about any other alternative methods to save energy.

7Rs management:

Despite a lack of understanding of 7Rs management the respondents explained some of their general practices. For example, they used water economically by checking the condition of the tap and investigating the dishwasher system to ensure water efficiency, using banana leaves to pack food, and using a saucer to serve customers. Moreover, CRB always provided compostable packaging to pack takeaway food. However, CRB was also quite comprehensive with its approach to many of the 7Rs elements, especially rethink, reuse, and recycle topics.

Output

Problems in practice:

Owing to the lack of knowledge and understanding about sustainability practices, as a result, CRB faced difficulties when trying to enhance the restaurant processes to achieve sustainability, such as how to improve its energy saving, how to consume water more efficiently, or how to achieve best practices in waste separation. Nevertheless, CRB confronted problems with external supply chain management systems such as their organic or local ingredients supplier systems, the limitations regarding local raw ingredient from community markets, and the lack of food waste guidelines from the local council.

Best part and worst part of the sustainability supply chain:

The main sustainability action taken was using more compostable packaging and materials led them to undertake the best part of sustainable practice from their view. In answering the question regarding which parts of the restaurant are less sustainable, the respondents represented all three parts (input, process and output) of the supply chain management needed to be improved.

5.3.3 Restaurant Practice and Framework Contribution

Table 5.3: CRB’s perspective on sustainability best practice and framework

Key Theme	Element	Key perspective
Restaurant Best Practice	Key activity	<ul style="list-style-type: none"> • enhance sustainability knowledge • local and organic raw ingredients • waste separation
	Best way	<ul style="list-style-type: none"> • guideline • coaching
	SSCM	<ul style="list-style-type: none"> • promote organic or local restaurant policy • government
Sustainability Framework	Key focus areas	<ul style="list-style-type: none"> • recycling operators • community • food waste management • eco-friendly product • water
	Enablers	<ul style="list-style-type: none"> • farmer • community
	Barriers	<ul style="list-style-type: none"> • organic product price • farmer attitude to chemicals and pesticides
	Quick win and long-term win	<ul style="list-style-type: none"> • restaurants policy • government regulations • knowledge • expertise

Best Practice

Referring to research question 3 about achieving ‘best practice’ in terms of restaurant sustainability in Thailand, CRB respondents described following the three key themes as follows.

Key actions:

CRB respondents’ perspective on which actions were important or essential for implementing sustainability in the restaurants and their more comprehensive supply chain could be summed up as main three clauses: first, enhance knowledge and understanding in terms of sustainability practice among all staff; second, maintain the quality of products by selecting local and organic raw ingredients in order to conserve the environment and natural resources; and third, continue to improve waste separation activity in order to reduce restaurant waste.

The best ways:

To implement some parts of sustainability in CRB, the respondents followed their job duties as instructed by the manager but generally lacked knowledge and understanding of the relevance and relationship between their job and duties in other departments. Accordingly, they were unable to understand the overall composition and incapable of integrating their work with that of other parties. Respondents' opinions in terms of the best ways to implement sustainability varied according to their experience and job specification. They mentioned policies and clear guidelines for employees in every position with which to practice environmental sustainability in the restaurant. Moreover, one respondent highlighted that managers play an essential role in coaching and overseeing the operations of employees together with continual evaluation.

SSCM:

Some CRB respondents believed in preventing negative environmental impact throughout supply chain processes in order to achieve success as a sustainable Thai restaurant. By contrast, some respondents shared the perspective that this would be extremely difficult to achieve because of several unfavourable factors. Respondents with a positive point of view believed that sustainability throughout the restaurant supply chain should start with policies and announcements to enable general restaurants to operate in accordance with the sustainability guideline with one of the crucial aspects being supporting the production of organic or local raw ingredients to support hospitality operators everywhere. Furthermore, they suggested that both government agencies and the public sector should be provided with tools or materials to encourage Thai restaurants to expand their knowledge and understanding of sustainable restaurant operations.

Framework

Answering research question number 4, it was suggested a framework or model could be developed and used to encourage best practices in restaurant sustainability, as shown below.

Key focus areas:

When asked about key focus areas that had to be addressed in order to improve environmental sustainability in the restaurant and their supply chain, the respondents mentioned that external factors influenced the impact of succession planning rather than an internal element. The respondents also clarified that the government and other organizations enabled a routine operation in terms of regulations, operational manuals or promoting and educating all entrepreneurs. In addition, they mentioned other organizations potentially supporting the sustainability of restaurants such as the community, recycling operators, food waste management systems and manufacturers of environmentally friendly catering equipment, though some CRB respondents referred to restaurant owners as the key focus people that must be pay attention to

conservation in order to drive sustainability in the workplace. Water efficiency had to be practiced to reduce water consumption in the restaurant.

Enablers and Barriers:

CRB respondents proposed the network structure of the public and private sector was essential in terms of making progress with environmental sustainability issues. Additionally, they provided information that farmers and the community played an essential role as supporters to drive the operations attempting to reduce environmental impact and satisfy high-quality ingredients. Furthermore, the respondents maintained that some customers were more likely to be sensitive to the organic product price. They might be more willing to sacrifice the quality of products then requires food tasty, good atmosphere and services from dining in a restaurant. Participants also mentioned farmers' attitudes to chemicals and pesticides as one critical issue for environmental sustainability development.

Achieving sustainability:

One quick win when accomplishing sustainability, according to CRB respondents, was for the owner or manager to continuously urge employees to follow best practice and definitive rules or policies supplied by the government. Achieving long-term sustainable wins must rely on concrete support from external agencies with specific knowledge and expertise that can suggest and continuously monitor and promote practice until all restaurant staff perform the duties as part of a routine. Moreover, one member of the bar staff also stated that, *"I think it is a good idea to educate children and young people in environmental issues because they can absorb information well and continue to practice until they become adults."*

5.4 Case Restaurant C (CRC)

Founded in 1981, CRC was a restaurant business famous for its comprehensive variety of local and fresh seafood products. Initially, the founder of CRC had experience as a chef at a hotel in the UK before opening a hospitality business in Thailand. CRC's vision of presenting traditional family recipes to the community included the concept of providing quality food service from the first generation, which had been passed down to the next generation for more than four decades. The restaurant owner had relatives who operated the local fisheries, a crucial partner in providing the freshest marine ingredients to serve customers. CRC operated as a family business and with the philosophy of maintaining traditional establishments without expanding into new branches; therefore, executives were able to supervise and control the quality of services throughout the supply chain, both within the business and in their management of stakeholders.

At the end of the 1970s, CRC invested in meeting farm businesses in order to drive a backwards vertical integration strategy to support their primary operation. However, this structure performed poorly and continued to wither; therefore, the middle of the 1980s was a turning point when the restaurant focused on competency and discovering and developing original menus. CRC was involved in the origination of a range of menu designs combined with specific local materials and seafood products. Since CRC served both traditional Thai dishes and fusion dishes, including several featured dishes that were widely known, CRC became a legendary Thai restaurant that was invited to appear on countless TV shows as well as being interviewed for hospitality magazines on many occasions.

5.4.1 Current State of Sustainability

In answer to research question 1 (“What is the current state (e.g., issues, challenges, gaps and benefits) regarding environmental sustainability of restaurants in Thailand?”), Figure 5.5 shows the current state from the CRC respondents’ perspective.



Figure 5.5: CRC current state of sustainability

Issue:

Perception of global warming and public awareness of energy and environmental conservation led CRC to adapt and pay more attention to environmental issues, especially in waste separation practices and food waste management. As CRC had been operating for a long time, the senior system was used to provide highly qualified and experienced staff responsible for coaching and supervising less skilled and inexperienced workers. The head chef also explained that, "I have experience working here more than 20 years; therefore, I am responsible for teaching and supervising new employees to practice in waste separation that inspected every day after work".

Challenge:

The biggest challenge was practising sustainability actions during busy periods; therefore, mistakes were often made in the sorting of waste and raw ingredients. Another challenge that CRC had to manage is conserving gas consumption as Thai food requires high heat to cook; therefore, they consumed a lot of gas and produced a lot of smoke.

Benefits:

The respondents strongly believed in the positive impact of sustainability practice, benefitting from practising sustainability in terms of raw ingredient management and waste separation through greater customer satisfaction, reduced waste, and the workplace being more organized. The restaurant owner, who placed great emphasis on keeping the standard of the freshness of seafood ingredients, which had built a reputation for the restaurant for a long time, mentioned, "*I place great emphasis on maintaining the quality the restaurant has accumulated over many generations. Therefore, I was always travelling to pick up fresh seafood from fishers by myself. Thus, we use quality control techniques to guarantee the fresh, high-quality raw ingredients that satisfy our customers leading to customer loyalty to our brand.*"

5.4.2 Sustainability Supply Chain Management Process

Answering research question 2 (“How sustainable are restaurants in Thailand?”), CRC respondents mentioned the supply chain management process as input, process and output in CRC sustainability operation, as highlighted in Figure 5.6.

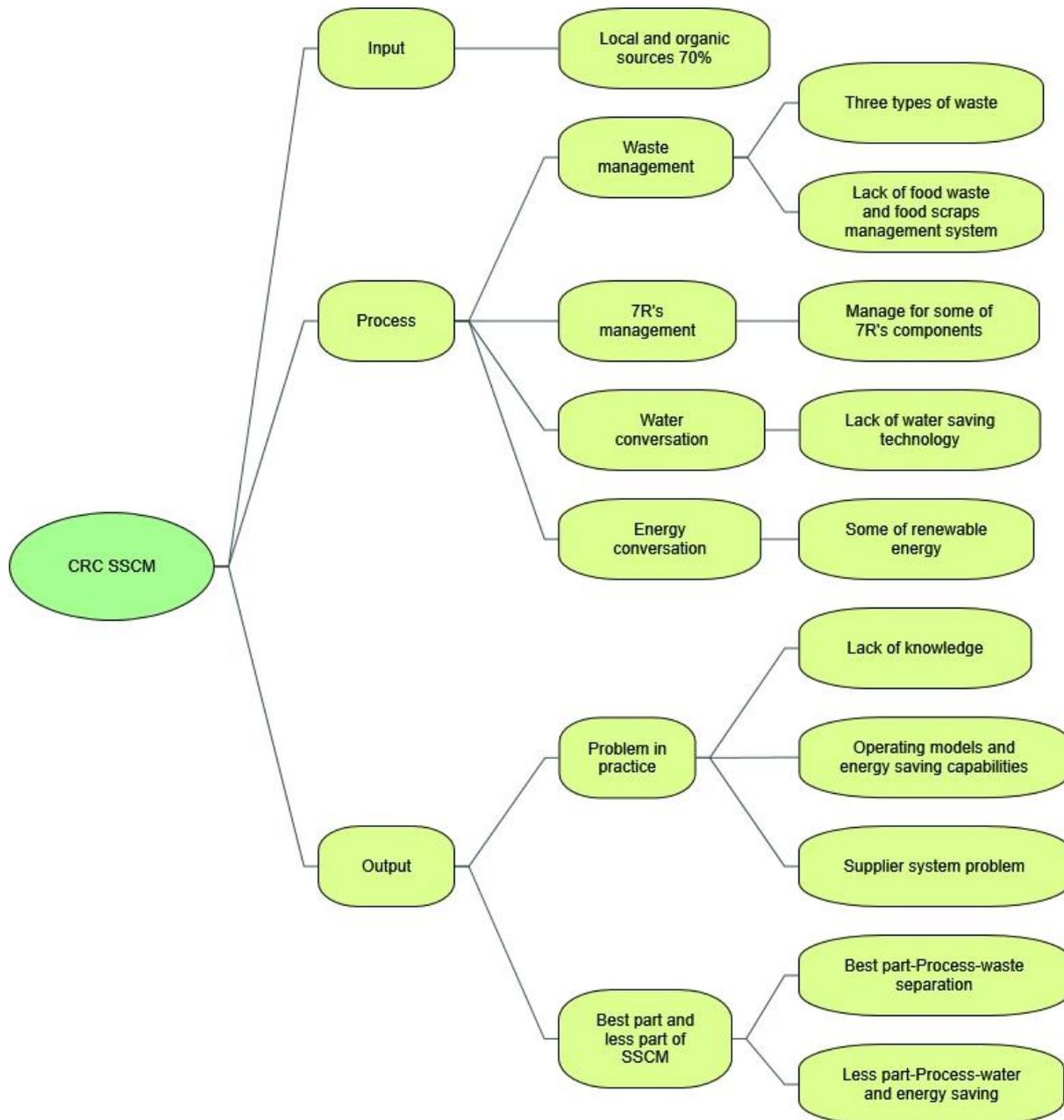


Figure 5.6: CRC Sustainability supply chain management process

Input

The respondents mentioned that approximately 70 percent of CRC products were sourced locally or organic. CRC's speciality was seafood menus, including prawns, shellfish, crab and fish, which the restaurant owners picked up from local fisheries when the fishing boats returned to shore. With meat ingredients, CRC chose to use raw ingredients produced by industries that are certified for food safety standards, with delivery by suppliers. Other products such as vegetables or seasoning were usually purchased from the community market or local supermarket.

Process

Waste management:

In terms of waste classifications, CRC separated waste into three types waste: general, recycled, and food waste. General waste was sorted and placed in the trash and then put in the collection bin every day after work, whereas recyclable waste was classified by type of waste that the company came to the workplace to buy. CRC managed food waste by gathering it into a separate bin for farmers to collect and use for animal feed. Food scraps, vegetable scraps and fruit peels were kept separately for homemakers who wanted to use them to make bio-fermented water; however, collection of food waste and food scraps lacked systematic management and if a collection was missed the waste had to be disposed of in the general bin collection.

Water conservation:

Most of the respondents stated that conserving water was an onerous part of sustainability practice. They also stated this was particularly true for CRC, which required large amounts of water. The participants explained that water was used in almost every operational step, from preparing to cooking and steaming to washing. Therefore, CRC tried to use the right amount of water, such as using hand-rinsing cycles or scheduled assessments of water use. In terms of improving water efficiency, the respondent mentioned highly efficient water-saving water in the restaurant; however, they still lacked the knowledge and experience to ensure that the type of technology was suitable for them.

Energy conservation:

Reducing overall energy consumption was one of CRC's missions. CRC saved electricity by scheduling when the lights and air conditioner were turned on. The restaurant owner's partner's background as an electrical engineering graduate led them to engage in the development of electrical systems. They adopted energy conservation methods by using energy-efficient equipment and charcoal to replace gas in some parts of the cooking management. They had studied information about installing solar cells to save energy then found that some limitations prevented the system from being installed. Furthermore, the price of this type of equipment was still high.

7Rs management:

Most of the respondents answered confidentially about how to manage the 7Rs in the restaurant, although they were only a few who were knowledgeable, about from the owner. She explained that CRC had practiced waste separation since the business's inception more than 40 years ago and over subsequent generations it had continued to develop the issue of environmental protection as an important one, resulting in CRC accomplishing some of the 7R elements for sustainability.

Output

Problems in practice:

Although energy-saving equipment and alternative energy had been installed, CRC found a gap between operating models and energy-saving capabilities that adversely affected the energy-saving efficiencies. CRC respondents mentioned sustainability expertise could fulfil knowledge in terms of energy conservation and other sustainable operational areas. Another problem was the aftermath of an input operation sourcing organic material; the owner of the restaurant referred to a supplier, a sub-section of a sizeable public corporation that has begun operating in the field of food raw ingredient supply. The company offered organic raw ingredient products to obtain sustainable operation; however, the list of raw ingredients offered does not cover CRC requirements both in quantity to operate and variety of raw ingredients. Because currently, this supplier has not been able to expand the organic raw ingredient supply chain widely enough.

Best part and worst part of the sustainability supply chain:

Participants also argued that waste separation was one of the operation's best aspects of practising sustainability, as the CRC corporate hospitality business had adhered to a practice of orderly continuity over the last four decades. CRC respondents continued to separate types of wastes. In terms of improvement and development of sustainability in the workplace, the participants mentioned the processing elements that CRC required renewable energy or water-saving equipment.

5.4.3 Restaurant Practice and Framework Contribution

Table 5.4: CRC’s perspective on sustainability best practice and framework

Key Theme	Element	Key perspective
Restaurant Best Practice	Key activity	<ul style="list-style-type: none"> • locally and organic raw ingredient • waste separation • enhance sustainability knowledge
	Best Practice	<ul style="list-style-type: none"> • guideline • coaching
	SSCM	<ul style="list-style-type: none"> • farmer • distributor • government
Sustainability Framework	Key focus areas	<ul style="list-style-type: none"> • raw ingredient • solve pesticide problems • food waste management • eco-friendly product • energy conservation
	Enablers	<ul style="list-style-type: none"> • government policy • private sector
	Barriers	<ul style="list-style-type: none"> • people knowledge and awareness • over-fishing
	Quick win and long-term win	<ul style="list-style-type: none"> • restaurant owner • policy and guideline • consistent practice and continuous improvement

Best Practice:

Research question 3 about finding the best practice for find restaurant sustainability is answered as follows.

Key activity:

In order to achieve best practices for sustainability in Thai restaurants, most of the respondents focused on a range of actions throughout their supply chain. The restaurant owners and head chefs mentioned selecting organic or local raw ingredients together with a delivery and procurement system that provided fast and convenient transportation. Most CRC respondents paid attention to awareness development and continuous recognition of restaurant practices. Ongoing waste separation training was provided so that employees in all departments would be able to perform operations consistently. Furthermore, enhancing knowledge on environmental sustainability

among the general public could lead to the development of an organic ingredients system and extensive improvement in other sustainability matters.

The best ways:

To answer the research question on the best ways to implement sustainability in CRC, participants also mentioned external sustainability. Expert advice suggested an effective way of sustainability practice specific to a restaurant environment not only to gain knowledge and understanding for all the staffs but also efficiency guidelines for the performance across all positions. A front-of-house staff member explained: *"I fully perform my duties as per the job description as a restaurant owner and manager in terms of coaching and direct supervision. Therefore, I am always ready to act upon any work details such as sustainability issues."*

SSCM:

The hospitality supply chain was relatively more comprehensive with many stakeholders to emulate in the sector. As a result, the respondent's answers to the question of how Thai restaurants can succeed in preventing negative environmental impact throughout supply chain processes suggested that their experience levels and lack of knowledge limited their ability to provide a holistic view of sustainable business. CRC participants mentioned farmers, distributors and government in terms of sustainability; however, the respondent's ability to connect the relationship in an integrative way throughout supply chain processes seemed limited.

Framework:

CRC participants answered research question 4 as to whether a framework or model could be developed and used to encourage best practice in terms of restaurant sustainability as stated below.

Key focus areas:

To accomplish sustainability in Thai restaurants and their supply chains, key focus areas must be addressed in order to improve CRC's environmental sustainability; however, respondent's opinions showed some variation. In their opinions, components that needed to bring about sustainability in the restaurant supply chain process included the following: expanding organic farming areas, solving pesticide problems, dealing with food waste, and developing eco-friendly hospitality products. In terms of conserving energy, the respondents argued that electricity and gas are key focus areas for speeding up sustainability advancement. Furthermore, a respondent stated that

"Farmers who cultivate animal husbandry must be the first group to be persuaded to produce high quality of raw ingredients. Nowadays, procuring natural-raised meat is a challenge, because the animal husbandry model has adapted to industrial breeding, unlike in the last three or four decades with free-range raising".

Enablers and barriers:

From the respondents' perspectives, the enablers and drivers most needed to achieve best practice in environmental sustainability in Thailand were regulations from the government and public sector guidelines, and all facilities that support restaurants to achieve sustainability goals. However, only two participants were able to answer when asked the research question about which barriers need removing to make this happen and by whom. Participants referred to people developing their knowledge and awareness of the environment. For example, the front-of-house staff maintained that "*some people still lack the proper understanding of environmental sustainability by focusing only on food tests and price sensitivity*", whereas other respondents referred to over-fishing and off-season fishing causing a lack of natural aquatic life.

Achieving sustainability:

In order to achieve sustainability rapidly and successfully in restaurants, the respondents maintained, restaurant owners played an essential role in terms of providing policy planning and operational guideline for all restaurant departments. Achieving long-term sustainability success requires consistent practice and continuous improvement.

5.5 Case Restaurant D (CRD)

The history of CRD could be traced back to the middle of the 2000s, a family in Bangkok started an organic farm business as a partnership with a close friend in a nearby province. In 2008, the restaurant owner opened the first branch restaurant in a commercial development site that included appropriate commercial space allocation. At the time of research, CRD had five branches scattered across Bangkok. CRD's vision of healthy and high-quality product led to all menus at this restaurant chain being beneficial to the consumer and helping many communities' lives in the community.

CRD was meticulous in selecting raw ingredients, starting with the salad vegetables being delivered directly from the partner's organic farm in Pak Chong District. In addition, herbs and various fruits were shipped from Chiang Mai, and meat ingredients were selected from food production companies certified to food safety standards. As a result, two branches were had been certified as Q Restaurants from the National Bureau of Agricultural Commodity and Food Standards for using safe raw ingredients. In other words, more than ten materials used in the CRD were produced and certified as quality.

As an organic and healthy food operation, CRD managed a wide range of good quality ingredients to serve customers. However, the restaurant owner was also interested in developing other areas of sustainability. She had the opportunity to learn and find out more about restaurant sustainability development in some other countries. Owing to

a lack of knowledge and understanding of how to expand and flourish through sustainable innovations, however, CRD had no master plan and no specific project through which to drive sustainability in a concrete direction.

5.5.1 Current State of Sustainability

Answering research question 1 (“: What is the current state (e.g., issues, challenges, gaps and benefits) regarding the environmental sustainability of restaurants in Thailand?”), Figure 5.7 represents the key current states as per state from CRD respondents’ perspectives.

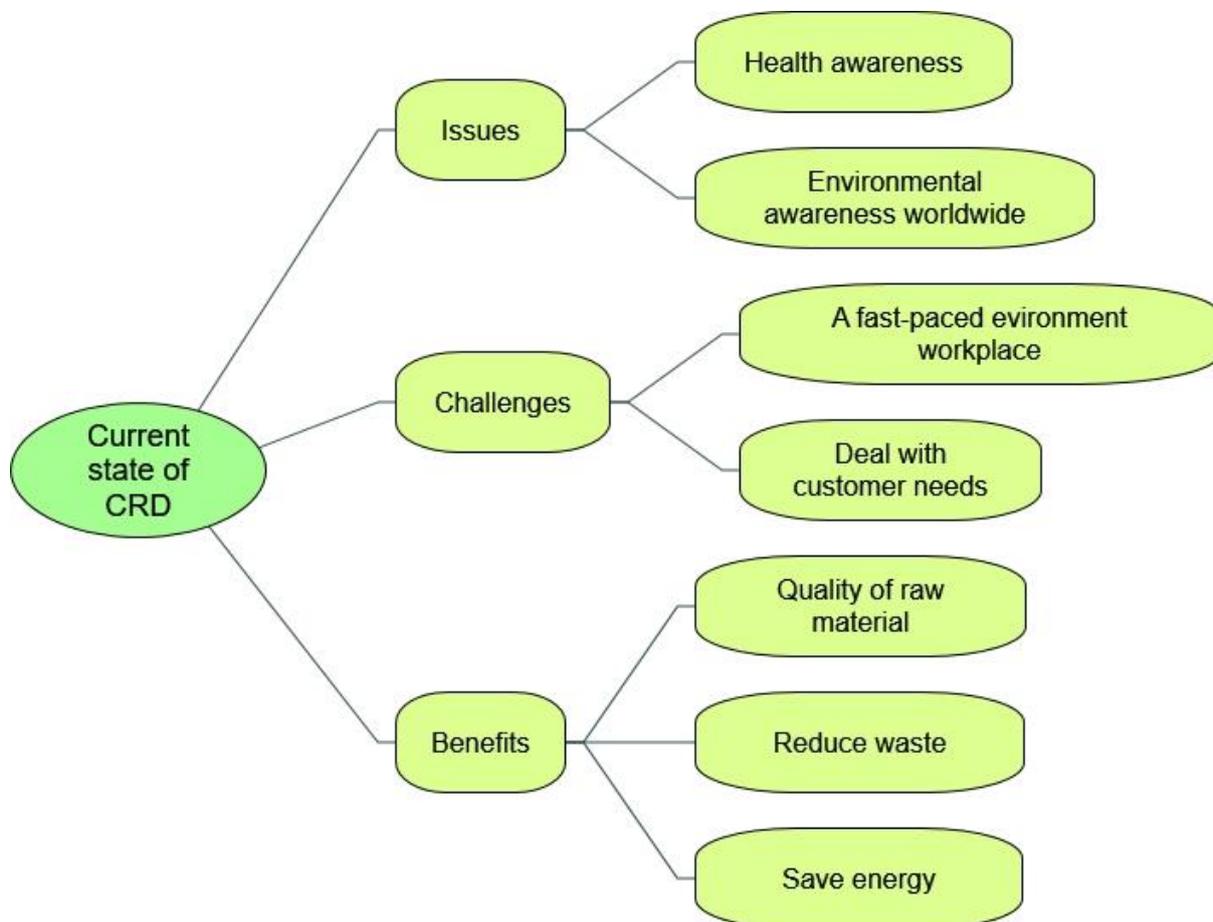


Figure 5.7: CRD current state of sustainability

Issues:

The current issue around implementing environmental sustainability in CRD was the opportunity to provide healthy food products to the customer. People had raised awareness of their health needs in terms of regular exercise and selecting healthy food

for their meals. The owner also mentioned that she only considered starting the business operations because her friends grew organic ingredients and because people were showing more concern about their health, which added up to an excellent opportunity to start a healthy food business. CRD incorporated an environmental issue in a general way by practicing waste separation and other activities as a typical restaurant in the country did, without any knowledge or understanding of the sustainability issue. Other respondents further mentioned current actions in response to CRD's environmental conservation, such as weighing the garbage each day, reducing plastic straws, and a hand towel service in the restroom to reduce paper usage.

Challenges:

As in the previous restaurants, the main challenge mentioned by CRD respondents was the difficulty in practising sustainability during busy times. Furthermore, CRD participants mentioned the trickiest challenges were communicating with and understanding customers in terms of the policy of limiting to limit some materials provided to them, such as paper towels and, straws. As a result, there were customers had different expectations from restaurant service: not only the quality of the products but also how customers perceived the convenience and the comfort of the service.

Benefits:

CRD respondents believed in the benefits of implementing sustainability for the experience of organic restaurant service. The participants maintained that quality organic raw ingredients satisfied customers both in terms of fresh product provisioning and in the scope of the food tests menu. CRD respondents also gained knowledge about sustainability actions. For example, weighing the garbage in every lead them to the realization of how much waste they produced and how reducing waste could achieve more sustainability in their areas. In addition, the restaurant owner's perspective was that implementing sustainability benefitted CRD in terms of restaurant positioning the restaurant and its image, and reducing operating costs, such as saving water or conserving electricity which would reduce expenses.

5.5.2 Sustainability Supply Chain Management Process

In answer research question 2 (“: How sustainable are restaurants in Thailand?”), the researcher organized the supply chain management process in terms of input, process and output in Figure 5.8.

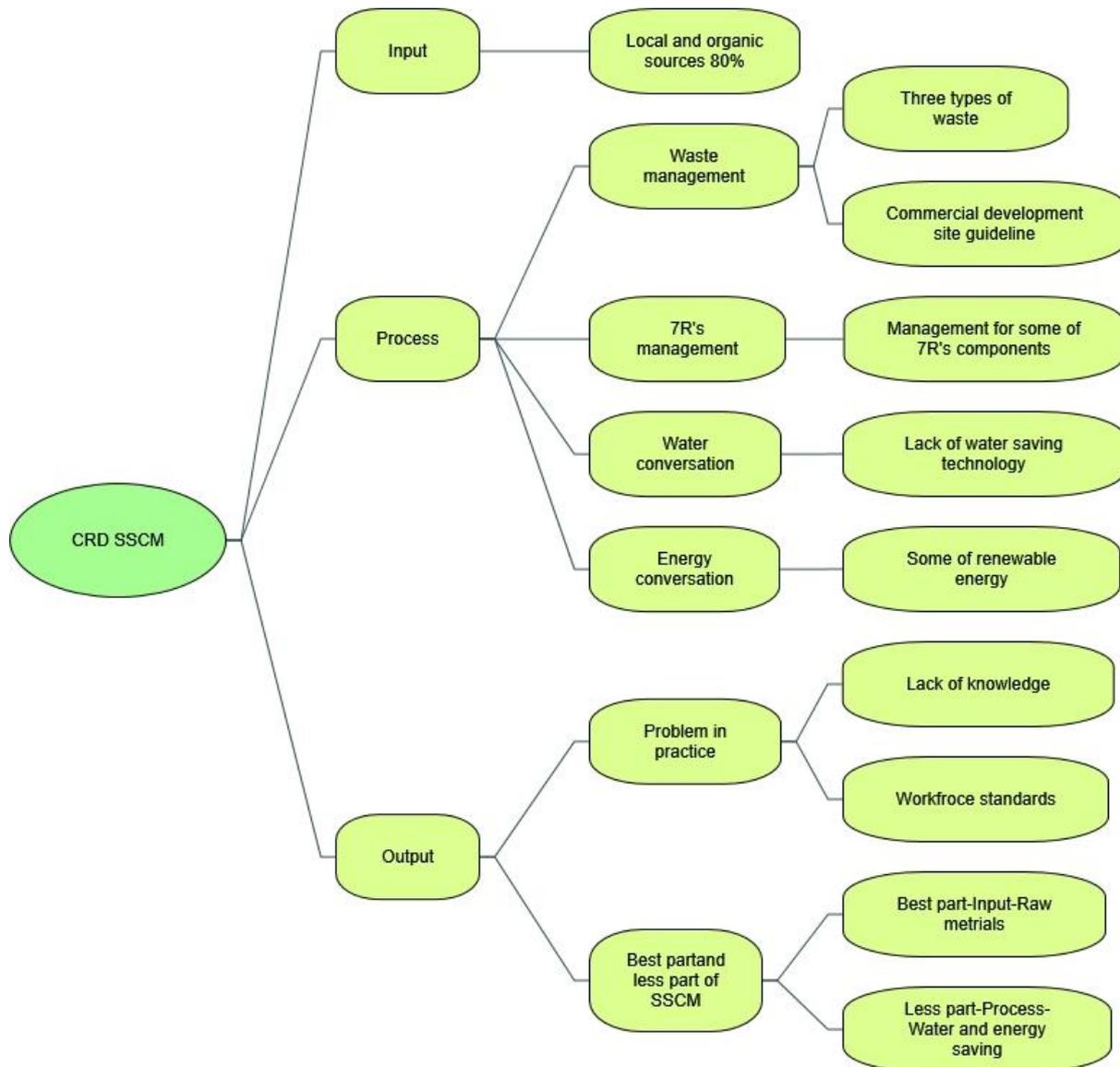


Figure 5.8: CRD Sustainability supply chain management process

Input:

Regarding sourcing of restaurant products, the participants mentioned that approximately 80 per cent of CRD products were organic or are sourced locally. Most vegetables were delivered directly from an organic farm located near Bangkok. At the same time, CRD sourced meat products from the manufacturers who were certified for food safety standards to ensure product cleanliness and safety for consumers.

Furthermore, CRD served homemade ice cream by using seasonal fruits that were available all year round and the flavour of the ice cream changed according to the season.

Process:

Waste management:

CRD separated waste into three types of wastes: general waste, recyclable waste, and food waste. The restaurant was located on a commercial development site, which had rules and regulations regarding waste management. As a result, CRD could manage their waste quickly and conveniently by sorting it out and then leaving it away in the bin collection area provided by the service manager every day after work. However, the respondents also maintained that some recyclable waste such as boxes, plastic trays and papers were usually sold to the recycling materials company that regularly came to the restaurants.

Water conservation:

To conserve water in the workplace, the respondents explained that water use was divided according to the proportion needed for cleaning raw ingredients, washing dishes and cooking utensils, and water to clean the kitchen. The CRD staff conserved water by using containers with rinsing water to clean raw ingredients, and installing a higher standard dishwasher to save energy and water; however, CRD still lacked the technology and knowledge required to conserve water efficiently. The CRD owner mentioned improving water efficiency, saying “*I have no idea how to improve water efficiency; we try much as hard we can to conserve water*”.

Energy conservation:

Participants also referred to energy consumption in CRD, both in terms of gas economy and electricity conservation. In order to conserve expenditure on gas, CRD realized the essential conditions for most of the menus are applied to the Thai fusion menu, which does not need a constant high heat for cooking. Instead, CRD conserves electricity by scheduling times to turn the lights and the air conditioner on and off. Furthermore, most of the electrical equipment in the operation has been certified against energy-saving standards to secure energy used. In terms of improving energy efficiency, the participants mentioned fitting new energy-saving light bulbs in the future.

7R's management:

CRD considered practicing in some of the 7R's of sustainability convention, those that by convenient from their perspectives and suggestive of the development site manager and government agency. For instance, CRD separated recyclable waste and food scraps for further use as per the commercial development site guideline already mentioned, and had regular check-up on equipment to conserve energy.

Output:

Problems in practice:

The biggest problem in practicing sustainability from the respondents' perspective was the lack of knowledge of how to improve and develop tools with which to achieve a higher sustainability score. CRD had no specific strategy or an action plan for evaluation, evaluate or incorporating with sustainability. The manager mentioned environmental sustainability activities in the restaurant: *"the operation should be done in response to environmental conservation by following general guidelines or ordinary trend which unclearly targeted to execute the sustainability plan"*. One of the problems in practice sustainability, according to from the owner, is views that employees are unable to comply with the same standards, which requires constant monitoring and control. Therefore, as restaurants have multiple branches, it is difficult for restaurant owners to supervise all the workers' sustainability practices.

Best part and Less part of the sustainability supply chain:

When answering research questions on the parts of the restaurant that are more or less sustainable than others in terms of input, process, and output operation. Most of the participants mentioned input as the best section for environmental sustainability practice regarding quality raw ingredients, especially organic vegetables, which are sold to both the raw ingredient sources and production processes at every step, while the procedures for energy-saving, improving water efficiency, reusing materials, and waste separation formed only a minor part of sustainability practice.

5.5.3 Restaurant Practice and Framework Contribution

Table 5.5: CRD’s perspective on sustainability best practice and framework

Key Theme	Element	Key perspective
Restaurant Best Practice	Key activity	<ul style="list-style-type: none"> • local and organic raw ingredients • conserve water • waste separation
	Best way	<ul style="list-style-type: none"> • restaurant policy and guideline • teamwork • coaching
	SSCM	<ul style="list-style-type: none"> • raw ingredients • waste management • recycle products • government regulation
Sustainability Framework	Key focus areas	<ul style="list-style-type: none"> • enhance public knowledge • restaurant operators • farmer • food waste management • energy and water
	Enablers	<ul style="list-style-type: none"> • government policy • external organization • restaurant operators
	Barriers	<ul style="list-style-type: none"> • farmer’s attitude to chemicals and pesticides
	Quick win and long - term win	<ul style="list-style-type: none"> • restaurant regulations • continue to improve • sustainability leader model in catering industry

Best Practice

In CRD, the respondents referred to research question 3, about encouraging best practice regarding restaurant sustainability in Thailand, as shown below.

Key activities:

Key activities that were important for implementing sustainability in CRD, from the respondents’ perspectives, included fulfilling knowledge to enhance awareness of the local and organic raw ingredients used. As an organic restaurant service, CRD also focuses on the source and method to grow food ingredients to serve their customer and in comprehensive service of products. The respondents were concerned about water consumption; therefore, conserving water was mentioned as the key activity that must be improved to maintain sustainability in the restaurant. Moreover, the restaurant owner stated that the waste separation practice caused waste in the organization to be significantly reduced.

The best ways:

Participants stated the best way for implementing sustainability in CRD aligned with two main themes. Firstly, the restaurant owner made sustainability the priority and provided clarifying practice guidelines for all departments. Furthermore, some of the employees' respondents mentioned the influence of the restaurant owners' environmental sustainability policies. For example, kitchen staff provided work experience in sustainability practice:

“I began to realize the importance of sourcing locally and organic ingredients when I started working at the restaurant. Because, the owner was meticulous about the selection of organic raw ingredients resulting in most of our vegetable being fresh, clean, and safe for both customers and ourselves”.

Secondly, teamwork was mentioned as one of the best ways to implement sustainability in the restaurant. According to the participants' views, these elements directly affected the success of the operation in terms of arranging team leaders to supervising, coaching and exchanging knowledge between colleagues.

SSCM:

In order to answer the research question (“How do you think Thai restaurants can succeed in preventing negative environmental impact throughout supply chain processes?”) the participants needed more experience with the entire restaurant supply chain system; therefore, they could not answer this question fully from their perspective. However, the other respondents refer to private and public sector restaurant stakeholders to commit responsibility for environmental sustainability roles. In terms of driving sustainability throughout the supply chain, the essential activities are wider promotion of organic or local raw ingredients, and increases in the capacity of waste management, especially in food waste and recycle products. CRD respondents stated that preventing negative environmental impact requires cooperation between many parties such as government regulation, support for growing organic plants, seasonal fisheries, eco-friendly product manufacturers, and high-capacity waste management.

Framework

To answer research question 4 (“What framework or model could be developed and used to encourage best practices in terms of restaurant sustainability in Thailand?”), the participants also explained three themes, as follows.

Key focus area: CRD participants offered several opinions on key focus areas in Thai restaurants and their supply chains that had to be addressed in order to improve environmental sustainability in Thailand. Their comments were based on experiences and information about environmental aspects of society that had enhanced the public's knowledge of environmental sustainability and that of restaurant operators, encouraging organic farming, dealing with various types of waste, food waste management, and specific expertise in supervising sustainable restaurant

implementation. The participants also mentioned water and energy usage as an area needing development to achieve sustainability in the restaurant sector.

Enablers and barriers:

In order to accomplish best practice in environmental sustainability, the participants also mentioned key enablers that would help bring about concrete progress in sustainability, including the government or external organizations and the restaurant operators themselves. With regard to government or external organizations with expertise in sustainability, restaurants in Thailand are being influenced towards providing sustainability resources to increase knowledge and develop restaurant sustainability skills. On the other hand, when answering research questions about the barriers that need removing to make restaurant sustainability happen and by whom, most respondents did not directly address the hindrance. However, participants recommended enhancing the knowledge and understanding for all parties: for example, providing correct information to farmers who grow vegetables on the subject of using chemicals to increase awareness of environmental sustainability.

Achieving sustainability:

To rapidly achieve environmental sustainability in CRD, the participants argued that providing accurate knowledge to all restaurant departments and practical training as part of the job routine in every position would enable restaurants to attain sustainable development in a short time. CRD respondents claimed that continuous improvement was necessary for restaurants to accomplish long-term wins in sustainable conservation. Furthermore, restaurant owners had started to have an impact on the sustainability leader model in the catering industry: *"If those restaurants have achieved tangible success, it will lead to other restaurants adjusting and operating according to sustainability guidelines."*

5.6 Case Restaurant E (CRE)

CRE was a modern restaurant using traditional and local ingredients that had appeared in the Michelin guide for many years. It was run by a group of close friends who jointly managed the business since its first site plan in 2005. The inspirational story of CRE involved travelling to various localities, especially in nature tourism and rest areas in the community. Their travel experiences motivated them to find natural resources and try many local gastronomic delicacies. The restaurant building was designed in an industrial loft style to resemble an imaginary barn in the countryside, employing the type of architecture used to construct glasshouses and emphasizing the green colours and plants as the main element.

The company's building design the loft style with contemporary conception combined Western and Eastern styles with traditional Thai dishes. Consequently, the owner then expanded to open a new branch in 2007 and continually developed the business until

five branches were fulfilling the concept of a traditional local Thai restaurant. CRE sourced raw ingredients from various regions, which caused transport and quality control problems. Furthermore, the business was meticulous about the type of raw ingredients used, such as adjusting the packaging to suit transportation according to the type of raw ingredient instead of using the same packaging. Therefore, CRE adjusted the operating policy to fit the circumstances by focusing on the quality control of each locally sourced raw ingredient.

5.6.1 Current State of Sustainability

In response to research question 1 (“What is the current state (e.g., issues, challenges, gaps and benefits) regarding the environmental sustainability of restaurants in Thailand?”) the participants also discussed the current state of CRE in terms of sustainability, as represented in Figure 5.9.

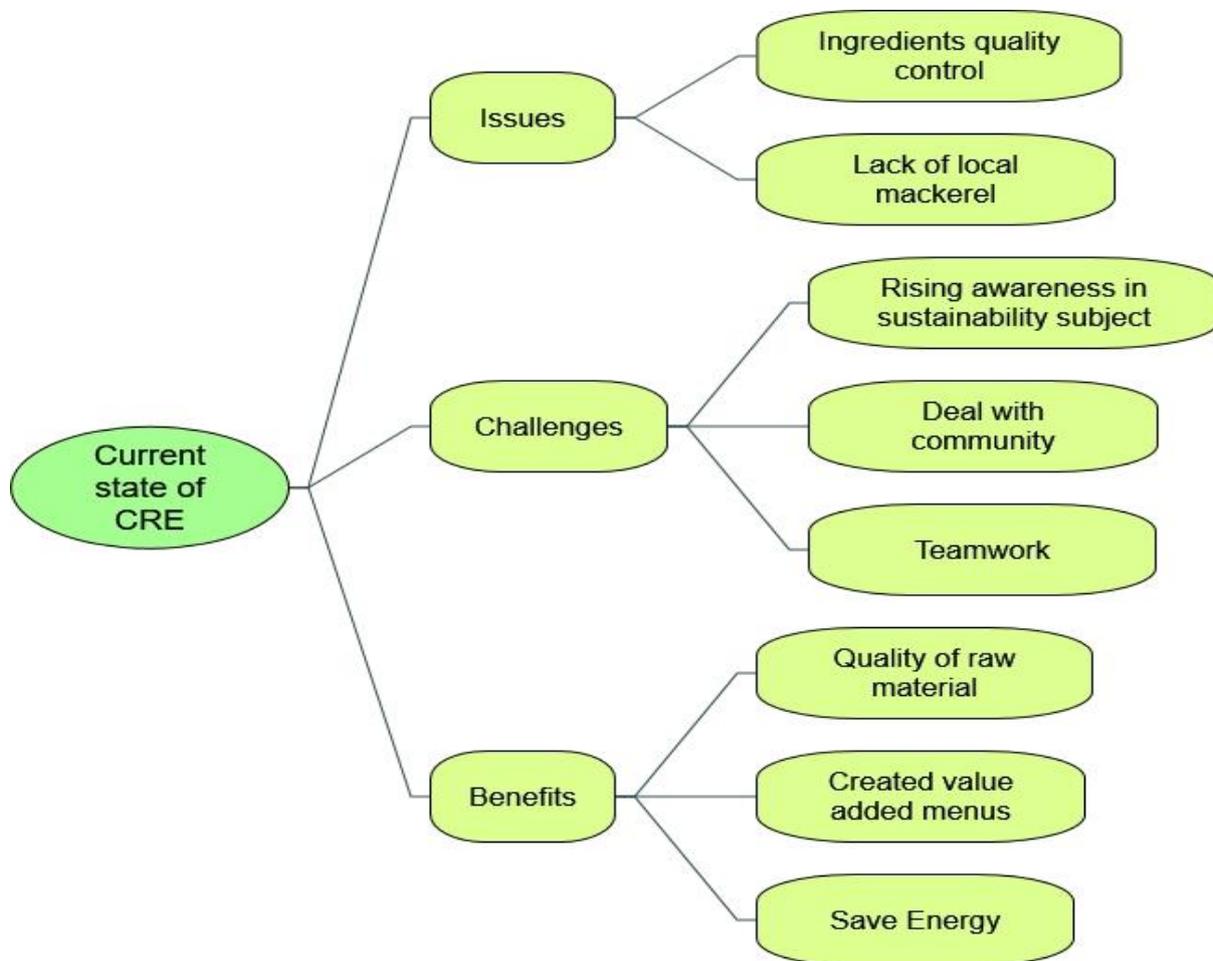


Figure 5.9: CRE current state of sustainability

Issues:

CRE's main issues hindering implementing environmental sustainability were ingredient quality control and lack of local, sustainable mackerel sources. In terms of controlling raw ingredients, especially fish, meat and vegetables that suppliers delivered to CRE every morning, the head chef also explained that the kitchen team checked the quality of ingredients every day because the raw ingredients came from various origins and were unstable. For example, various vegetables had to be checked for freshness and colour intensity to ensure there was no issue with pesticides. If the colour was abnormally dark, it could be assumed that they had been contaminated by the pesticide and these inferior raw ingredients would be returned. Other issues for CRE were the local, sustainable mackerel problem; the respondents found that it was difficult to source local mackerel from fisheries because the local ecosystem had been destroyed; therefore, all of the mackerel product they used was imported.

Challenges:

The biggest challenge in implementing sustainability was people; the participants mentioned sustainability guidelines at CRE such as using different raw ingredient scraps or saving water by using container. However, there were always problems with each practitioner's awareness of sustainability issues as they had different knowledge levels and experiences, which resulted in a lack of efficient teamwork. Therefore, a standard policy to drive sustainability in the community was essential. CRE respondents mentioned the sewer management system, which connected with development site areas. The participants explained that restaurants usually have grease traps to collect all the fat that needs to be removed on a regular basis, but instead, they had found a blockage of the sewer systems affecting the entire site because some businesses had neglected to manage their grease traps.

Benefits:

CRE respondents believed they received many benefits from implementing sustainability in the restaurant. They had an arrangement that provided locally sourced and seasonal seafood products. The restaurant was cleaner as a result of the products being organized systematically, creating a value-added menu, and promoting the organisation's image. Furthermore, CRE also reduced energy consumption and used concepts to design and decorate the restaurant areas with natural equipment helped them to conserve energy and create a modern atmosphere. The restaurant owner explained his holistic view of the benefits of people with long-term experience in roles within the hospitality supply chain:

benefits of sustainability practice not only occurred to our business but also, resulted in assistance for all stakeholders, particularly in terms of supporting local farmers and fisherman in order to drive sustainable farming by providing them with income and preserving the sustainability of natural resources as well.

5.6.2 Sustainability Supply Chain Management Process

In terms of answering research question 2 (“How sustainable are restaurants in Thailand?”), the researcher demonstrated the supply chain management process at CRE as input, process and output in Figure 5.10.

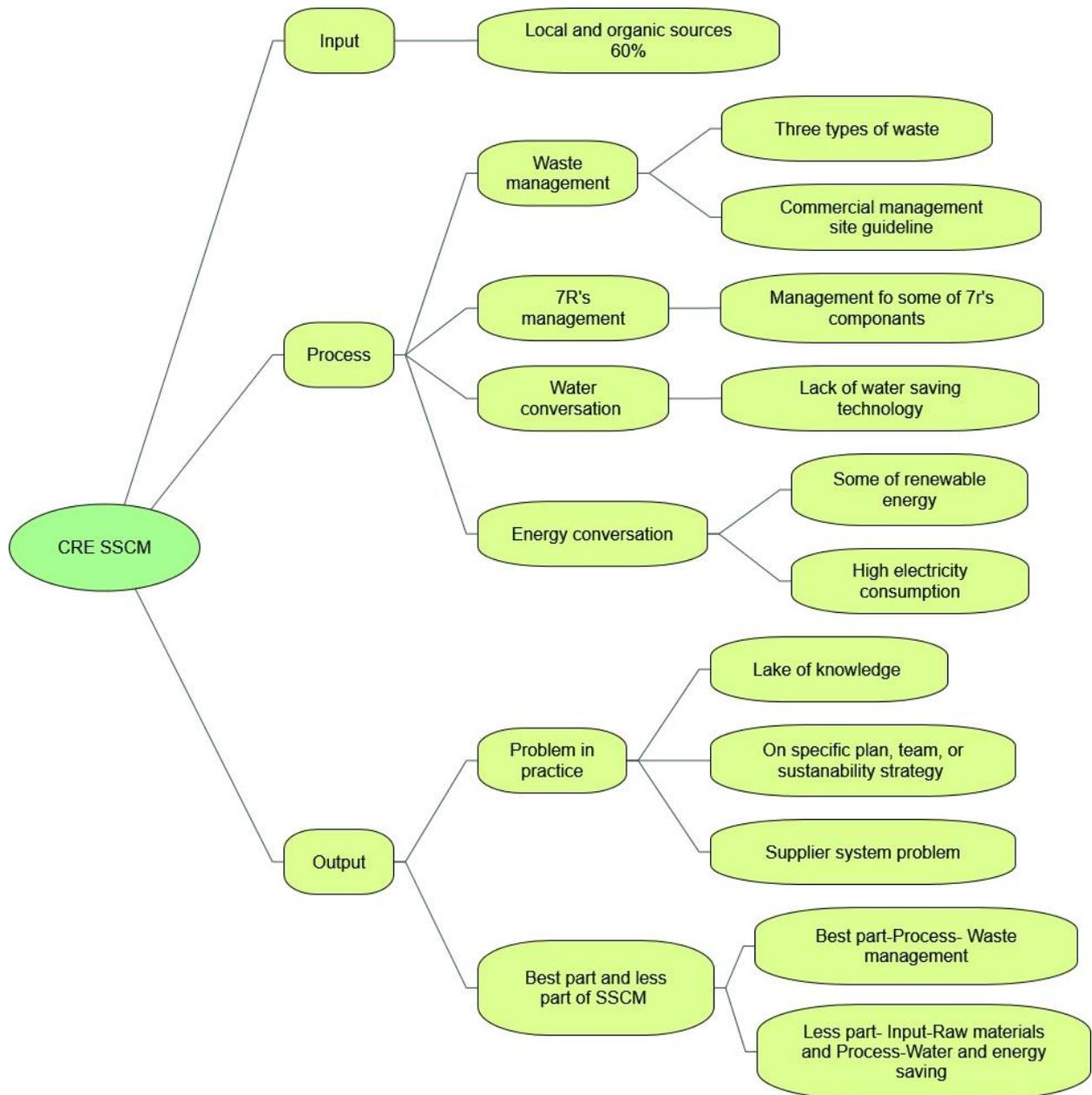


Figure 5.10: CRE Sustainability supply chain management process

Input

The respondents mentioned that approximately 60 percent of their restaurant products were sourced locally or organic. Raw ingredients from the local farm and fishery were delivered via a bus terminal. Then, CRE staff picked up the materials and brought them to the restaurant, with various suppliers and distributors supplying other materials.

Process

Waste management:

In order to manage waste, CRE separated waste into three types – general waste, recyclable waste, and food waste – in the way as the previous companies. Most waste types were separated into collection bins located on the commercial development site. However, some types of recyclable waste were also sold directly to recycling firms by CRE as additional income. The respondents maintained that being located in an area with systematic waste management significantly reduced the burden of restaurant waste management to sorting the waste according to the specified categories and strictly following the requirements of the commercial development site. The kitchen staff mentioned that *“following development site regulations not only makes it more convenient for us managing waste but also, this kind of waste management is much more efficient than what we might manage by ourselves.”*

Water conservation:

CRE adopted a similar approach to conserving water and improving water efficiency as the previous restaurants. The respondents described how they made sure they used the right amount of water to wash raw ingredients by using the water in containers, how they ensured the dishwashers were full before starting the machines, and how they scheduled assessments of water use to maintain an economic water supply. CRE selected products, equipment, or sanitary ware that met standards and regularly checked operating conditions for practical purposes. The participants mentioned they lacked technology to improve water efficiency or sufficient guidelines to achieve efficient water expenditure. However, the head chef also stated that they had *“enough experience and know-how in the culinary discipline to reorganize and improve water efficiency in our restaurant. For example, we prepare containers with water and ice to clean the vegetables to preserve water and keep the material for optimal freshness.”*

Energy conservation:

CRE conserved electricity and gas based on the total amount of energy required to maintain efficient energy use in the organization. The respondents explained their thoughts about electricity consumption from a variety of perspectives: both as long-term restaurant operators and regarding specific duties. CRE was supplied with certificated energy-saving equipment; however, the respondents found that CRE still consumed a lot of electricity as many refrigeration devices needed to be turned

regularly. In order to preserve energy, they scheduled a time to turn the electricity and air conditioning on and off, which was the same method used by other case restaurants. In terms of gas savings, they were the only restaurant that mentioned time and temperature control for safety (TPS), which is critically important for helping any food business protect their customers from food safety risks. Furthermore, some CRE respondents believed these standards helped reduce gas consumption when following the cooking guidance.

7Rs management:

Through managing water, waste and energy use by practising the 7Rs of sustainability, CRE respondents gave examples of various actions and methodologies used in the restaurant. However, the respondents were limited in their understanding of the 7Rs approach. CRE followed commercial development site guidelines regarding managing waste, although they managed some specific wastes separately, such as taking coffee grounds to the community for recycling and selling coconut shells to local factories. The glass house design meant that the branch restaurant provided shade and used natural sunlight to reduce lighting bills. Furthermore, planting trees created benefits by reducing the amount of air-conditioner energy consumption.

Output

Problems in practice:

In order to answer the research question “How sustainable on a scale of 1-10, from an environmental perspective, do you believe your restaurant is?”, CRE returned an average score of 6.8. The respondents also explained the problems with a specific plan, team, or strategy when practising sustainability. Therefore, the operation could only be carried out in ways that allowed CRE to respond to environmental conservation and sustainability practices without goals, systematic monitoring or evaluation. Furthermore, increasing the proportion of local and organic ingredients in the operation, and especially meat products, was also tricky as finding a source of raw ingredients and managing supply chain operators was difficult. The restaurant manager described the issue as “*currently, the lack of free-range meat materials in our food system, not only for the production service in the hospitality business but also, a reduction in household consumption.*”

Best part and worst part of sustainability supply chain:

As a member of the commercial development site that offered benefits to CRE in waste management, allowing them not only to manage waste effectively but also to represent themselves as part of the systematic waste management in the community. Most of the CRE participants mentioned that waste separation was the best part of the restaurant’s sustainability practice. However, there were a variety of respondents’ perspectives regarding restaurant activities that were less sustainable because input processes had to be improved to increase the number of local raw ingredients or local products.

Furthermore, restaurant processes still lacked a systematic programme of water and electricity conservation.

5.6.3 Restaurant Practice and Framework Contribution

Table 5.6: CRE’s perspective on sustainability best practice and framework

Key Theme	Element	Key perspective
Restaurant Best Practice	Key activity	<ul style="list-style-type: none"> • enhance sustainability knowledge • waste separation • stakeholder’s sustainability roles
	Best way	<ul style="list-style-type: none"> • policy • practice • coaching
	SSCM	<ul style="list-style-type: none"> • people knowledge and awareness • organic and local product • stakeholders
Sustainability Framework	Key focus areas	<ul style="list-style-type: none"> • restaurant practice • farmers • fishers • community • distributors • government regulations
	Enablers	<ul style="list-style-type: none"> • expertise • specific knowledge in practice
	Barriers	<ul style="list-style-type: none"> • lack of supply chain knowledge • farmers’ attitudes to chemicals and pesticides • off-season fisheries
	Quick win and long-term win	<ul style="list-style-type: none"> • restaurant guidelines • work plan • continue to improve

Best Practice

In terms of driving restaurant sustainability to accomplish best practices, research question number 3 is represented below.

Key activity:

CRE respondents presented various opinions on the key activities that were essential for implementing sustainability in the restaurant, from their experiences and positive perspectives. Enhancing knowledge of sustainability was the main key activity to sustain achievement at CRE. In addition, the participants argued for measurable goals to measure the restaurant's ability to achieve environmental sustainability by adding regular tasks to the job descriptions for all roles. Waste separation was mentioned as a regular essential best practice that engaged with sustainability and should continue to improve in CRE. Furthermore, other stakeholders should adopt roles as sustainability professionals by promoting the growing number of organic raw ingredients, and producing more environmentally friendly products, such as takeaway boxes, straws, and cleaning products.

The best ways:

In terms of the best ways to implement sustainability in CRE, the respondents focused on the business owner. They commented that if the owners were aware of sustainability, sustainability policies would have been set in place for all employees to act on. Furthermore, they commented that the issue of environmental sustainability was unique. There were no specialists in this field to enhance knowledge and thereby be very responsive to environmental issues.

In order to reach a higher sustainability goal, ongoing training and continuous improvement by sustainability experts was required.

SSCM:

CRE participants' views about preventing negative environmental impact throughout Thai restaurants' supply chain processes represented a perspective and way of thinking no different from the previous companies. The primary function for achieving sustainable success is to provide knowledge and awareness for people in society to drive sustainability nationwide. One respondent's idea was to promote organic raw ingredients and local quality products to benefit communities in terms of strengthening farmers' income and promoting food safety. Furthermore, the cooperation between stakeholders is the critical element to cement success in the hospitality sector. The respondents also mentioned contributing to sustainability throughout the restaurant supply chain to farmers, the community, government, and manufacturing firms. Additionally, they stated that using public relations media and continuously campaigning for sustainability with the general public is essential to achieving sustainability.

Framework

Following on with research question 4, from the CRE respondents' perspectives, a framework or model could be developed and used to encourage best practice in terms of restaurant sustainability, as shown below.

Key focus area:

In order to improve environmental sustainability in Thai restaurants and their supply chain, CRE respondents mentioned various key focus areas that should be addressed to develop sustainability throughout restaurant supply chain. Most of the respondents maintained that educational and supervision activities for practising sustainability in restaurants were significantly likely to achieve the goal. However, external factors influenced environmental sustainability throughout the supply chain; therefore, farmers, fishers, the community, distributors, and government's regulations are key focus areas to illustrate a vital role in supporting this conversation.

Enablers and Barriers:

From the CRE respondents' perspective, enhancing RSSCM in the country represented determination and expectation from the practical experience both in terms of success to accomplish the mission and an intricate part of the organizational achievement. They mentioned that an agency that continuously shared knowledge with the restaurant operators that led to serious practice throughout the organization would significantly support and enable environmental sustainability. Otherwise, the specific knowledge regarding practising environmental sustainability in restaurants needed to be fulfilled by expertise in particular areas. Lack of supply chain knowledge and short-term planning views were also main barriers blocking RSSCM. Farmers' attitudes towards using chemicals, off-season fishing that destroys natural resources, or the attitudes of some restaurant operators who only consider business costs rather than the environment were also significant challenges for SRSCM growth.

Achieving sustainability:

CRE also used its history, management experience and supply chain knowledge to identify RSSCM. In order to involve environmental sustainability in quick succession, CRE respondents stated, operational guidelines for all employees should be treated as part of their regular duties. On the other hand, generating a long-term win requires a systematic work plan and continuous practice improvement.

5.7 UK Case Restaurant A (UKCR)

UKCR was a restaurant serving traditional Thai cuisine located in the UK that had been a family business since its establishment in 2008. The owner had the opportunity to extend the business into multiple locations throughout their time in the hospitality business. Currently, UKCR has 20 restaurant branches all around London and other cities in the UK.

The owner herself was born to a farmer family in Thailand and thus she had first-hand experience of and understood Thailand's local raw ingredients. Over a long period of culinary involvement, the restaurant owner developed the necessary knowledge and skills to drive the business, both as the restaurant operator and, more intensively, as a chef of Thai cuisine. In order to serve traditional Thai recipes, UKCR was directly in contact with Thai farmers and producers to source the right Asian ingredients and UKCR had continued to maintain a working relationship with their Thai suppliers. The sourcing team, led by the owner, also travelled regularly to Thailand in order to find good quality local ingredients from specific areas and personally examine the quality of the product.

Towards the end of 2015, one of the UKCR branches became involved in an SRA programme to develop sustainable menus. In line with UKCR's perspective of driven and expanded environmental sustainability, they passed the knowledge about sustainability across the other restaurant branches. Investigating the specific details of the evolution of sustainability in these culinary menus led UKCR to a deep awareness of the sourcing of sustainable ingredients as well as a commitment to high environmental standards and buying as much local produce as possible to support UK and European producers. In 2016, UKCR set up long-term supply continuity contracts with supply chain partners and took advantage of participating in the production of unique ingredients and sauces. UKCR worked directly with Thai farmers who supplied "jasmine rice", "tamarind paste", "coconut milk", and "fish sauce". Moreover, they sourced sustainable craft beers in East London and soft drinks from fair-trade suppliers. UKCR's owner mentioned that *"we know that most customers come for our super-fresh Thai cooking rather than our sustainability credentials, but it is always good to know that when people are eating at our restaurants, they are helping us to support farmers, encourage fair employment practices, purchase positively and responsibly and others sustainability commitment."*

5.7.1 Current State of Sustainability

Defining: UKCR respondents defined environmental sustainability in terms of

Figure 5.11 shows UKCR respondents' perspectives regarding the current state (e.g., issues, challenges, gaps and benefits) of restaurants in Thailand regarding environmental sustainability, in reference to the answers to research question number 1.

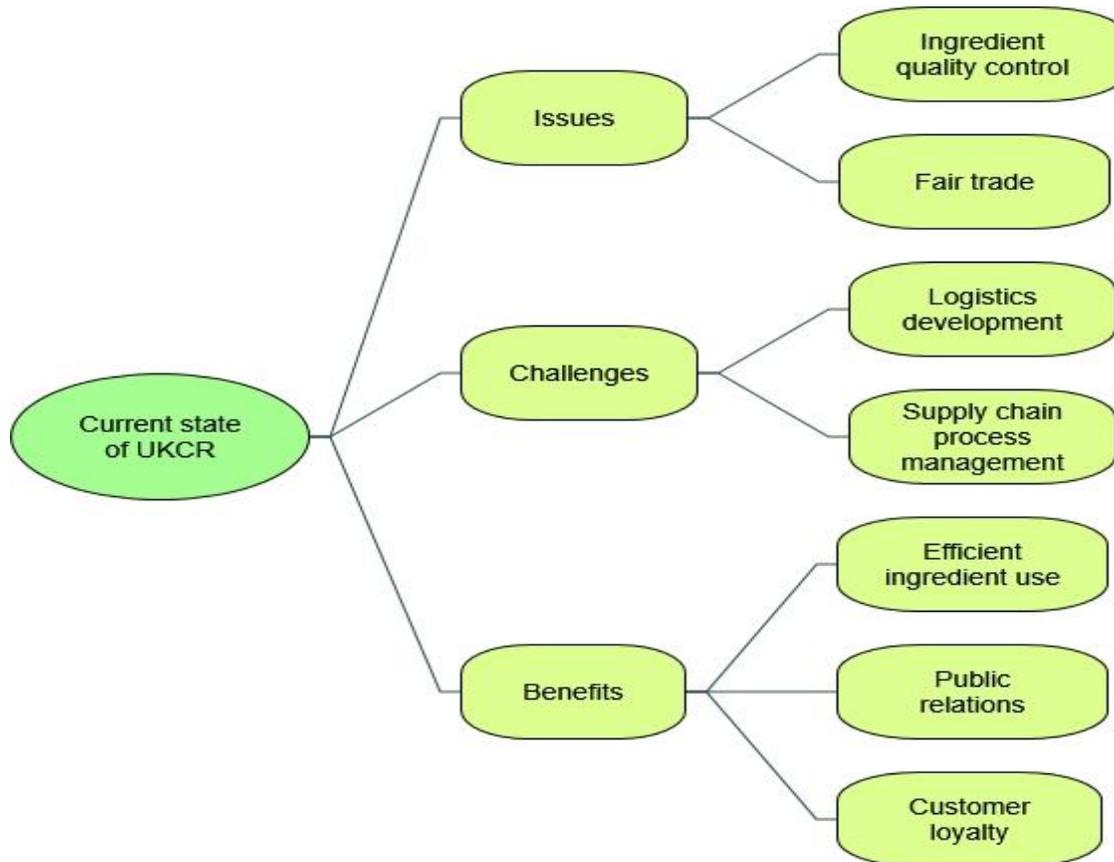


Figure 5.11: Current state of UKCR

Issues:

The current issues that UKCR face in implementing environmental sustainability are shown as two significant issues: ingredient quality control, and expanding fair trade sustainability. Attending the sustainability programme with SAR resulted in UKCR developing sustainability in all its branches, such as adjusting the sustainable menus, switching to low-carbon-footprint beverages, increasing organic ingredients, and using recycled cooking oils. Since UKCR operated 20 restaurant sites, improvements needed to be made to the sustainability of the supply chain. However, UKCR also faced the problem of dealing with ingredient quality control because there was a variety of raw ingredients being used and a lack of efficient management of ingredient variation. Another concern in terms of sustainability implementation was the extension of fair-

trade zones. The respondents concluded that collaborating with local Thai farmers to improve further and monitor the quality of raw ingredients demanded long-term commitments; moreover, it took a long time to comply with the market requirements. There were barriers, therefore, hindering extending the ties with new local suppliers.

Challenges:

The key challenges for implementing sustainability at UKCR were the logistics development system and supply-chain process management controversy. Running 20 branches, UKCR faced a complex logistics system with a wide range of materials that was difficult to control. Analytical logistics management knowledge gathered across various channels was often carried out in order to prioritize different problems. Moreover, raw ingredient sources, production processes, food miles and carbon footprint that occurred in other distant countries led to UKCR closely monitoring the quality of ingredients while controlling ingredient production and paying attention to transportation processes. Due to the extended supply chain consisting of cross-continent or international suppliers, it was highly challenging to find any statement that would generalize the company.

Benefits:

UKCR respondents believed they received the main benefits from implementing sustainability: efficient ingredient usage, good public relations, and customer loyalty. In terms of managing ingredients, the usage plan brought many benefits to developing new menus and reducing food waste in the operations system. Involving the developed sustainability menus programme provide by SRA meant UKCR simply took advantage of improving sustainability sources along their supply chain. Associative sustainable practice was essential to enhance public relations across various media. UKCR also created several stories for their customers and the general public. For example, UKCR invited UK journalists to travel to Thailand to visit the where the ingredients were sourced and to inspect the condiments production process. The respondents mentioned customer loyalty, which they had long-term experience of in the hospitality sector, ensuring transparency in where the food originated, raw ingredients, and production processes before food is served to inspire confidence and trust among their customers.

5.7.2 Sustainability Supply Chain Management Process

Figure 5.12 represents the UKCR participants answers to the question “how sustainable are restaurants in Thailand?”, which were divided into three main dimensions of the supply chain management process: input, process and output.

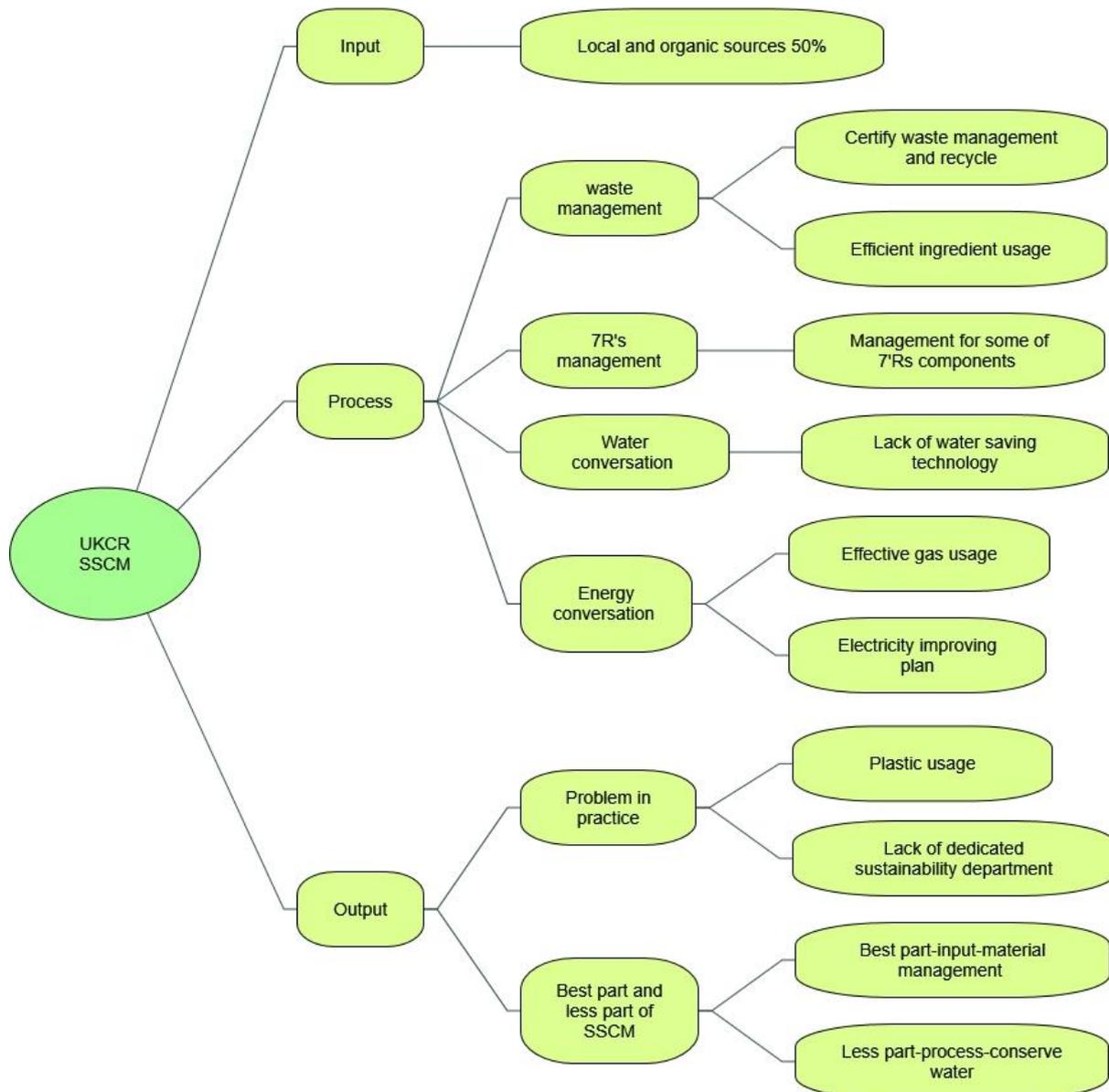


Figure 5.12: UKCR Sustainability supply chain management process

Input

Approximately 50 percent of products were sourced locally or organic, the most prominent ingredients sourced from various regions in Thailand being jasmine rice, tamarind paste, coconut milk and fish sauce. In contrast, meat and vegetable products were supplied by UK distributor services. Regarding sourcing local UK materials, UKCR respondents mentioned a wide range of available categories and products provided by various suppliers. UKCR sourcing specific organic materials from SRA products list to ensure sustainability and quality product criteria. Moreover, demand for organic or free-range products that meet European standards was entirely down to reliable sources, according to the delivery methods that complied with all emissions controls and other transport arrangements under the Management of Health and Safety at Work in the UK and European region regulations.

Process

Waste management:

Like the previous case studies in Thailand, UKCR respondents mentioned three ways of managing different types of waste in the restaurant: general waste, recyclable waste, and food waste. However, all waste operations are diversified from the standard guideline from both public and private sector partnerships. Managing food waste and recycling garbage involved different arrangements depending on the locale of each restaurant site. In some areas, waste management companies also handled most of the disposal for other managerial purposes, while some restaurant branches followed Council guidelines in order to deal with all types of waste. Furthermore, UKCR developed an efficient ingredient usage programme in restaurant branches: for example, planning to use all aspects of raw ingredient to reduce food scraps and efficiently trimming menus to serve customers and employees' meals.

Water conservation:

Regarding conserving water and improving water efficiency, participants complained about the lack of an excellent method to conserve water. In this way, they tried to practice water economy in order to conserve water to clean everything. Nonetheless, in terms of cooking, the effort still represented poor efficiency in saving water and energy. The head chef also maintained that with Thai cooking, especially in the wok areas that require stir-frying and wok cleaning every time, they still needed to keep the water tap on. The marketing manager added to address this issue that UKCR would shortly be planned and operating to conserve water under the supervisor of the SRA.

Energy conservation:

To answer the question, "what types of things do you do to conserve energy (e.g., gas, electricity) and improve energy efficiency?", UKCR respondents explained that conserving gas was a common method of practising sustainability, using gas sparingly

to best benefit the business. In order to use electricity, economic improvements can be achieved, such as using automatic lighting in bathrooms and kitchens, using LED bulbs that a mobile phone can control. However, electricity usage in operating the whole freezers also consumes a lot of electrical energy because the standard temperature must be maintained for the large quantities of each material.

7Rs management:

The respondents were identified to rethink, refuse, reduce, repurpose, reuse, recycle and rot from the perspective of positive and long-term experiences, something that could be maintained over the long run with continuity and minimized cost. As UKCR used 7Rs sustainability development goals in some practices, they also continued to enhance 7Rs practices in relation to waste and energy used. However, there was still a lack of technological methods in the role.

Output:

Problems in practice:

UKCR had improved environmental sustainability in many areas, such as developing sustainability menus, supplier system improvement, and develop sustainable partnership. Nevertheless, the respondents encountered several controversies about sustainable space being incorporated as a formal plan. The significant problems for UKCR practising sustainability were plastic usage and the lack of a dedicated department for a monitoring system. Since UKCR services included a lot of deliveries, plastic boxes were used to contain food for a large number of them. They also planned to switch to biodegradable packaging to reduce both plastic and their carbon footprint; however, UKCR faced practical packaging problems as all food needs to be thermally preserved and potential leakage prevented. The lack of a dedicated sustainability management role (a head of sustainability position) was also a significant concern. They resulted in discrepancies or other inefficiencies at the assessment level due to a lack of institutional leadership to constantly strengthen and develop innovation. However, the marketing manager maintained that “*throughout the sustainability operation, we have achieved satisfactory development and progress, both in terms of internal performance and customer satisfaction.*”

Best part and worst part of sustainability supply chain:

The best sustainability part for UKCR was also mentioned in the input process, as SRA membership meant UKCR cooperation with the SRA teams in terms of develop sustainability into UKCR. They started the current investigative situation then collaborated to develop the menus in all of the SSCM processes. Communication, collaboration and information sharing with suppliers and supply chain partners were also advised. As a result, UKCR improved the input process in order to achieve sustainability across the business groups. On the other hand, the less sustainable

process was water conservation. Water efficiency would be shown as a future corporate plan with SRA in an attempt to continually improve sustainability functions.

5.7.3 Sustainability Supply Chain Succeed Model

There are two research questions to answer here: research question 3, “What is ‘best practice’ in terms of your restaurant sustainability in the UK?” and research question 4, “What framework or model could be developed and used to encourage best practice in terms of restaurant sustainability in Thailand?” The respondents’ replies regarding key perspectives are shown in Table 5.7

Table 5.7: UKCR’s perspective on sustainability best practice and framework

Key Theme	Element	Key perspective
Restaurant Best Practice	Key activity	<ul style="list-style-type: none"> • in-house training • collaboration with suppliers and partnerships
	Best way	<ul style="list-style-type: none"> • sustainability policy • communication building • teamwork
	SSCM	<ul style="list-style-type: none"> • integrating between firms • SSCM management programme
Sustainability Framework	Key focus areas	<ul style="list-style-type: none"> • traceability • efficiency supplier management programme • government regulation
	Enablers	<ul style="list-style-type: none"> • government • SRA • People’s awareness
	Barriers	<ul style="list-style-type: none"> • personal motivation
	Achieving sustainability	<ul style="list-style-type: none"> • specific plan • attending SRA programme • continually setting high level goals
	Specific legislation and guidance	<ul style="list-style-type: none"> • SRA • government

Best Practice

Respondents maintained restaurant sustainability was the best practice in the UK in the three elements: key activity, the best way, and SSCM process.

Key activity:

Both internal and external factors are shown as key activities essential to respondents' views around implementing sustainability. In-house training was mentioned as a majority process to driven environmental sustainability. Enhanced knowledge and participation with staff from all departments leads to restaurant sustainability improvement. Furthermore, collaboration with suppliers and business partnerships were described as essential activities to be used. Owing to their UKCR experience in collaborating with farmers, suppliers, and distributors in their supply chain, the respondents believed that UKCR and other stakeholders would benefit from extending sustainability implementation.

The best ways:

Sustainability policy was presented as the best way to achieve sustainability in the restaurant, from UKCR respondents' perspectives. Including sustainability policy within the restaurant into job descriptions together with adjustable sustainability roles would also benefit sustainability practice. Furthermore, the guideline and regulations could be adjusted throughout the extended supply chain process to improve the operation of a wide variety of sustainable activities. Another best way to practice sustainability in the UK was communication building. Participants concluded that two-way communication is crucial for implementing sustainability activities in the bottom line and for feedback. In addition, UKCR mentioned that effective communication in restaurant operations and cooperation through the supply chain is crucial for sustained business adaptation. For example, the restaurant manager maintained the importance of communication to the kitchen staff, saying that "adjusting new ingredients into traditional products is complicated and unfamiliar; hence, clearly communication for the purpose and benefits of contemporary ingredients allow us to work effectively". Finally, teamwork was argued as a cooperative process that complemented other's skills and was committed to team success. UK respondents believed that teamwork skills consisted of interlacing abilities in order to work more effectively in an organized group. There were team members with experience of conflict resolution regarding the team effort, which generally happens in a fast-paced workplace.

SSCM:

Integration sustainability between firms and SSCM development programmes were mentioned as the key elements in order to drive sustainable restaurants in the UK and succeed in preventing negative environmental impact throughout supply chain processes. Public and private sectors working towards environmental sustainability in

response to the global trend and people's environmental awareness leads to sustainability cooperation enhancing into wild areas, including hospitality. The UK government provided specific guidelines to promote sustainability within restaurant supply chain management; therefore, the integration sustainability efforts between firms also extend continually. According to SRA and other sustainability groups, supporter firms have developed sustainability tools and implementing programme to advise restaurants in the UK and worldwide.

Framework

To encourage best practices in terms of restaurant sustainability in Thailand, UKCR participants described a framework or model that could be developed to accomplish sustainability, as follows.

Key focus areas:

In UK restaurants and their supply chains that must be addressed to improve environmental sustainability in Thailand were described by the UKCR respondents as three main components. Traceability was the essential element yet to be developed in Thailand. Usually, goods or services in UK restaurants can be traceable to the original location and source of each ingredient production methodology from farm to table. In addition, the UK catering issues of ethical conduct, food allergies and gluten-free played a vital role in the restaurant's menu development. Unlike in Thailand, the hospitality sector was still struggling which backward product information that was non-traceable. Another key focus area was the efficiency supplier management system, which also provided competence documentation and capability of sustainability ingredients, beverages and restaurant equipment. Further government regulations were recognized as a major critical administration in improving environmental sustainability that Thailand must address.

Enablers and Barriers:

To achieve environmental sustainability, the best practices at UKCR indicated the three critical enablers: the government, SRA, and public awareness. The participants argued that to operate a food business, authorized officers from the local council would inspect the restaurant premises to check all meets the required food safety and food hygiene guidelines. The UK Food Ethics Council enabled a food system related to animal welfare, environmental protection, and workers' rights to guide food business operations. Furthermore, the Food Industry Sustainability Strategy (FISS) policy is that widespread adoption of best practices across the food supply chain encourages the hospitality business to achieve sustainable development. One of the key sustainability drivers was the SRA; attending the SRA menu development programme allowed UKCR to become adept at sustainability activities. Another critical enabler driving sustainable restaurant best practices was public awareness. Participants stated that customer perception and concern for the environment directly affected internal improvements to sustainability, both in terms of encouraging the business to adapt to environmental operations and supportive, sustainable consumption. On the other

hand, personal motivation was mentioned as a barrier and obstacle. Respondents also explained why they devoted so many resources to driving sustainability activities while only reaching a minor accomplishment.

Achieving sustainability:

In regard to achieving rapid environmental sustainability at UKCR, the respondents referred to specific sustainable plans and attended the SRA programme as a member. In order to maintain the longevity of environmental sustainability in the business, UKCR was committed to continually setting high-level goals.

Specific legislation and guidance:

UKCR respondents complied with government-specific legislation and regulations, while SRA guidance concerned meeting environmental sustainability. Following council food business regulations allows UKCR to enhance sustainability activities such as programmes for recycling, food safety and food ethics. Furthermore, attending SRA brought many benefits in achieving a continuous sustainability business. SRA was a not-for-profit organisation that supported and encouraged members to improve and develop sustainable restaurants and hospitality in sustainability terms. There were many types of operation categories in which members might develop themselves in terms of sustainability through the supply chain. The association collaborated with UKCR to summarize the current state of the operations, audit planning, training, knowledge provision, and supporting information across all areas. Therefore, UKCR could modify the menu and drinks in terms of sustainability.

5.8 Conclusion: Main Themes of Finding

This chapter represented the six different within-case category analyses conducted in this study. The following major themes emerged from the case data analysis of the research themes and questions.

The research study showed various stages of environmental sustainability implementation in all cases. The current issues and gaps occurred in each case depending upon their experience, processes, organizational context, and external factors. Rising awareness of environmental sustainability, enhancing knowledge, teamwork, and practicing in a fast-paced environment were challenges in most restaurant cases in Thailand. Logistics and supply chain management represented the main challenges in practicing sustainability in Thai restaurants in the UK. Nonetheless, all the restaurants were practiced in sustainable development. Respondents mentioned many benefits they perceived in restaurant parts, both in developing the SSCM process and impacting on customer satisfaction.

All the case companies sourced local or organic products; however, there were shown to be a diversity of input products in supply chain management processes and the proportion of product types.

In terms of managing sustainability in restaurants, some restaurant cases found consensus on environmental sustainability, whereas some of them also began their practice without a formal or specific plan. It was found that the case restaurants used a mix of methods to arrange their waste and food waste management. There was a low level of communication, cooperation, integration, and collaboration within the restaurant companies and supply chain partners. Furthermore, lack of sustainability knowledge or water-saving technology, a shortage of technical knowledge to deal with 7Rs components, and improvements in renewable energy policies were represented in Thai case companies. All six cases demonstrated a lack of a dedicated sustainability team or department. However, UKCR operate under environmental sustainability support areas from both professional sustainability organization and government policy. By 2030, the UK government has pledged to a 50% reduction in GHG emissions linked with food and drink consumption in the UK. (WRAPs,2021). Therefore, UKCR can be imply more sustainability through the policy driven to support food and drink operators.

The consequences of sustainable practices in business showed that sustainability improves product input rather than restaurant processes and output.

In order to achieve sustainability best practices, restaurants need to be engaged with sustainability policy and guidelines, specific training plans, collaborations with partners, and regulations to support sustained direction. Furthermore, case restaurants in the UK maintained specific legislation and specialized about environmental sustainability.

Contemplation of developed framework or model could encourage best practice in terms of restaurant sustainability. All the case restaurant companies were directed to various key focus areas through the supply chains that must be addressed to improve environmental sustainability. Government, other stakeholders, and specialized organizational capabilities are shown as critical enablers that drive sustainability value statements. On the other hand, sustainable agricultural development in Thailand has encountered significant obstacles of inappropriate usage of fertilizers and pesticides.

It was found that the case restaurant companies argued that substantial, sustainable practices must be rapidly incorporated into restaurant policies and guidelines, government regulations, and specific sustainability organizations. Respondents believed that continuing practice leads to longevity, viability and sustained operations for a long-term win.

The within-case analysis contributes to a holistic view of the Thai restaurant industry regarding sustainability practicalities and SSMC to the hospitality sector. With various sorts of SSMC activities, the within-case-category analysis was further increased. However, restaurant supply chain stakeholders play an essential role in stimulating the restaurant sustainability exploratory expansion. Therefore, the next chapter will further represent customer perspectives and government measures for restaurant industrial development.

CHAPTER SIX

STAKEHOLDER ANALYSIS

6.1 Introduction

Chapter Five demonstrated a within-case analysis of six case studies. This chapter will now present the analysis and results of the final stage of the research design. The aim of this phase was to validate the accuracy and become more confident of the research outcomes. This section of the thesis involved interviewing the main stakeholders from the government departments related to the research and customers directly associated with the restaurant cases in Thailand. In terms of representing the results, the researcher structured the outline of the results along two main themes. Firstly, the context of customer demographics and perspectives in terms of environmentally sustainable development will be presented. Secondly, the insights from official government respondents from significant hospitality associations and environmental authorities will be discussed.

6.2 Customer Sustainability Views

Understanding a restaurant's sustainable environment is directly related to the customer, a key stakeholder in sustainable development areas. Customer sustainability concerns are more intrinsically connected with the process of balancing restaurant activities. The receptivity of the frontline workforce, price, and food quality influence customer satisfaction (Andaleeb and Conway, 2006). While star classification moderates the association between sustainability attitude and consumer satisfaction, especially when it comes to specific sustainability criteria, (Gerdt et al., 2019). Therefore, this study involved interviewing customers from five case restaurants in Thailand with one customer from each business. Most of the customers who wanted to participate in the study were regular customers of each restaurant. Each client interviewed had a different background in terms of education, career, and personal experience in order to better represent how restaurants are perceived and their awareness of environmental sustainability.

Table 6.1: Customer general information

Customer information	CCRA	CCRB	CCRC	CCRD	CCRE
Gender	Female	Female	Female	Male	Female
Age	45	36	28	38	47
Education	Master's degree	Bachelor's degree	Bachelor's degree	Bachelor's degree	Master's degree
Occupation	Teacher	Soldier	Clothes shop owner	Salesman	Nurse
Customer type	Regular	Regular	Regular	Regular	Regular

As demonstrated in Table 6.1, the five customers being interviewed are considered significant stakeholders in the restaurants and each is coded alphabetically. This encryption technique is therefore used to keep each customer's privacy intact and anonymous. Therefore, the first customer was coded as CCRA (Customer of Case Restaurant A), the second was coded as CCRB (Customer of Case Restaurant B), the third was coded as CCRC (Customer of Case Restaurant C), the fourth was conducted as CCRD (Customer of Case Restaurant D), the fifth was conducted as CCRE (Customer of Case Restaurant E).

6.2.1 Understanding from the Customer Perspective

The respondents continued various conversations with regards to answering research question number 1: “What do you believe is the current state (for e.g., issues, challenges, gaps and benefits) regarding environmental sustainability of restaurants in Thailand, in general?” Figure 6.1 details the participants' views.

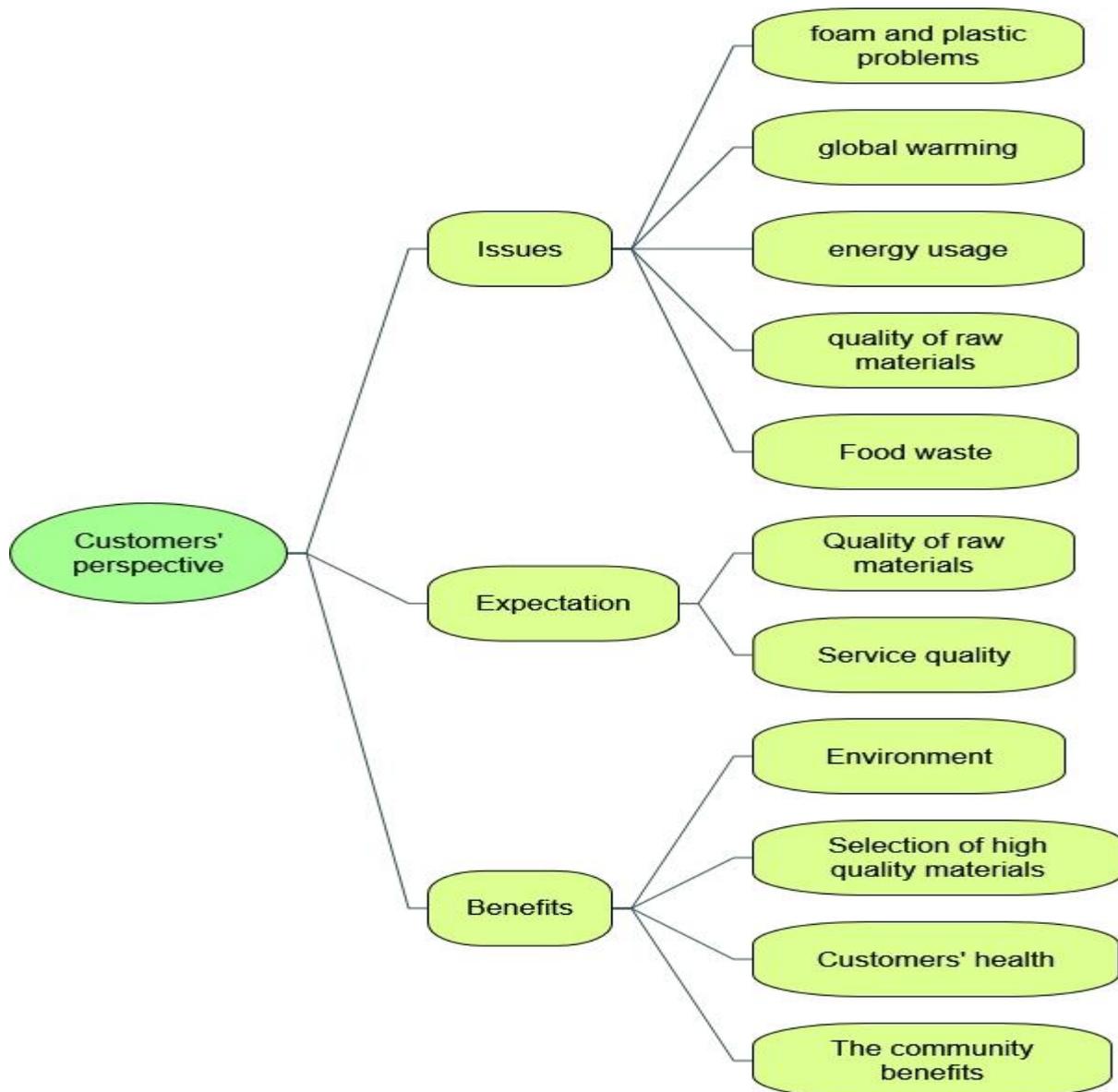


Figure 6.1 : Customers' perspectives of their restaurant's current state of sustainability

Issues:

In terms of current issues regarding environmental sustainability, most of the participants mentioned foam and plastic problems as making up the majority of environmental discourse across wider society. The other issues were also mentioned as significant points of view regarding environmental sustainability such as global warming, energy usage, quality of raw ingredients and food waste. Restaurant respondents also explained that a comprehensive campaign to raise awareness and concerns about environmental issues both in the country and worldwide has influenced consumer behaviour in categorising purchasing choices and service quality. Many restaurants have increased their adaptation to environmental issues over the

years. Especially in reducing the use of plastics, such as replacing the packaging for takeaway from foam or plastic materials with biodegradable equipment. However, when asked about customer satisfaction regarding the restaurant's plastic reduction policy, most of the respondents' opinions represented the customers' responses to the policy were inadequate. Furthermore, they mentioned the large amount of food waste as an urgent problem to address and systematically resolve.

Expectation:

The critical sustainability elements that respondents expect from the restaurant as a customer resemble and incorporate dimensions. Raw ingredients were also mentioned as a significant sustainability component in order to encounter customer needs. Therefore, high quality healthy ingredients and organic and local products are crucial to developing a sustainable restaurant.. Quality of service was also mentioned as one of the essential, elementary aspects of sustainability from the respondents' perspective along with environmentally friendly packaging, good atmosphere without pollution, and cleanliness.

Benefits:

In terms of benefits that the participants believed they received from the sustainable restaurant, there are four main elements: the benefits for the environment, selection of high-quality materials, customers' health, and benefits to the community. Sustainability in a restaurant can bring benefits to the environment, such as reducing pollution, reducing food waste and other types of waste, and producing alternative energy. The respondents mentioned encouraging organic farming and seasonal ingredients that affect consumers in terms of variety and freshness and that directly involve the taste of the food. Furthermore, promoting a large number of sustainable restaurants can also enable consumers to access healthier food that reduces the chance of various diseases. CCRB stated that natural ingredients provide both health and flavour, which encouraged them to be more "comfortable" and "happy" to eat out. Some of the respondents specified that the community supported local farmers and the community's income by promoting sustainable restaurants.

6.2.2 Sustainability Supply Chain Management Process

To answer the research question “how sustainable is this restaurant?” in terms of sustainability, the supply chain management process including input, process and output is shown in Figure 6.2.

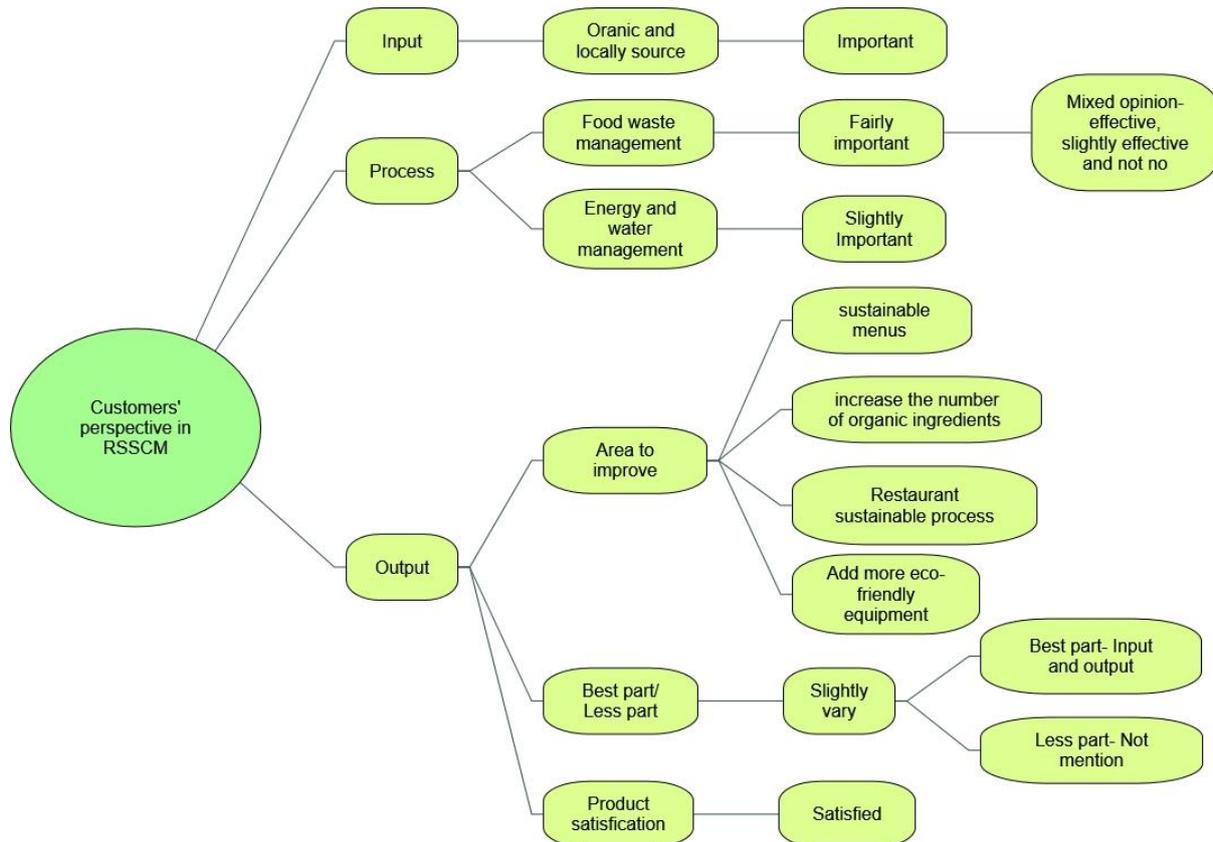


Figure 6.2: Customers' perspectives of the restaurant sustainability management process

Input

Organic and locally sourced:

Most of the respondents from each restaurant case emphasized the importance of the restaurant’s products or sources. In order to address questions about how important it was to customers that the restaurant sources locally and/or organically, the respondents argued that local products and organic sources were an essential component of the hospitality sector not only in terms of non-toxic raw ingredients but of contributing to the conservation of natural resources. In particular, CCRD expected

the CRD ingredients to be consistently focused on healthy menus. Likewise, CCRA was a customer of CRA, a premium class restaurant with continued sustainability practices and a certain level of reputation. As a result, CCRA had high expectations for the service she received both in terms of providing sustainable raw ingredients and outstanding customer service.

Process

Food waste management:

To answer the question of whether the restaurant managed their food waste effectively and to explain why there were various different opinions from respondents, CCRA explained that in her view, CRA was an effective manager of their food waste. CCRA also saw that food waste was broken down into usable food waste then brought to farmers for them to feed their animals. In comparison, CCRC and CCRD considered CRC and CRD slightly effective operators in terms of driving food and solid waste management and recycling. CCRC was uncertain of the details of the CRC's food waste handling process. She only knew that food was separated from other types of waste, pending disposal. Similarly, CCRD knew that the commercial development site managed all the food waste from community areas. Despite this, CRD cooperated to carry out waste separation according to the established guidelines provided by the development site.

Energy and water management:

Most of the participants paid less attention to water and energy conservation in the restaurant because this was rarely relevant to their expectations as a restaurant clientele. Despite this, they also mentioned supporting the conservation of water and energy policy to ensure that these activities positively affect the environment and longevity. CCRB gave her opinion about this controversial issue: "*I think it is slightly important to me as a customer as long as the main restaurant services are still impressive*".

Output

Sustainability score:

On a scale of 1-10, the participants rank the sustainability of each restaurant as follows: CCRA 9, CCRB 7, CCRC 7, CCRD 8 and CCRE 7. The participants' ratings were based on their experience and perceptions of the restaurants' service over many occasions. In addition, each participant had different expectations in terms of sustainable restaurant services.

Area to improve:

Sustainability improvement should be addressed in each case in terms of four main areas as described by the participants. Increasing the number of sustainable dishes was mentioned by most of the respondents. Reducing food waste and creating value-added ingredients for the menus also promotes environmental sustainability in restaurants. Some respondents argued that increasing the quantity of local and organic ingredients was one of the improvement areas because they believed that raw ingredients stood as a significant element in driving restaurant sustainability. Developing sustainable processes into the business, such as alternative energy use or adopting energy-saving technology to enhance sustainability, were mentioned by some of the respondents. Furthermore, increasing the amount of eco-friendly equipment was also addressed in the field of developing sustainability.

Best part and worst part of sustainability:

When respondents were asked for their opinion about which parts of each restaurant they believed are more or less sustainable than others, the answers expressed varied somewhat, even though they came from different locations. Restaurant input seems to indicate some parts are more sustainable than others, whereas the restaurant process indicated there were more minor aspects of sustainability in all restaurant cases. CCRE was the only participant that did not mention these questions, arguing that she could not answer this question because there was insufficient information.

Product satisfaction:

Most of the participants were satisfied with the products and ingredients that the restaurant provided. They maintained that the restaurants' primary products and ingredients were the essential factors that influenced their decisions.

6.2.3 Best Practice and Framework Contribution

Table 6.2: Customers' perspective on sustainability best practice and framework

Key Theme	Element	Key perspective
Restaurant Best Practice	Key activity	<ul style="list-style-type: none"> • local and organic raw ingredients • in-house training • promoting sustainability campaign
	Best way	<ul style="list-style-type: none"> • guidelines • coaching
	SSCM	<ul style="list-style-type: none"> • farmers • suppliers • restaurant • government • integration
Sustainability Framework	Key focus areas	<ul style="list-style-type: none"> • raw ingredients • seasonal fishing • community • food waste management • eco-friendly products
	Enablers	<ul style="list-style-type: none"> • government policy • community • private sector
	Barriers	<ul style="list-style-type: none"> • lack of supply-chain visibility and control • farmers' attitudes to chemicals and pesticides
	Quick win and long-term win	<ul style="list-style-type: none"> • restaurant regulations • knowledge • cooperation between firms

Best Practice

Key activity:

Regarding critical activities that are essential for restaurants and the broader supply chain to drive sustainability, most respondents mentioned three main points: raw ingredients, training, and sustainability campaigns. In the participants' view, enhancing the amount of local and organic sources materials remained the main component of developing sustainability. In-house training and improved knowledge of sustainability for all staff were also significant in enhancing the restaurant's

environmental sustainability. Furthermore, the respondents also mentioned campaigning for sustainability using social media channels to educate and stimulate people in relation to specific activities and general sustainability knowledge. CCRA mentioned the adoption of social media as a controversial means to communicate with most people in this country as a "*powerful tool*" and "*effective method of attraction*".

The best ways:

Most participants believed that evolving restaurants' sustainability would benefit customers and other stakeholders; therefore, the respondents offered various opinions on developing sustainability. The guidelines and coaching categories mentioned the best way to enhance sustainability in restaurants. Enhancing knowledge and skills training for restaurant entrepreneurs and their stakeholders throughout the supply chain would demonstrate that the priorities in sustainability practice are subjective. Restaurants providing sustainability guidance for all departments to allocate work and specific duties should mean all restaurant staff can participate similarly. The respondents mentioned that the development of environmental sustainability in restaurants was relatively unfamiliar to the rest of society; therefore, it requires specific agencies or knowledgeable people to coach and supervise others.

SSCM:

The researcher briefly explained SSCM before asking how the participants thought Thai restaurants could prevent negative environmental impact throughout supply chain processes. In answering the question, the respondents showed enthusiasm and willingness to understand SSCM processes. The farmer was mentioned as the key figure in encouraging suitable ingredients and raw ingredients, followed by suppliers. The restaurant itself and the government also represented essential roles in developing sustainability throughout supply chain processes in the respondents' views. Integration and collaboration between all stakeholders, specifically in government policies supporting sustainability activities, would be crucial; therefore, animal husbandry, fisheries, and organic vegetable cultivation must be promoted widely.

Importance of restaurant sustainability:

Crucially, raw ingredients were the most crucial element in the discourse around restaurant environmental sustainability. The respondents focused on healthy, fresh products and the preparation of a fresh, healthy menu. Furthermore, another portion argued for reducing the amount of food waste. When asked what would determine where they choose to dine and what factors might drive their choice, the participants highlighted the taste of food, friendly atmosphere, service quality, and parking areas.

Framework

Key focus area:

Raw ingredients, seasonal fishing, community focus, food waste management, and eco-friendly products were highlighted as key focus areas to improve environmental sustainability throughout the restaurant supply chain. Promoting organic farms and developing local agricultural farming to reduce the use of chemicals or pesticides were mentioned as crucial roles that must be addressed in order to improve environmental sustainability in the country. The participants argued that off-season fishing destroys

the natural environment and reduces the abundance of marine resources. In addition, natural resources management, eco-friendly product development, and bringing food waste into animal farm were mentioned as ways to generate community income and improve quality of life.

Enablers and Barriers:

In terms of the key enablers and drivers needed to achieve environmental sustainability, the participants' views of best practices were divided into three main components. Government policy was shown as the most significant function driving sustainable development in specific activities and, more generally. The respondents strongly believed that regulation was a principal role of statutory guidance. Furthermore, the community and private sectors were also mentioned as critical enablers advocating sustainable production systems and encouraging sustainability in supply chain activities. Lack of supply chain visibility and control and farmers' attitudes toward chemicals and pesticides were also significant barriers.

Quick win and long-term win:

To achieve environmental sustainability in Thai restaurants, a sustainability policy is represented as the faster way to operate sustainability practices. Furthermore, the restaurant owner was described as the key success factor in increasing an enterprise's sustainable development. Maintaining longevity sustainability throughout the restaurant supply chain requires continuously enhancing knowledge and cooperation between firms.

The research results on government measures for restaurants' industry development in terms of sustainability and general present in the following section.

6.3 Government Measures for Restaurants' Industrial Development

The current stage of the hospitality industry, government policy, and regulation and guidelines in the context of the food and restaurant sector will be analysed using the information provided by government officials who were directly responsible for this area. One of government respondent was a senior officer in a position at the Bureau of Food and Water Sanitation (BFWS) at the Department of Health (DH), which was related to the Ministry of Public Health (MPH). Another participant was an authorized government officer from the Department of Environmental Quality Promotion (DPQP) belonging to the Ministry of Natural Resources and Environment (MNRE). The government formulated a series of policies as institutional support to develop and advance the required knowledge for restaurant operators. The government's response generally was to follow the direction of protecting legitimate business interests.

6.3.1 Entrepreneurship Policy Support

Respondents explained that BFWS was responsible for setting up rules, regulations and guidelines for supervising food-product entrepreneurs and restaurant operators. Moreover, the department authorized the promotion and support of local authorities in order to effectively control and supervise local food entrepreneurs. For this thesis, Bangkok, the capital city of Thailand, was selected as a specific area of study. Therefore, all five of the Thailand case restaurants operated under the supervision of the Bangkok Metropolitan Council. Respondents argued that local councils were prominent supporters of food sanitation systems that granted entrepreneurs permission to operate in the city as well as building up their knowledge, and evaluating and certifying the local restaurants.

At the time of the interviews, numerous hospitality operators operated without permission. Various types of food establishments in Thailand meant there were different types and sizes of business, such as premium restaurants, large-sized restaurants, medium-sized restaurants, small-sized restaurants, street food and hawker stalls. The legislation, guidance or regulations applying to this type of business varied according to the nature of the business. Therefore, a number of operators, especially small business entrepreneurs, lacked enough knowledge to understand the rules, regulations, and business processes. However, the respondents maintained that the government does not focus on law enforcement or punishment but rather on supporting and developing entrepreneurs' ability to comply with the rules and regulations, leading to an application for a food business licence from the local authorities.

When asked about the levels of food hygiene and food safety in Thai restaurants, the senior government officials concluded that the government department also provided laws and regulations to govern restaurant operators. Furthermore, BFWS had approved the use of GREEN standardization as a means to monitor restaurant improvement strategies. He explained the acronym: G was for garbage; R, restroom;

E, energy; the second E was environmental; and N for nutrition. The intention was to develop restaurant operators to meet the required standard of sustainability knowledge in each area, with KPIs for each level. For example, operators who operate their business without meeting the basic standards would need to improve before they could request a license, then the licensee will continue to be developed to move towards higher standards. In addition, over the past several years, BFWS have organized food hygiene courses that include a standard training curriculum for restaurant staff. At the end of 2020, the government enforced a law requiring restaurant operators to pass such training courses in order to raise the general standard of food business operations.

In terms of supporting a restaurant in Thailand to encourage environmental sustainability, the government established both a broad decision and proactive measures by integrating government agencies to lead to effective and efficient actions.

The regulations supporting restaurant operators with environmental projects are shown in Table 6.3.

Table 6.3: Environmental sustainability regulation and campaign

Development issues	Details of improvement areas	Regulations and campaigns
Raw ingredient	<ul style="list-style-type: none"> • meat • vegetable 	chemicals and pesticides control
Standard packaging	<ul style="list-style-type: none"> • food packaging 	Thai industrial standard Food and Drug Administration
Campaign to stop using Styrofoam and plastics	<ul style="list-style-type: none"> • packaging • contains food packaging 	various campaigns
Waste management	<ul style="list-style-type: none"> • general waste • recyclable waste • food waste 	food sanitation training

Raw ingredients:

The government sector focused on the development of food safety. Therefore, there were laws and regulations to regulate the safety standards for food ingredients. The participants mentioned regulation of meat production in terms of quality and safety standards and control of red meat accelerators, which was supervised by the Department of Livestock Development (DLD). Supervision of raw ingredients, vegetables and fruits and safety standards for chemical usage was managed by BWSF. There was also a training course for entrepreneurs to learn how to select quality raw ingredients and hygienic cooking processes.

Moreover, the department was authorized to inspect more than 2,000 fresh markets to ensure they met the safety standard requirements in more than 1,800 locations nationwide. Other fresh markets were under the supervision of a government agency; for example, agricultural markets were supervised by the Ministry of Agriculture and Cooperatives (MAC).

Standard packaging:

In terms of controlling food packaging and other packaging production, the government approved specific legislation and allowed the industrial product standards logo to indicate acceptable quality for domestic products. Furthermore, the Thai Food and Drug Administration (FDA) authorized consumer protection and protected public health from consuming harmful foods and pharmaceutical products. In most cases, restaurants reported that the production costs of compostable packaging were more expensive than the available standard products. The government participants provided further information about BFWS arranging support and promoting the integration of entrepreneurs to incorporate a network with bargaining power against eco-packaging manufacturers to push for lower unit-cost packaging. Currently, there are several incorporated groups of entrepreneurs such as the Thai Restaurant and Street Foods Association.

Stop using Styrofoam and plastics campaign:

The context of social trends has influenced the determination of various roles in Thai society; therefore, law enforcement was often ineffective, creating content for the campaign to raise awareness of environmental responsibility. The campaign to stop using Styrofoam and reduce the use of plastic has continually received contributions from various campaigns. Nonetheless, the campaign demonstrated that a long-term promotion can produce evidence of tangible results. It can be seen that at present, entrepreneurs and the general public are increasingly aware of the discourse around plastics and Styrofoam in terms of ongoing campaigns and people perceiving global environmental trends.

Waste management:

The government participants provided information that ministerial regulations stating restaurant businesses must undergo sanitation courses remained mandatory. The compulsory training provided essential knowledge regarding hygienic waste management, both in wastewater disposal disciplines and waste management instructions, especially in waste separation practice.

Conversely, however, there was no concrete system or specific guidelines for dealing with the sorted waste in terms of practical implementation. The competent management of categorized waste management and recycling largely depended on the independent potential of each operator, their knowledge or the operating network.

6.3.2 Trajectory of Restaurant Sustainability Processes

Participants answered questions about developing a curriculum to enhance restaurant entrepreneurial knowledge and engage with sustainable development as the ministerial regulations already placed great importance on environmental conservation and sustainable development. In practice, various campaigns were introduced by a collaboration between government departments to increase awareness of environmental operations, such as The Project of Waste Reduction Programme in the Restaurant Sector or the Green Restaurant Project.

The Green Restaurant Project, which was under the supervision of the Ministry of Natural Resources and Environment (MNRE), focused on helping participating restaurants to develop their operational potential for longevity, complexity, and sustainability in terms of natural resources and the environment.

6.3.2.1 The Green Restaurant Project

The Department of Environmental Quality Promotion (DEQP), in relation to the MNRE, oversees the functions and duties of sustainable building in terms of natural resources and the environment. The department was embedding awareness and readiness to maintain, rehabilitate, and exploit surroundings and natural resources with maximum benefits and greater sustainability.

The DEQP support and promote a balance between natural resource usage and resource restoration in order to achieve sustainability and drive the National Development Strategy for Sustainable Development. Therefore, the five main projects of the Green Growth strategy were introduced to guide, enhance knowledge, and lead the target groups to further action. The Green Growth Strategy included a Green hotel, Green office building, Green production, Green national park, and Green restaurant projects.

In 2019, the DEQP launched a Green restaurant programme to promote the potential of the restaurant sector. DEQP respondents explained that a project was conducted to develop the criteria for Green restaurant and serve as a guideline to develop potential restaurant materials, reduce the amount of waste, enable the efficient use of resources and energy, and promote participation with environmentally friendly services.

Participants also described the programme processes in four main steps. The first step was to invite government experts and other stakeholders from various sectors to draft and critique the restaurant sustainability criteria. Second, applications would be invited from restaurant operators who wished to participate in the project. Third, candidates would be informed so that they understood the evaluation criteria together with receiving coaching on all restaurant practice categories. Then, finally, the applicants would be evaluated and rewarded.

The sustainability criteria:

The criteria for determining sustainable restaurants under the Green Restaurant Project would have been described in four operation steps including criteria: 1. environmentally friendly food production; 2. environmentally friendly services and facility; 3. efficient energy and environmental management; and 4. environmentally friendly management and involvement with the local community. Participants added that reducing food waste was the core of the operation and considered applicable to all the operating processes of a restaurant. As a result, the performance requirements were structured to include a fully functional system.

Application announcement:

The respondents argued that the programme allowed restaurant operators to participate voluntarily. The candidates for the 2019 programme held various levels of experience in environmental sustainability practices. Besides this, it was agreed some candidates could miss participating in the whole process due to their lack of availability and expertise in order to meet specific criteria. Therefore, a total of 15 restaurants were involved in the 2019 Green Restaurant scheme.

Enhancing knowledge:

The core components for implementing sustainability in the candidate restaurants were raw ingredients processing, waste management, energy management, and community engagement. The DEQP officers maintained a deeper understanding of each element parameter's evaluation metrics and provided knowledge about the practices for all candidates to promote environmentally friendly operations.

In terms of handling ingredients, each restaurant had various styles and uses for materials according to the types of sources and product usage. The government programme only advised using raw ingredients that met industry standards, were certified and supported organic and local products. However, the researcher also asked for sustainable source systems or supplier product systems to serve as a raw ingredient database in order to improve restaurant supply chain efficiency. Participants responded that "*due to a lack of sufficient product details we actually do not have an effective supply chain infrastructure. The arrangement of food raw ingredients should be established on an ongoing basis.*"

As part of the best management coaching for the restaurants, the DEQP team guided entrepreneurs on waste management, and particularly food waste. There were a variety of methods and tools incorporated to improve effective waste disposal. For example, daily waste weighing and recording was included to raise awareness of environmental sustainability and led entrepreneurs to improve restaurant processes to minimize waste. Furthermore, this programme allocated food scraps (the largest proportion of waste) to the manufacture of Bio Extracts, thereby enabled further beneficial uses such as watering vegetables and plants.

It was found that each restaurant's waste management varied in terms of performance. Some of them sorted the waste and subdivided it into a number of different types. Then, they demonstrated their efficiency in managing reused and recycled products while some others struggled to achieve competent waste management in their operations. In addition, the local councils in each area demonstrated various forms of categorisation to manage the garbage. There were limitations with how different types of waste were handled, especially the vast volumes of food waste. As a result, some of the different classes of wastes were collected together in the same bin. This information was consistent with what the restaurant respondents reported earlier, and followed the senior BFWs officer's comment that there was "*no concrete system or specific guideline to dealing with the sorted waste*".

According to the Bangkok Metropolitan Council and other local authorities, the directly responsible department managed the waste in the case of restaurants with the mission to "*Focus on waste management at the source, with all sectors participating in the concept of zero waste management*". The department planned to raise awareness of reducing waste according to the 3Rs: reduce, reuse and recycle. Moreover, enhancing Bangkok's waste management procedures required resources and time to bring about incremental improvement with an emphasis on citizen engagement and awareness-raising mechanisms. At the time of writing, there were no formal development guidelines or best practices for monitoring waste management in operation. Therefore, in terms of restaurants, efficient waste management depended on their individual competence and operations in collaboration with public and private networks.

Respondents referred to energy management as a significant barrier to the drive for sustainable development in restaurants as a result of the lack of efficient technology and knowledge about conserving water and energy or a formal plan to manage energy consumption. Furthermore, dealing with cooking contamination or carbon footprints remained a challenging issue for the development of environmental sustainability in restaurants.

The respondent mentioned community engagement as one of the criteria used to evaluate the restaurants involved in the Green Restaurant Project along with employee participation in operations, customer participation, prioritizing safety, and social responsibility.

Evaluate and reward:

In order to evaluate and reward restaurant candidates, the DEQP conducted an evaluation of the ability to work according to the evaluation criteria across three levels: excellent, very good, and good. Participating restaurants that met specific criteria would be certified, which would be valid for three years. When asked about the continuity of the Green restaurant project, the government participant maintained that the DEQP was an implementation department in accordance with the ministry's policy, but he was currently unable to answer how long it will take before the project operations would be certain. The ongoing programme would depend on several factors, such as the success of the project; however, since it had been operational for

the first year, it could be considered a pilot programme for further expansion and development.

6.3.2.1.1 Progress of the Green Restaurant Project

Researchers followed up on the implementation of the Green Restaurant Project at the beginning of 2021 with the findings by government officials as follows.

- Project results for the year 2019: There were 16 restaurants engaged in the initiative. However, only 15 restaurants met the project criteria, which led to six restaurants receiving the Gold Award, four obtaining the Silver Award, and five restaurants gaining the Bronze Award.
- Projects guidelines for 2020: According to the 2019 project results, the operating committee decided to extend the project by continuing to operate for a second year in order to progress further. However, the coronavirus pandemic led to the project operations being restricted, both in terms of activity within the organization and the restaurant activities. Therefore, the significant activities consisted of a public relations project, offering academic guidance on environmentally friendly services to participating establishments, designing web applications and database systems, and publishing an example of a successful eco-friendly restaurant.
- Project guidelines for 2021: The government department continued to protect the progress from 2020 by coaching and evaluating applicant restaurants and rewarding enterprises that met the specified criteria.

6.4 Implication Regarding Sustainability Best Practice and Framework

Drawing on their comprehensive knowledge and experience, the government officers also mentioned restaurant sustainability best practice and the framework to encouraging best practice in order to drive the restaurant sustainability programme in Thailand, as presented in Table 6.4.

Table 6.4: Government perspective of sustainable restaurant best practice and framework

Key Theme	Element	Key perspective
Restaurant Best Practice	Key activity	<ul style="list-style-type: none"> • implementation • practice • promoting sustainability campaign
	Best way	<ul style="list-style-type: none"> • coaching • guidelines
	SSCM	<ul style="list-style-type: none"> • restaurant • government • integration between firms
Sustainability Framework	Key focus areas	<ul style="list-style-type: none"> • raw ingredient • food production • food waste management • community
	Enablers	<ul style="list-style-type: none"> • local authority officers • entrepreneurship • government policy
	Barriers	<ul style="list-style-type: none"> • lack of supply chain visibility and control • restaurant motivation
	Quick win and long-term win	<ul style="list-style-type: none"> • regulations • continued improvement • cooperation between firms

Best Practice

Key activity:

The respondents mentioned three main activities to drive restaurant sustainability in Thailand: implementation, practice, and promoting sustainability campaigns. The Green restaurant project undertakes National Development Strategy on Green Growth for sustainable development by supporting and promoting environmentally friendly production and consumption. The main objective of this project is to improve the

efficiency of restaurant organic waste management and thereby reduce the amount of food waste. Therefore, the government promoted these programmes to improve restaurant performance and thereby enhance their environmental sustainability processes.

The best ways:

In implementing sustainability into restaurants, the government officials argued that implementation is an essential step in the Green restaurant project to enable the participants to develop their potential in environmentally friendly operating processes. Further, providing helpful information to guide restaurant operators to meet specific criteria is mentioned as the best way to impose duty standards of environmental protection into restaurant functions. The government respondents believed that the coaching process and environmental sustainability guidelines allow the entrepreneurs to become more aware of Corporate Social Responsibility (CSR).

SSCM:

In terms of answering the question about how Thai restaurants succeeded in preventing negative environmental impact throughout supply chain processes, the participants mentioned the participation of all parties as an essential factor in order to encourage sustainability. In particular, the restaurant itself had to be aware of and value environmentally friendly service processes. Entrepreneurial awareness can lead to more efficient sustainability operations both in terms of enhancing environmentally sustainable food storage and improving food preparation and services, including improving the effectiveness of waste management. Respondents explained that the government department authorized these procedures to be facilitated and assisted as efficiently as possible. Therefore, the creation of sustainable restaurants involved cooperation from different stakeholders, both in the public and private sectors.

Framework

Key focus area:

In terms of a framework or model for restaurant sustainability best practice in Thailand, the government officers argued there were three key focus areas that must be addressed in order to improve environmental sustainability: raw ingredients, food production, and food waste management. Concerning raw ingredients, the significant component in food operation was the quality of products, both in terms of cultivation methods and food safety. In addition, the respondent mentioned that restaurant operations were found to be the critical areas in which to promote environmental friendliness not only in terms of food production and fundamental services but also food waste management processes, which are correlative with sustainable development in the restaurant business. From the respondents' point of view, community played an essential role in encouraging sustainability. Therefore,

promoting community participation as well as strengthening the relationship between business and community would result in successfully attaining sustainability goals.

Enablers and Barriers:

Key drivers to accomplishing environmental sustainability best practices in Thai restaurants were represented by three elements: local government officers, entrepreneurship, and government policy. Government respondents addressed the question of sustainable development in Thai restaurants, saying it was still a relatively new and very challenging factor in Thai society. Therefore, government officials must initially promote and support both the expansion of knowledge and the improvement of the operators' performance. Another critical enabler was mentioned in relation to entrepreneurship, another critical player driving the sustainability concept. If the operator continuously trained their workforce and introduced sustainable apprenticeships to fill skills gaps and continued to develop products and processes under government supervision, it might succeed. On the other hand, the lack of supply chain visibility and control or entrepreneurial motivation to operate in an environmentally friendly way remained a barrier to development, requiring dedicated resources and the ability to execute unfamiliar actions.

Quick win and long-term win:

In order to change the consumption behaviour and lifestyle towards sustainable consumption and environmentally friendly expenditure would depend upon legislation and regulation for all stakeholders throughout the supply chain process. Moreover, encouraging restaurants to rapidly install sustainability initiatives requires regularity practices and working continuously to improve all restaurant processes together with cooperation between firms to achieve longer-term wins and environmental sustainability.

6.5 Conclusion

The within-cases analysis chapter (Chapter Five) provided a holistic demographic of the Thai restaurant industry and demonstrated the sustainability picture of a Thai restaurant in the UK. This chapter described the restaurant stakeholder context regarding supply chain sustainability. Customer perspectives as well as those in government responsible for sustainable development illustrated the overall picture and some specifics of the environmental sustainability situation in Thailand.

Nonetheless, stakeholder analysis was expanded substantially with various new SSMC features. The analysis indicated some drivers that had stimulated numerous restaurant companies in Thailand, such as sustainability criteria, knowledge of entrepreneurship, waste management improvements, and community participation. Thus, in the next chapter, these explorations will be fed further into the cross-case analysis.

CHAPTER SEVEN

CROSS-CASE ANALYSIS

7.1 Introduction

The within-cases analysis (Chapter Five) and the stakeholders' analysis (Chapter Six) feed into this chapter, which will compare the similarities and differences between the case companies and identify patterns in the data. Moreover, this chapter is designed to describe the relationship between the case settings and the stakeholders. While this chapter will adopt the multi-case sample review method introduced by Creswell (2007), due to the study's design, several modifications were invented in terms of its structure.

Therefore, this chapter is divided into four parts related to the research questions of the study. The first part represents a cross-case analysis of the current states of the case restaurants regarding environmental sustainability and the stakeholders' perspectives. In the second part on RSSCM, I will demonstrate and discuss restaurant sustainability practices and stakeholders' influence on corporate operations. The third part of the cross-case analysis chapter highlights restaurant sustainability best practice. Then, finally, the fourth part identifies a suitable framework or model with which to develop sustainability. The next part follows with elements of the features used to encourage best practices and concludes with the restaurant sustainability framework. Furthermore, the fourth part will also discuss in detail each major finding and its sub-themes.

By using the same text colour, the researchers used a tool for addressing key points to identify the similar opinions among respondents in all cases as well as those of stakeholders. It will explain the comparison of similarities and variations between the case companies and detect trends in the results.

7.2 Case Settings

Table 7.1 represents an overview of the settings of all the case categories, which is developed in this section to highlight the category setting of each case research company. The table depicts the restaurant type, ownership, restaurant size, and geography, and these elements demonstrate the length and complexity of the chain, which introduces a high level of environment sustainability development. Specifically, the participants argued that the sustainability knowledge and expertise required to enhance holistic sustainability practices directly affect sustainable development continuity.

Table 7.1: Case settings

Case Restaurants	Differentiating Features					
	Established	Restaurant Type	Ownership	Restaurant Size	Restaurant Branches	Geography
CRA	2009	Casual Dining	Independent Restaurant Ownership	Medium	1	Thailand
CRB	2012	Casual Dining	Independent Restaurant Ownership	Medium	1	Thailand
CRC	1981	Casual Dining	Independent Restaurant Ownership	Medium	1	Thailand
CRD	2008	Casual Dining	Independent Restaurant Ownership	Medium	4	Thailand
CRE	2005	Casual Dining	Independent Restaurant Ownership	Medium	5	Thailand
UKCR	2008	Casual Dining	Independent Restaurant Ownership	Medium	20	UK

Table 7.1 above shows each business's operating times that have been established for a certain amount, which is equivalent to each business: except for the CRC, which has been in business for the longest time. Nonetheless, the lead time does not directly correlate with the advancement of environmental sustainability. It is related to other considerations that will be addressed in the corresponding sections of this segment, such as the experience of environmental management operations or sustainability technologies applied in the industry. This will then be discussed in the subsequent parts of this chapter. The table also shows the similarity in restaurant type, ownership, and restaurant size across all the case companies. However, there is a difference in the number of branches in operation for each business that significantly affects the ability to enhance sustainability performance.

With regard to the geographical aspect, five of the case studies are based in the same region as the country of study, while there is only one case in operation in a different country. Various operations refer to different benefits observed in terms of advancing environmental sustainability between developed and developing countries on, laws and guidelines. Consequently, it dramatically affects the ability to analyse critical market enhancement and sustainability improvement knowledge; this issue is further discussed in the subsequent sections.

7.3 Part One: Sustainable Restaurant Conservation

This segment first highlights the current state of the case restaurants with regard to environmental sustainability and these aspects of the sustainability process are divided into issues, challenges, gaps, and benefits. This contrast will aid recognition and appreciation of the current process of sustainability implementation in all the case companies. The second section will highlight development issues from the customers' perspectives and the promotion and encouragement of hospitality companies, both in terms of the state of the operation and in regulation.

7.3.1 Current Stage of Environmental Sustainability

The following table (Table 7.2) demonstrates the current state of each case company, specifically their practices of supply chain sustainability for the restaurants.

Issues:

The current issues the case companies face in implementing environmental sustainability demonstrate both differentiation and diversity depending on the context of each organization, which is related to the nature of movement, knowledge, experience, and external factors that influence each venue's activities. However, some of the participants from different cases discussed the same issue in the workplace environment. For example, CRA and CRB address the lack of supply chain visibility and control issues. As a result of the SSCM problems in their routine operations, including sourcing and operating to dealing with food waste, and general waste problems. Furthermore, CRA also addressed the difficulty of finding a suitable supplier, which was directly related to the lack of supply chain visibility and control conversations. Another similar issue that occurred at CRE and UKCR was the quality control of ingredients from different operating factors. The CRE respondent reported that the kitchen team often tests the quality of ingredients in terms of freshness and colour intensity for quality control, especially in fish, meat and vegetables, to ensure pesticide protection daily. On the other hand, in all the restaurant divisions, UKCR can improve sustainability by changing balanced menus, converting to low-carbon drinks, increasing the number of organic foods, and using recycled cooking oils. Therefore, as UKCR serves 20 restaurant locations, they also face quality management issues in sustainability supply chain enhancement.

Table 7.2: Six cases current state

Elements	Differentiating Features					
	CRA	CRB	CRC	CRD	CRE	UKCR
Issues	<ul style="list-style-type: none"> - Lack of supply chain visibility and control - Difficult to find a suitable supplier 	<ul style="list-style-type: none"> - Lack of supply chain visibility and control - Replacing plastic products with biodegradable 	<ul style="list-style-type: none"> - Perception of environmental information - Senior coaching system 	<ul style="list-style-type: none"> - Health awareness - Environment awareness worldwide 	<ul style="list-style-type: none"> - Ingredient quality control - Lack of local mackerel 	<ul style="list-style-type: none"> - Ingredient quality control - Fair trade
Challenges	<ul style="list-style-type: none"> - A fast-paced workplace environment - Rising awareness of sustainability subject 	<ul style="list-style-type: none"> - Teamwork - Sustainability knowledge 	<ul style="list-style-type: none"> - A fast-paced workplace environment - Conserving energy 	<ul style="list-style-type: none"> - A fast-paced workplace environment - Dealing with customer needs 	<ul style="list-style-type: none"> - Rising awareness of sustainability subject - Deal with community - Teamwork 	<ul style="list-style-type: none"> - Logistic development - Supply chain process management
Gaps	<ul style="list-style-type: none"> - Knowledge - Collaboration between firms 	<ul style="list-style-type: none"> -Lack of traceability control -Collaboration between firms 	N/A	N/A	N/A	N/A
Benefits	<ul style="list-style-type: none"> - Reducing waste - Saving energy - Customer satisfaction 	<ul style="list-style-type: none"> - Awareness of environment issue - Customer satisfaction 	<ul style="list-style-type: none"> - Quality of raw ingredients - Customer satisfaction - Reducing waste 	<ul style="list-style-type: none"> - Quality of raw ingredient - Reducing waste - Saving energy 	<ul style="list-style-type: none"> - Quality of raw ingredients - Creating value added menus - Saving energy 	<ul style="list-style-type: none"> - Efficient ingredient use - Public relations - Customer loyalty

Challenge:

Among the reported critical challenges in implementing sustainability, the fast-paced workplace environment in the restaurants remains the primary concern about developing environmental sustainability in most of the Thai restaurant cases, since the restaurant job environment works against the clock to provide satisfying service for consumers. Therefore, implementing sustainability practices at peak times poses many challenges and hurdles that impact on the efficiency of environmental sustainability operations. Moreover, CRA and CAD considered raising sustainability awareness in the workplace to drive sustainability among all the operators, but both case restaurants faced many challenges in fostering environmental responsibility as part of routine work. The other main challenges included teamwork and cooperation within the enterprise as a partnership required to push sustainability policy, which was difficult to realize because of the diversity of workers in terms of work experience and age.

As a consequence, there was some miscommunication, and it was hard to shift everyone's vision in the same direction. Miscommunication in the restaurant is a misinterpretation that can lead to internal conflict. Due to varying levels of knowledge among staff. As a result, developing staff knowledge and skills, including documentation communication, can lead to correct understanding and effective operations. Considering the main differentiation between the challenges facing Thai restaurants in two different countries, it can be seen that UKCR managed to drive environmental sustainability in a holistic way by addressing both the logistic development element and supply chain process management component. However, at the Thailand restaurants, that perspective on sustainability organizational issues was not consistent throughout the process.

Gaps:

Only two businesses referred to the gap regarding environmental sustainability of restaurants in Thailand, with both sharing similar views but also different perspectives. Collaboration between firms is shown as a significant element that requires greater focus from many stakeholders throughout the restaurant supply chain, specifically in local authorities that manage waste efficiency. CRA and CRB respondents mentioned grappling with sorting as one of the main problems in waste management. Some recycled waste was sold by the restaurants to recycling operators, but it was found that the garbage sorted to be collected by the local council was not kept separate but taken by the local council together in the same container. This problem is consistent with the information provided by government officials who mentioned that the government promotes waste sorting in various campaigns but is still unable to manage the sorted waste efficiently. Knowledge transfer has also been described as an essential role for improving long-term development. However, there is an apparent lack of specific knowledge and experience; therefore, regularly developing the operators' expertise is a necessary step to address this gap, as there are several distinct divisions within the organizations, each consisting of various positions related to environmental sustainability management. Furthermore, the lack of

traceability control is another gap that hinders sustainability development. Most ingredients and local raw ingredients are shown to be non-traceable in terms of the methods and processes which the farmers or fishers used. As a result, the case companies face difficulties in tracking the ingredient items back to their source.

Benefits:

Respondents from all the case restaurants believed they received many benefits from implementing sustainability in the workplace. Based on Table 7.2, it can be seen that the key benefits of environmental management activities occur in all areas of core operations management: input, process and output. In terms of key benefits in input operation, the quality of raw ingredient is mentioned as an essential element in environmental sustainability development. Raw ingredients are the secret to improving both “the quality of food” and “the quality of service” in the hospitality sector. The procurement of fresh products and nutritious ingredients from local producers and the purchasing of organic ingredients also represent an essential step in the progress of sustainable growth. Conserving energy and reducing all types of waste are beneficial aspects of the sustainability managing process for most case companies. For example, CRE also decreased its energy consumption and used natural principles when designing and decorating the restaurant areas that helped to save energy and create a naturally lit urban environment. In order to reduce waste, especially in food waste management, the cases restaurants also gained valuable experience from practising sustainability. For instance, CRA launched big projects to minimize costs, prevent pollution and protect the environment, using food scraps and baking and grinding food waste for future use. It was found that they can minimize a lot of waste in the restaurant by sorting waste continuously.

Furthermore, respondents at CRD have started to acquire an awareness of waste practices by measuring the amount of garbage, which allows them to understand how much waste they generate and how to minimize waste to achieve more sustainability. Most of the case companies recognize that the sustainable development of the business is directly related to gratifying customer experiences. They were serving food using high-quality products as well as adapting to eco-sustainable packaging. As a result, consumers enjoy a higher degree of service quality, which leads to increased customer satisfaction that in turn generates loyalty to the business.

7.3.2 Stakeholders’ Perspectives on the Restaurants’ Current States

This section displays the current status of the case companies in the eyes of their regular customers and in terms of government regulations and campaigns supporting restaurant sustainability improvement areas.

According to the customers' perspectives, the opinions of the regular customers from each case restaurant in Thailand could be divided into three main elements of sustainability development: issues, expectations, and benefits. In general, the participants believed that environmental sustainability in restaurant services has

shown various changes in terms of the impact of the global environmental change and in response to consumer demand for environmentally friendly services.

Government participants provided information on the business requirements and guidelines supporting restaurant operations in Thailand. Cleanliness and safety highlights are the primary focus areas in restaurants rather than a specific sustainability conversation. However, the officials also argued that further steps in environmental sustainability development were necessary as the policies were relevant to the National Development plan.

Table 7.3 below illustrates the similarities between the consumer respondents' views and the government's approach to the restaurant industry in terms of existing processes concerning environmental issues in restaurants. Both parties addressed three of the same relevant issues from differing perspectives: the foam and plastic problem, quality of raw ingredients, and food waste.

Table 7.3: Stakeholders' perspective in the current state

Development issues	Stakeholders		
	Customers' perspectives	Government	
		Detail of areas for improvement	Regulations and campaigns
Issues	<ul style="list-style-type: none"> - Foam and plastic problem - Global warming - Energy usage - Quality of raw ingredients - Food waste 		
Expectations	<ul style="list-style-type: none"> - Quality of raw ingredients - Service quality 		
Benefits	<ul style="list-style-type: none"> - Environment - Selection of high-quality materials - Customers' health - Community benefits 		
Raw ingredients		<ul style="list-style-type: none"> - Meat - Vegetables 	Chemicals and pesticides control
Standard packaging		<ul style="list-style-type: none"> - Food packaging 	Thai industrial standards Food and Drug Administration
Stop using Styrofoam and plastics campaign		<ul style="list-style-type: none"> - Packaging - Food - Food packaging 	Various campaigns
Waste management		<ul style="list-style-type: none"> - General waste - Recyclable waste - Food waste 	Food sanitation training

First, the foam and plastic problem issue:

Looking at customers' views on Thai restaurants environmental sustainability focussed on the foam and plastic problem, conservation remained the major topic of concern for most respondents, whereas the government officers provided information on improving hospitality areas both in terms of standard packaging and quality material used to contain food products. Relevant legislation was approved by the government and allowed the Industrial Product Standards logo to convey the appropriate quality of domestic goods. Furthermore, the movement to stop using Styrofoam and reduce the consumption of plastic has been consistently promoted by numerous initiatives. Nevertheless, the customers mentioned that, although the campaign to reduce Styrofoam in the hospitality sector has been ongoing for more than a decade, they also found this type of food container is still widely used in wider society. It seems that the amount of foam used for packaging food has not reduced much over the campaigning period. Regarding the reduction of plastic consumption, the trend in Thai society has become very active. Both the public and private sectors have partnered closely to enable people to use fabric bags instead of plastic ones while shopping in stores and in wet markets.

From the perspective of customers, the general public is aware of the threats to health from using foam to contain food, especially the storing of hot food, and people are also concerned about reducing the use of plastic bags. This opinion is consistent with government data showing that entrepreneurs and the general public are now constantly conscious of discussions around plastics and Styrofoam, both in terms of continuous campaigns and in terms of the awareness of global environmental developments. Case restaurants are working to decrease the amount of Styrofoam and plastics in use, and all case companies are trying to improve environmentally friendly packaging to replace difficult-to-biodegrade materials such as plastics and foam. Various eco-friendly initiatives have described the willingness of each restaurant to produce sustainable materials; for example, CRB aims to minimize the use of plastic straws as well as switching to paper bags instead of plastic bags for take-away dining. However, there have been some issues with biodegradable food boxes that mean they are unsuitable for most Thai menus as there are many hot meals that contain liquid ingredients. Therefore, CRB mentioned it is also important to use strong plastic boxes to pack food.

Second, quality of raw ingredients:

Customer participants discussed raw ingredients as the key component in food production. High quality and nutritious foods, organic and local products have also been essential to the creation of restaurant sustainability initiatives. Respondents, as clients, expect the restaurant to be comparable in terms of raw ingredient consistency and to include measurements. Even then, some participants felt restaurants needed to improve on these issues especially in the quality of the ingredients in the cooking process. Therefore, improving the quality of the ingredients is one of the key success factors driving environmental sustainability practices in restaurants as well as maintaining customer satisfaction, specifically that of the eco-friendly consumer. Regarding the rules and legislation regulating the quality requirements of food

additives, government respondents also explained that meat and vegetable quality controls include the two main safety criteria: accelerators in meat, and chemical consumption specifications for growing vegetables. Furthermore, the participant indicated that the government has a programme to develop the entrepreneurial knowledge base to help with choosing ingredients to service consumers as well as food hygiene courses. The government chemicals and pesticides control represented something of a gap between restaurant quality control for ingredients and a number of safety products, as CRE stated that their kitchen staff still continue to monitor raw ingredients regularly to ensure no pesticides are used. This implies that a considerable amount of raw ingredients that are contaminated despite the food safety standards still show up in the general market. Furthermore, this problem could become a significant challenge to the creation of a sustainable restaurant supply chain. Both CRA and CRB highlighted the lack of supply chain visibility and control as an issue with the operation.

Third, food waste management:

The customer respondents mentioned the significant amount of food waste produced both in the food business and from general households. This is in line with government data on food waste as a big concern that must be tackled by different management schemes. However, in terms of promoting waste management to restaurant operators, the relevant knowledge is included in Food Sanitation Training, a compulsory curriculum where operators have to undergo training. The compulsory training offers basic information on hygienic waste management of both wastewater and other waste management disciplines, especially in waste separation practices.

When evaluating the expertise of food waste management in case restaurant situations, it has been established that there is a variety of processes and approaches for each entity based on previous experience, awareness of the issue and personal networks. For example, CRA controls food waste by returning it to the farmer to use as animal feed when they receive raw ingredients, while CRB divides food waste into trash bags and then leaves the bag next to the general collection bin as there are no separate food waste bins.

7.4 Part Two: Logistics and Sustainability Supply Chain Management

Part two begins by looking at the SSCM of the six case restaurants and discussing operations management in terms of input, process, and output, followed; looking at restaurant sustainability process management from the perspective of the regular customers. The comparison between the restaurants' self-assessment and customers' understanding of the sustainability in each case will be represented by the comparison chart. The final section will describe the Green Restaurant Project that the government has initiated to minimize the amount of food waste and allow restaurants to operate in an environmentally friendly manner.

7.4.1 Cases Performance

This segment features the positions of the case restaurants in terms of environmental sustainability; restaurant input, process, and output operations management will be demonstrated to assess how sustainable the restaurants are in Thailand as well as the sustainable restaurant management in the UK.

Input

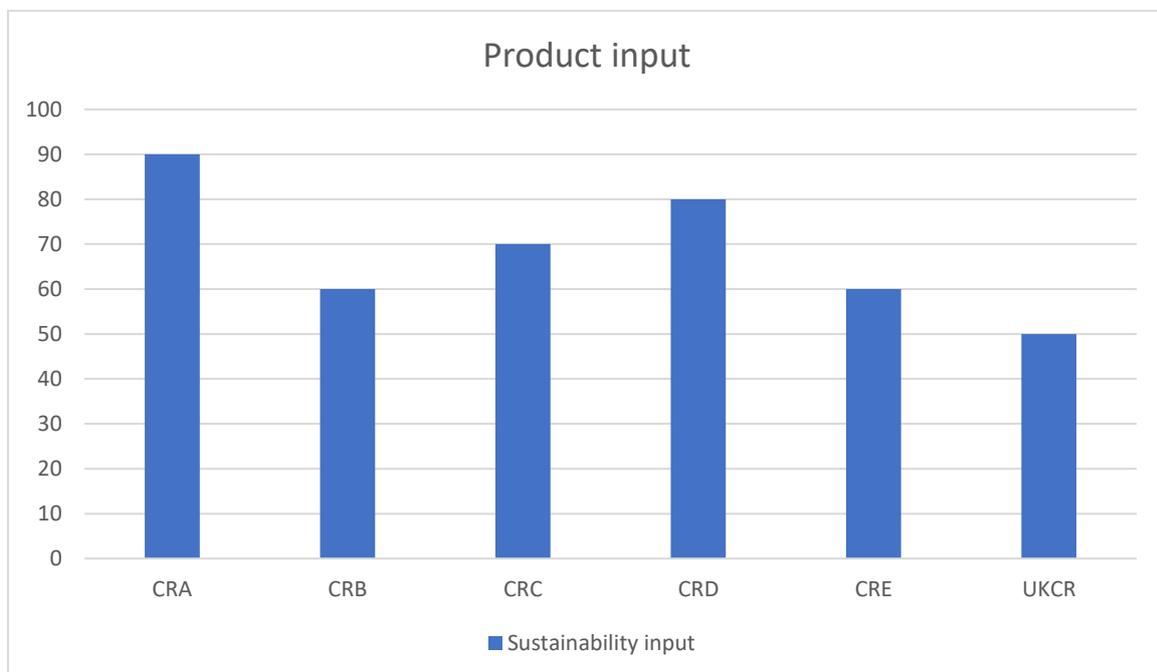


Figure 7.1: Product input

Regarding sourcing products, the data from Figure 7.1 above show a variety of local and organic sources from each case as follows. CRA's ingredients were 90 percent locally sourced and organic, while CRB and CRC each included 80 percent; CRD's ingredients were 70 percent local and organic, CRE had 60 percent, and UKCR 50 percent. CRA mainly sourced ingredients directly from a local fishery and organic farm. Similarity, CRD received most of its vegetables from organic partnership farms. CRC selected seafood products directly from their fishery partner at the dock. CRB and CRE collected local ingredients from various regions to serve in local dishes, generally collecting only according to the season. However, only CRA was able to import locally sourced meat products that could then be traced back to their traditional origin. UKCR, a Thai restaurant chain in the UK, reported that approximately 50 percent of their ingredients are sourced locally or organic with some deliveries direct from suppliers in separate areas of Thailand and UK distribution services providing the other meat and vegetable products.

Furthermore, demand for organic or free-range products which comply with the European standards meant the sources were trustworthy. According to transportation and delivery methods, UKCR mentioned emissions controls and another transport arrangement regulated by UK Health and Safety law as well as European regional regulations. Most cases in Thailand did not ask for any clarification about managing emissions from the distribution of goods.

Table 7.4: Six Cases of Sustainability Supply Chain Management

Operations management	Elements	Differentiating Features					
		CRA	CRB	CRC	CRD	CRE	UKCR
Process	Waste management	- Three types of waste - Food waste directly to farmer to feed animals	- Three types of waste	- Three types of waste - Lack of food waste and food scraps management system	- Three types of waste - Commercial development site guidelines	- Three types of waste - Commercial development site guidelines	- Three types of waste - Certified waste management and recycling - Efficient ingredient usage
	Water conservation	- Lack of water-saving technology	- Lack of water-saving technology	- Lack of water-saving technology	- Lack of water-saving technology	- Lack of water-saving technology	- Lack of water-saving technology
	Energy conservation	- Some renewable energy (LED light bulb technology, using charcoal instead of gas)	- Produce large portion of foods to conserve energy	- Some renewable energy (using charcoal instead of gas)	- Some renewable energy (Using electrical equipment that has been certified as energy saving)	- Some renewable energy (Using electrical equipment that has been certified as energy saving) -High electricity consumption	- Efficient gas usage - Electricity improvement plan
	7Rs management	- Management of some 7Rs components	- Management of some 7R' components	- Management of some 7Rs components	- Management of some 7Rs components	- Management of some 7Rs components	- Management of some 7Rs components

Table 7.4: Six cases Sustainability Supply Chain Management (continued)

Operations management	Elements	Differentiating Features					
		CRA	CRB	CRC	CRD	CRE	UKCR
Output	Problem	- Lack of fully efficient waste separation - Plastic usage - Pest control problem	- Lack of knowledge - Supplier system problems - Water- and energy-saving technology problems	- Lack of knowledge - Operating model and energy saving capabilities - Supplier system problem	- Lack of knowledge - Workforce standards	- Lack of knowledge - No specific plan, team, or sustainability strategy - Supplier system problems	- Plastic usage - Lack of dedicated sustainability department
	Best part	- Process/Waste separation	-Process/ Compostable packaging	-Process/Waste separation	-Input/Raw ingredients	-Process/Waste management	-Input/Material management
	Worst part	- Process/ Conserve water	- Input - Process - Output	-Process/ Water and energy saving	-Process/ Water and energy saving	-Input/Raw ingredients -Process/ Water and energy saving	-Process/ Conserving water

Table 7.4 above highlights the logistics and supply chain management processes of the six case companies. In order to understand the sustainability processes and output operations, the main elements of the operational functions will be discussed.

Process

Waste management:

In all six cases, the restaurants divided waste into three types: general waste, recyclable waste, and food waste. However, each company differed in its capacity and expertise in waste classification in terms of recycling performance and efficiency in food waste handling. For example, CRA distinguished various categories of waste for recycling and further use as different waste classifications. In addition, it also managed food waste efficiency by returning separate food waste to the farmers who supply the raw ingredients for use as animal feed. CRC was still unable to set up a food waste management system because of the uncertainty of the food waste collection schedule. Therefore, food waste and food scraps are also typically in a mixture with the general waste.

CRD and CRE have branches in different locations. However, both exhibited similar traits as both businesses are located on commercial development sites with rules and regulations for operations by community members, including guidance on waste management. Nevertheless, both businesses claimed that the classification of recyclable waste was still generic. On the other hand, UKCR used certified waste management and recycling following council guidelines on handling all types of waste. Some restaurant locations managed most of the disposal via waste management and recycling services.

Water conservation:

In terms of conserving water and improving the efficiency of water use, all of the case restaurants still lacked water-saving technology. Normally, the restaurant used a significant amount of the municipally supplied water. The most considerable water consumption in restaurants comes from the devices and procedures in the kitchen, with bathrooms the second largest use of water in restaurants. Therefore, restaurants need to establish a comprehensive water system in terms of water intake and water quality, which are essential aspects of sustainable gastronomy. Therefore, all case studies tried to improve on economic water consumption, such as using water containers instead of running taps, watering plants with used water, selecting standardized products to conserve water, and continuing to check equipment regularly. CRB used some traditional approaches and common sense to conserve water in activities and CRC tried to use the right amount of water, employing hand-rinsing cycles or scheduled assessments of water use.

The owner of CRD commented on efficient water usage: "*I have no idea how to improve water efficiency; we try as hard as we can to conserve water.*" Not one of the case studies used water-saving planning, conserving water based on experience

instead and adjusting it according to the situation. However, UKCR, a member of SRA, mentioned that efficient water usage would be included in the business sustainability development plan for the next step under SRA's supervision.

Energy conservation:

Conserving energy and energy efficiency improvements in electric consumption and gas expenditure for each case varied based on each case's environmental context. In most cases, the company improved energy consumption by replacing some renewable equipment to reduce electricity and gas usage; for example, CRA conserved electricity by increasing the proportion of LED fittings to replace traditional downlights and also used charcoal instead of gas, similar to the economical method applied by CRC. While CRB conserved energy by preparing a significant proportion of their menu in advance, then separating each portion for freezing, before defrosting and heating the portion before serving. CRD and CRE mentioned selecting varieties of electrical equipment certified as energy-saving in order to save electricity; however, CRE found that most operational areas still use a lot of energy as many large refrigeration systems needed to be turned on all the time. Respondents from UKCR described the conservation of gas as a standard practice in sustainability, sparingly so as to offer the most value to the business. In terms of conserving electricity, UKCR operated LED technology to light most of its restaurant sites. Furthermore, they applied technology to control the electric power, using automatic devices and control via mobile phone applications.

7Rs management:

In order to promote environmental sustainability, the 7Rs of sustainability were referred to in order to ensure the protection of natural resources and to conserve the ecosystem: rethink, refuse, reduce, repurpose, reuse, recycle, and rot. The participants in each case study reflected on divergent experiences and interpretations of 7Rs sustainability practice; for example, CRB and CRC still lacked expertise in this 7Rs discipline, especially in managing organic food waste by adopting a rot policy. CRA, CRE, and UKCR also practiced the 7Rs components with varying skill levels. Although CRA had no action plan to drive the 7Rs of sustainability, it had been applied in various ways following some discussion. For instance, UKCR had a specific plan to enhance 7Rs sustainability development goals which led to the case company continuing to improve 7Rs practice in relation to waste and electricity usage.

Output

Problems in practice:

Lack of sustainability knowledge appears to be a major problem for most of the case restaurants in Thailand, which meant the restaurants faced difficulties when trying to improve mechanisms and achieving environmental sustainability, such as efficient waste separation, enhanced energy saving, water conservation, or other sustainability disciplines. CRA and UKCR, the more knowledgeable organisations in terms of

sustainability compared with the other cases, also faced a large number of plastics in their operation, both from supplier packaging and a high proportion of takeaway and delivery services. Another main problem for CRB, CRC, and CRE was the supplier system problem, the impact of the input operation sourcing organic or local materials. The limitations of local raw ingredient from community markets and suitable suppliers means it is difficult to increase the proportion of sustainable ingredients in the restaurants, especially meat products.

However, some obstacles were specific to particular restaurants, and they explained some obstructions as being part of a particular sustainability initiative, team or approach. For instance, CRA had a significant problem with rats; the respondent replied that the Pet Control Department was unable to deal with the problem. CRE participants mentioned having no specific plan, team, or sustainability strategy to drive sustainability practices in the restaurant. Unlike the UKCR, which had a sustainability policy in place, there were still gaps in operations due to the lack of a dedicated sustainability department to monitor the systems.

Best part of sustainability:

Looking at which parts of the restaurant operations are more sustainable than others, the data from respondents showed a variety of aspects from the context and priority areas of each company. CRA and CRC reported similar areas as the best in terms of sustainability and the process of waste separation. CRB mentioned the process of compostable packaging, whereas CRE argued that the process of waste management was more sustainable than other parts. CRD, the organic case restaurant, claimed that the input of raw ingredients was the best operational function as such a large proportion of organic product was used. The UKCR reported that the input operation dealing with material management was the best part of sustainability.

Worst part of sustainability:

On the other hand, some minor parts of restaurant sustainability were to be found share both similarities and differences in operations management from one case company to another in terms of evaluation. CRC, CRD, and CRE concluded that the water- and energy-saving processes were the weakness parts and must be improved. Furthermore, CRE mentioned the input process for raw ingredients was another less sustainable part of their restaurant, whereas CRA and UKCR considered the process around conserving water was the least sustainable part. CRB can be highlighted as the only one case study that mentioned that all operational management of the supply chain – input, process, and output – needs to be strengthened.

7.4.2 Stakeholders Perspective on Sustainability Processes

This segment highlights customer opinions regarding the case restaurants as related to sustainability operations management processes. Table 7.5 below shows the perspectives of the service recipient regarding various elements across most operational areas.

Table 7.5: Customer Perspective on Sustainability Processes

Operations management	Elements	Customers' perspectives
Input	Organic and locally sources	Important
Process	Food waste management	Fairly important
	Energy and water management	Somewhat important
Output	Areas of improvement	Sustainable menus
		Increasing the number of organic ingredients
		Restaurant sustainability process
		Add more eco-friendly equipment
	Best part of sustainability	Slightly varied on input and output
	Worst part of sustainability	Not mentioned
Product satisfaction	Satisfied	

Input

The customers highlighted that it was essential that restaurant continue to source local and organic ingredients as it contributes to the quality of the restaurant's services and improves sustainability.

Process

Food waste management:

In terms of managing food waste, most participants felt it was reasonably necessary to for restaurants to take on their responsibilities to society. However, when asked about their satisfaction with the restaurant's waste disposal, customers were not aware of the specifics of the restaurant's operations since there was no communication between businesses and consumers on environmental or waste management systems.

Energy and water management:

The restaurant mission to conserve energy and water was considered a somewhat important component. The participants' understood that restaurants' energy and water management was part of a mission to reduce operational costs and apply technology in order to decrease the effects of global warming. From the customer's

point of view, a restaurant focusing on conserving water and energy provides benefits in terms of profitability rather than customer expectations.

Output

Areas of improvement:

Sustainability advancement should be addressed in the case of restaurants, and respondents compiled a list of four critical areas where that should happen: sustainable menus; increasing the number of organic ingredients; sustainable restaurant processes; and adding more eco-friendly equipment.

Best part of sustainability:

Participants demonstrated a somewhat varied set of opinions about which parts of the restaurant they believed more sustainable than others. However, the input and output areas of restaurant services were mentioned as sections more likely to be sustainable from their point of view.

Worst part of sustainability:

The respondents did not mention anything about less sustainable parts of case restaurants' operations because the customer participants displayed a positive attitude towards the restaurants. Moreover, they were not aware of the mechanism of environmental protection activities and thus cannot judge which part is less sustainable.

7.4.3 Government Role in the Green Restaurant Project

According to the interviews with government officials, this project has also enhanced the understanding of how sustainable restaurants are in Thailand. As a member of the United Nations, Thailand therefore established the National Development Strategy Plan in order to respond to the UN's Sustainable Development Goals (SDGs). The Green Restaurant Project is one of five main projects on Green growth strategy that were introduced in 2019.

According to the government review plan, restaurant businesses are directly related to the tourism industry, the major business sector in the country. Consequently, the number of tourists tends to rise continuously, which must have an impact on restaurant resources and services. The DEQP, therefore, developed the Green Restaurant Project initiative to provide guidelines on improving the efficient use of resources and energy, eliminating food waste, and promoting environmentally friendly communities.

Sustainability is a relatively new body of knowledge in Thai society. Therefore, the development of restaurant environmental sustainability has been carried out in accordance with the requirements of the Green Restaurant Project. Thai consumers have continued to learn and develop their knowledge in green environment. Since then, Thai customers have begun to investigate and increase their understanding of the green environment. Subsequently, to encourage the conservation of natural resources regarding environmental sustainability, the strategy continues to advocate for people to enhance their knowledge.

As different types of catering establishments in Thailand mean different types and sizes of business, there are a number of hospitality operators operating without authorisation. Accordingly, starting to promote environmental sustainability around restaurants around the country, broad decision-making and proactive measures have been established by the government through departmental integration. Therefore, the Green Restaurant Project was designed in the context of a pilot project to provide for entrepreneurs who had the right to operate a business and were involved in developing environmentally sustainable operations. In the first year of the project, there were 16 restaurants participating in an environmentally friendly management programme, 15 of which fully met the criteria. Upon completion of the project processes, the results show that six restaurants were given Gold Awards, four received Silver Awards, and five achieved Bronze Awards.

CRA, CRD and CRE were the three cases selected that had been involved in the project. The committee's appraisal concluded that CRA should be presented with the Gold Award while CRD and CRE received the Bronze Award.

7.5 Part Three: Sustainability Best Practice

Part three first highlights the six case-study perspectives in terms of best practice in restaurant sustainability from both countries (Thailand and the UK). The key elements in sustainability are summarized in the same text colour table in order to represent both similarities and differences. Other sections contain a similar concept, using the same colours to show stakeholder views on best practice components used to prevent negative environmental impact throughout the Thai restaurant supply chain.

7.5.1 Restaurant Environmental Sustainability Best Practice: Thailand and the UK

The following table (Table 7.6) features the essential elements required to achieve best practice in implementing sustainability in the case restaurants.

Table 7.6: Six cases perspectives on restaurant sustainability best practice

Elements	Key perspectives					
	CRA	CRB	CRC	CRD	CRE	UKCR
Key activity	<ul style="list-style-type: none"> - Local and organic raw ingredients - Waste separation - Conserving energy 	<ul style="list-style-type: none"> - Enhancing sustainability knowledge - Local and organic raw ingredients - Waste separation 	<ul style="list-style-type: none"> - Local and organic raw ingredients - Waste separation - Enhancing sustainability knowledge 	<ul style="list-style-type: none"> - Local and organic raw ingredient - Conserving water - Waste separation 	<ul style="list-style-type: none"> - Enhancing sustainability knowledge - Waste separation - Stakeholder's sustainability roles 	<ul style="list-style-type: none"> - In-house training - Collaboration with suppliers and partnerships
Best way	<ul style="list-style-type: none"> - Creating an understanding - Coaching - Communication between firms 	<ul style="list-style-type: none"> - Guidelines - Coaching 	<ul style="list-style-type: none"> - Guidelines - Coaching 	<ul style="list-style-type: none"> - Policy and guidelines - Teamwork - Coaching 	<ul style="list-style-type: none"> - Policy - Practice - Coaching 	<ul style="list-style-type: none"> - Policy - Communication between firms - Teamwork
SSCM	<ul style="list-style-type: none"> - Integrating firms - Government - Farmer - Supplier - Restaurant 	<ul style="list-style-type: none"> - Promoting organic or local products - Restaurant policy - Government 	<ul style="list-style-type: none"> - Farmer - Distributor - Government 	<ul style="list-style-type: none"> - Raw ingredients - Waste management - Recyclable products - Government 	<ul style="list-style-type: none"> - People's knowledge and awareness - Organic and local products - Stakeholders 	<ul style="list-style-type: none"> - Integration between firms - SSCM management programme

Table 7.6 has been developed for this section in order to highlight the key activities, the best way to implement sustainability, and best SSCM practices regarding sustainability restaurant in Thailand and the UK from six case restaurants' perspectives.

Key activity:

In terms of implementing sustainability, the critical activity for most case restaurants to realize was to improve the quality of food ingredients by increasing the number of locally sourced and organic products served to the customers. The other critical activity mentioned by most of the participants was enhancing knowledge of sustainability. It was expected that staff knowledge would be improved both about the importance of environmental roles and increasing the general public's awareness of environmental issues. Waste separation is represented as a critical function for expanding environmentally sustainable development that provides benefits, in the respondents' view, by decreasing all types of waste and reducing business costs. Other essential activities mentioned to enhance restaurant best practices included conserving energy and water. Furthermore, CRE referred to stakeholder's sustainability roles in enhancing environmental activities throughout the restaurant supply chain. UKCR mentioned that further critical activities that were essential for implementing sustainability in restaurants were in-house training and collaboration with suppliers and partnerships.

Best way:

The best way of implementing sustainability in the restaurants was mentioned. The prominent elements include coaching, policy and guidelines, teamwork, and communication between firms. Evidence shows that most case companies consider coaching in sustainability terms represents a comprehensive way to expand sustainability practices. Lack of knowledge and understanding of environmentally-friendly operations meant that the case restaurants were unable to introduce sustainability operations effectively. Therefore, expert guidelines and mentor restaurants would encourage the enhancement of knowledge and facilitate continuous improvement. As a member of CRC's front-of-house staff explained, "*I fully perform my duties in the job description with the restaurant owner, who is also the manager, coaching and a direct supervisor. Therefore, I am always ready to act on any work matters such as sustainability issues.*"

CRB, CRC, CRD, CRE, and UKCR respondents mentioned that policy and guidelines play a vital role in enhancing the management experience and improving employee engagement with sustainability. Respondents emphasized the need for close integration between managers and workers, which are complicated by various experiences of environmental sustainability at the moment. Providing a clarified policy and guidelines would also contribute many benefits regarding developing environmental sustainability in operations. Furthermore, UKCR incorporated universal partnership and international logistics for the long production network interaction. Therefore, the rule and guidelines could be changed to improve the activity of a wide assortment of support exercises.

CRD and UKCR mentioned teamwork as the best solution to increase restaurant effectiveness. The respondents believed that restaurant policy and coaching supervision promoted knowledge exchange between departments, leading to more efficient collaboration. However, currently, there are limitations to enhancing knowledge in terms of building a team.

CRA and UKCR respondents also recommended communication between firms, an approach intended to improve communication efficiency rather than expand the membership of the supply chain. In the respondent's experience, two-way communication between firms and stakeholders should continually improve to ensure that the both share the correct perception of environmental sustainability. The participants concluded that two-way communication is a significant activity in terms of the bottom line and feedback. Furthermore, UKCR respondents mentioned that a sustained business relationship involved both communications between stakeholders and participate with others operators.

SSCM:

The questionnaire was designed so that all respondents in both Thai and UK contexts could respond and the success of Thai restaurants in preventing negative environmental impact throughout supply chain processes could be addressed. Consequently, it was found that various activities involving all stakeholders throughout the supply chain were undertaken to enhance sustainable development guidelines, as shown in Table 7.6. Furthermore, suppliers and distributors need to improve their logistic systems. As businesses still lack various raw ingredient products in their offerings, the proportion of organic options was limited. To prevent environmental issues in the restaurant, they mentioned introducing integration of waste management and recycling products. Managing food waste by reusing it as animal feed and increasing recycling capacity were priorities for most participants.

The government element was mentioned by most of the respondents in Thailand as having a prominent supporter in the role of boosts sustainability campaigns and can effectively establish a guidance and counselling service for all stakeholders. Furthermore, integration between firms was mentioned as a method to enhance wider environmental development in specific sections of the supply chain.

In the UK, and in other developed countries, there has been progress in sustainability through cooperation both in the public and private sectors. Specific guidelines, knowledgeable organisations, enhanced logistics, and public awareness are all factors leading to advancing environmental sustainability. Moreover, the SSCM programme mentioned by UKCR was a critical component for driving property sustainability within the UK in order to prevent adverse environmental impact.

7.5.2 Restaurant Environmental Sustainability Best Practice: Stakeholders

The following table (Table 7.7) highlights the essential elements required to achieve best practice in implementing sustainability, from the perspectives of customers and government.

Table 7.7: Stakeholders perspective to restaurant sustainability best practice

Elements	Key perspectives	
	Customer	Government
Key activity	<ul style="list-style-type: none"> - Local and organic raw ingredient - In-house training - Promoting sustainability campaigns 	<ul style="list-style-type: none"> - Implementation - Practice - Promoting sustainability campaigns
Best way	<ul style="list-style-type: none"> - Coaching - Guidelines 	<ul style="list-style-type: none"> - Coaching - Guidelines
SSCM	<ul style="list-style-type: none"> - Farmer - Supplier - Restaurant - Government - Integration 	<ul style="list-style-type: none"> - Restaurant - Government - Integration
Important role of environmental sustainability	<ul style="list-style-type: none"> - Healthy, fresh products - Correct portions 	<ul style="list-style-type: none"> - N/A
Dining factors	<ul style="list-style-type: none"> - Taste of food - Nice atmosphere - Service quality - Parking areas 	<ul style="list-style-type: none"> - N/A

Key activity:

The customer respondents argued that local and organic ingredients were the critical factor in restaurants regarding food safety and sustainable agricultural development. The CRA and CRC respondents mentioned the importance of expanding into growing organic ingredients and promoting local food products, as seen in the last table (Table 7.7). Promoting sustainability campaigns was mentioned as organizing varieties of environmental movements to communicate both with specific target groups and the general public is a practical approach to stimulating public awareness. Furthermore, some customer respondents believed that lengthy campaign potential people in environmental sustainability and resource usage issues perceiving. Respondents addressed other components were in-house training, implementation, and continuing practice.

Best way:

Sustainability in restaurants is still limited in Thailand and only a handful of businesses are willing to offer a sustainable service. Therefore, the importance of enhancement of restaurant processes as described by customers and the government may help with the direct promotion of restaurant processes. Guidelines and coaching were mentioned as significant functions to develop sustainability in restaurants. These views support the opinions seen in most of the cases that providing standards guidance and expert coaching will contribute to a substantial increase in restaurant efficiency.

SSCM:

As with the results from the case studies, the respondents provided various numbers of key enablers through SSCM. Moreover, both customers and government officials mentioned government authorization and performance in a role to reduce any negative environmental impact. To prevent negative environmental impact throughout supply chain processes, integration between different sectors in the supply chain remains a critical factor of operational success. Furthermore, farmers, suppliers, and restaurants need to be empowered in order to expand their successes in sustainable development activities in food and hospitality.

Customer satisfaction:

The vital factor for restaurant environmental sustainability from the respondents' point of view was food safety and fresh products served in the right portions. Customers expected safe, healthy products and safe food-hygiene standards. Furthermore, the consumers stated that wanting the right portion means service provider should decrease the amount of food waste significantly.

The dining factors that determine most customers' choice of restaurant to dine in are fourfold: taste of food, friendly atmosphere, customer service quality, and parking areas.

7.6 Part Four: Sustainable Restaurant Framework

Part Four begins by highlighting the critical elements of creating a structure for best practice from the perspectives of all six cases. Another segment included a similar idea of displaying stakeholder views on essential components to improve the required restaurant framework in Thailand.

7.6.1 Restaurant Sustainability Framework: Thailand and the UK

Table 7.8 below features the key focus areas to enable environmental sustainability and encourage restaurant best practices.

Table 7.8 : Restaurant sustainability framework elements 1

Elements	CRA	CRB	CRC	CRD	CRE	UKCR
Key focus areas	<ul style="list-style-type: none"> - Farmer - Seasonal fishing - Community - Government regulation - Water 	<ul style="list-style-type: none"> - Recycling operators - Community - Food waste management - Eco-friendly products - Water 	<ul style="list-style-type: none"> - Raw ingredients - Solving pesticide problems - Food waste management - Eco-friendly products - Energy 	<ul style="list-style-type: none"> - Enhancing public knowledge - Restaurant practice - Farmer - Food waste management - Energy 	<ul style="list-style-type: none"> - Restaurant practice - Farmers - Fisheries - Community - Distributors - Government regulations 	<ul style="list-style-type: none"> - Traceability - Efficiency of supplier management programme - Government regulations
Enabler	<ul style="list-style-type: none"> - Government policy - Education, training - Pilot programme 	<ul style="list-style-type: none"> - Farmers - Community 	<ul style="list-style-type: none"> - Government policy - Private sector 	<ul style="list-style-type: none"> - Government policy - External organizations - Restaurant operators 	<ul style="list-style-type: none"> - Expertise - Specific knowledge in practice 	<ul style="list-style-type: none"> - Government policy - SRA - Public awareness
Barrier	<ul style="list-style-type: none"> - Farmers' attitude to chemicals and pesticides - Redundant work problem 	<ul style="list-style-type: none"> - Organic product price - Farmers' attitude to chemicals and pesticides 	<ul style="list-style-type: none"> - Public knowledge and awareness - Over-fishing 	<ul style="list-style-type: none"> - Farmers' attitude to chemicals and pesticides 	<ul style="list-style-type: none"> - Lack of supply chain knowledge - Farmers' attitude to chemicals and pesticides - Off-season fisheries 	<ul style="list-style-type: none"> - Personal motivation
Quick win and long-term win	<ul style="list-style-type: none"> - Restaurants policy and guidelines - Continuing to improve 	<ul style="list-style-type: none"> - Restaurant policy - Government regulations - Knowledge - Expertise 	<ul style="list-style-type: none"> - Restaurant owner - Policy and guidelines - Consistent practice and continuous improvement 	<ul style="list-style-type: none"> - Restaurant regulations - Continuing to improve - Sustainability leader model in catering industry 	<ul style="list-style-type: none"> - Restaurant guidelines - Work plan - Continuing to improve 	<ul style="list-style-type: none"> - Specific plan - Attending SRA programme - Continually setting high-level goals - Specific legislation and guidance: SRA and government

Table 7.8 was developed to highlight the elements of sustainability development areas, including key focus areas, enablers, barriers, and quick wins and long-term wins in environmental sustainability.

Key focus areas:

Efforts to improve environmental sustainability in restaurants and food businesses in Thailand throughout the supply chain must focus on several areas. There are still weaknesses in all sectors that hinder operational progress in response to natural resource sustainability. The results showed that there was still a weakness in the Thai restaurant supply chain that needed to be addressed concerning sustainability in broad areas like the lack of organic ingredient and lack of sustainability knowledge management.

Regarding lack of organic ingredient and sustainability knowledge management in the food supply chain, most respondents mentioned similar perspectives about the critical areas to focus on to improve environmental sustainability. CRA, CRD, and CRE mentioned farmers; CRC argued it was raw ingredients, and CRE stated fisheries. CRA noted seasonal fishing, while CRC favoured solving the pesticide problem that cause of the use of chemical to plant in large quantities. The findings showed that all the case businesses were focused on developing the quality of raw ingredients to increase sustainability in the food business. Organic food product distributors still need to be expanded in the number of operators and range of product types.

To improve sustainability knowledge management in SSCM, the CRB, CRC, and CRD respondents focused on food waste management and recycling products to expand the capabilities of stakeholders' capacities to manage waste reduction.

CRD and CRE stated that practising sustainability in the restaurant is an important activity that must be concerned. Therefore, food waste management knowledge required to encounter with restaurant units. However, CRA, CRE, and UKCR argued that government regulations should provide guidelines and enhance public knowledge. CRA, CRB, and CRE mentioned the community as a significant stakeholder in restaurant supply chain activities whose general knowledge must be improved. Therefore, all the supply chain members emphasize the importance of a role model for sustainability to improve the process.

In addition, UKCR, the venue involved in the sustainable development programme, maintained that traceability is the critical success factor for better sourcing of products. Furthermore, the respondents suggested that an efficient supplier management programme would influence sustainability progression.

Enablers:

The findings showed various vital enablers and drivers needed to achieve environmental sustainability best practices from the stakeholder viewpoints. However, CRA and CAC refer to government policy driving sustainable development. The legislation will need to establish coherent cross-sectoral policies on the “environment”, “agriculture”, “energy”, “economy”, “trade”, “foreign relations”, and “development cooperation”. Other enablers consistently include pilot programmes,

the role of universities, community involvement, private sector, sustainability expertise, and restaurant venues.

The key focus areas mentioned in UK restaurants and their supply chains that must be addressed to improve environmental sustainability in Thailand were the government, SRA as an example of a knowledgeable organization, and public awareness. Therefore, government action is required to enhance environmental sustainability in the restaurant and their supply chain by issuing laws and regulations and providing a guideline to all operators.

Barrier:

CRA, CRB, CRD, and CRE were concerned about farmers' attitudes to using chemicals and pesticides. CRC and CRE showed apprehension about over-fishing and off-season fisheries. Although organic farming is widely promoted, there are still several barriers to its implementation. The major problems have been reported as farmers still lacking confidence in the organic farming approach and lacking knowledge about complying with organic agriculture standards. Many farmers, therefore, use synthetic chemicals to get rid of pests and weeds in Thai agriculture. Regarding over-fishing and off-season fisheries, CRD participants discussed a shortage of local mackerel due to the imbalance of natural resources in the local marine climate. The problem should be addressed urgently, both in the enforcement of fisheries regulation and promoting sustainable fisheries.

Quick win and long-term win in sustainability

CRA, CAB, CRC, CRD, and CRE mentioned government regulations and restaurant policy and guidelines as a quick way to encourage sustainable development. In terms of long-term success, most of the respondents believed that ongoing practice and continued improvement would lead the venues to consistency in this field.

UKCR respondents added that SRA (the non-profit organization leading sustainability in restaurant and food products and authorized by the UK government in sustainable development) provided the specific legislation and guidance on meeting environmental sustainability in the UK context.

7.6.2 Restaurant Sustainability Framework: Stakeholders

Table 7.9 below highlights the key elements required to encourage best practice in restaurant environmental sustainability from the stakeholders' point of view.

Table 7.9: Restaurant sustainability framework elements 2

Elements	Stakeholders	
	Customer	Government
Key focus areas	<ul style="list-style-type: none"> - Raw ingredients - Seasonal fishing - Community - Food waste management - Eco-friendly products 	<ul style="list-style-type: none"> - Raw ingredients - Food production - Food waste management - Community
Enabler	<ul style="list-style-type: none"> - Government policy - Community - Private sector 	<ul style="list-style-type: none"> - Government policy - Authorizing officer - Entrepreneurship
Barrier	<ul style="list-style-type: none"> - Lack of supply chain visibility and control - Farmers' attitudes to chemicals and pesticides 	<ul style="list-style-type: none"> - Lack of supply chain visibility and control - Restaurant motivation
Quick win and long-term win	<ul style="list-style-type: none"> - Regulations - Cooperation between firms - Knowledge 	<ul style="list-style-type: none"> - Regulations - Cooperation between firms - Continuing to improve

Four main element details on Table 7.9 define the suitable restaurant framework for encouraging best practice from the stakeholder perspective.

Key focus areas:

Customer respondents and government officials realized that the primary key focus area in RSSCM was the raw ingredients needed to improve environmental sustainability in Thailand. From the stakeholders' viewpoint, encouraging organic farming, improving local agriculture, and regulating off-season fishing had brought about many benefits, like preserving the abundance of natural resources. Similarly, food waste management was considered a crucial component and the amount of food waste needs to be decreased continually. Furthermore, the customer addressed increasing the number of eco-friendly products while the government officials mentioned improving food production.

Enablers:

The customers and government officials referred to government policy as critical in driving progress towards achieving environmental sustainability best practices in Thailand. The officer added that government departments had gradually promoted a wide range of environmental activities to raise public awareness of environmental issues. Customer respondents mentioned other components including the community

and private sector as support venues to better manage local natural resources and cooperate to produce environmentally friendly products. The government officials commented that to drive environmental sustainability development in the country two more key elements apart from government policy must be addressed: the authorizing officer and entrepreneurship. Officials believed that these three elements contribute to collaboration between sectors to bring about interactive learning in environmental development.

Barriers:

Customer respondents and government officials maintained that the lack of supply chain visibility and control was the main barrier disrupting sustainability implementation. RSSCM development requires dedicated resources and coordination between different sectors through the extended supply chain process. The customers argued that farmers' attitudes to chemicals and pesticides was a major problem for sustainable development. They were concerned about food safety from a consumer perspective. Meanwhile, the government officials mentioned the lack of motivation among restaurant operators to drive sustainability in their operations, which itself was caused by a lack of knowledge and skills to make the approach more efficient.

Quick win and long-term win on sustainability:

Both stakeholders referred to regulations that support sustainable development in restaurants. They mentioned that cooperation between firms was vital for developing the quality of primary products and expand sustainable catering equipment. Other details encouraging long-term wins in sustainability were enhanced knowledge among operators and continuing to improve both skills and knowledge to achieve higher goals.

Summarising sustainable restaurant enablers and barriers:

Key enabler:

- Government policy
- Authorizing officer
- Expertise
- Entrepreneurship
- Restaurant practices
- Specific knowledge in practice
- Farmer and fisher
- Community
- Private sector
- Non-profit organization
- University
- Pilot programme
- People awareness

Key barriers:

- Redundant work problem
- Farmer attitude to chemicals and pesticides
- Over-fisheries
- Off season fisheries
- Organic product price
- Lack of supply chain visibility and control
- Personal motivation
- Lack of sustainability supply chain knowledge
- People knowledge and awareness

7.7 Conclusion: Finding Summary

Chapters Five and Six essentially constituted a report on the within-case analysis. This chapter features a case category for this study to precisely analyse and contrast similarities and differences for each of the six cases examined by the organisation and stakeholders. Sustainability supply chain management processes were identified along with the related argument within the Thai restaurant sector.

The next chapter will now discuss the implications of these results in terms of composing generalisations or assertions in relation to the existing literature.

CHAPTER EIGHT

DISCUSSION

8.1 Introduction

In this thesis chapter, the within case and cross-case study's main empirical results will be discussed and summed up. The novel insight obtained from Chapter Seven's cross-case analysis will be explored by connecting the empirical results to existing literature. To analyse the relationship between practical study and theory, the results will be correlated with existing literature. It is essential to note that empirical evidence has been generated from the six case companies operating in the Thai restaurant industry and their stakeholders. Emerging concepts will apply only to the cases of companies in the Thai restaurant sector.

Environmental sustainability relevant to the current state of the business cases will be addressed. Actual logistics and supply chain functions and practices in the companies described in the literature review will be compared with empirical evidence to determine whether the sampled companies' sustainability practices corroborate existing literature or whether companies operate with different logistics and supply chain fundamentals. The best practice and framework described in the current literature will be compared with the empirical evidence to explore whether the adaptation of a specific model will encourage best practice in restaurant sustainability in Thailand. The empirical findings will be described by integrating the three dimensions from all participants: case study, customer, and government official.

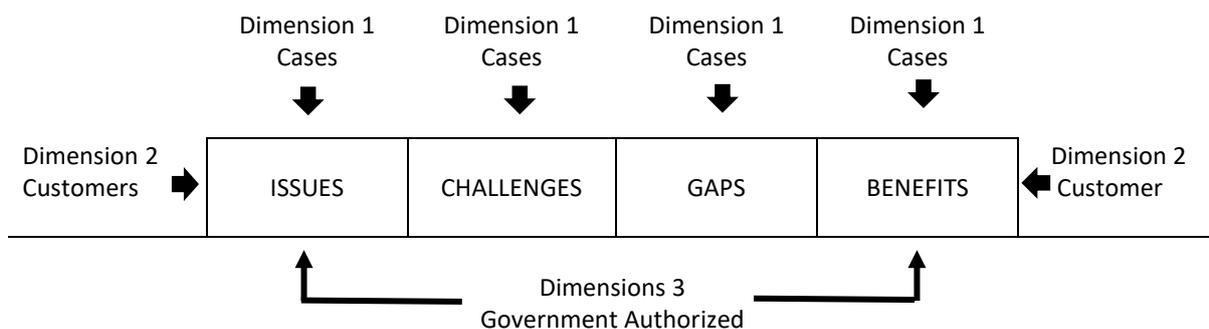


Figure 8.1: Three dimensions of restaurant sustainability situation

This chapter also examines other relevant existing literature to determine whether the relationship between existing literature and findings might provide an empirically informed and theoretically grounded insight. The critical contribution and the outcome of the thesis will be presented here.

8.2 RQ1: Sustainable Restaurant: Current State

Key empirical findings in RQ 1: What is the current state (e.g., issues, challenges, gaps and benefits) regarding environmental sustainability of restaurants in Thailand?

Extending the literature review (Chapters Two and Three) on the sustainable development process revealed that understanding the current situation the companies are in is crucial in order to improve the implementation of environmental sustainability. This empirical evidence will now be the basis of discussing the findings in relation to the research questions in terms of the current state (issues, challenges, gaps, and benefits) from a three-dimensional perspective.

Table 8.1: Current state empirical findings (RQ1)

Key elements	Main results
Main issues with implementing	<ul style="list-style-type: none"> - Lack of supply chain visibility and control - Ingredient quality control
Main issues in general	<ul style="list-style-type: none"> - Foam and plastic problem - Quality of raw ingredients - Food waste
Main challenges	<ul style="list-style-type: none"> - Fast-paced workplace environment workplace - Raising awareness of sustainability as a subject - Teamwork
Gaps	<ul style="list-style-type: none"> - Knowledge - Collaboration between firms - Lack of traceability control
Benefits	<p>Case restaurants:</p> <ul style="list-style-type: none"> - Customer satisfaction - Increasing quality of raw ingredients - Creating value-added menus and efficient ingredient usage - Reducing waste and safe energy <p>Customers:</p> <ul style="list-style-type: none"> - Benefitting the environment - Selection of high-quality materials - Customers' health - Community benefits
Customer expectation	<ul style="list-style-type: none"> - Quality of raw ingredients - Service quality
Government regulations	<ul style="list-style-type: none"> - Raw ingredient control - Standard packaging - Stop using Styrofoam and plastic campaign - Waste management training

8.2.1 Restaurant Environmental Issues

Thai restaurant business

The current environmental sustainability situation in restaurants has been expressed in terms of three dimensions: implementing operators, customers and authorized officials.

The empirical evidence represented the focus of the Thai restaurant sector being mostly on quality of services, cleanliness, and food safety rather than specifically on sustainable development. The environmental sustainability improvement of the business depends primarily on its development potential and individual capability. Legislation, guidance or regulations in relation to restaurant business. Operations are supported by various campaigns, including food sanitation training, training in chemical and pesticides control for meat and vegetables, and the Thai industrial standard of food packaging control. Nevertheless, regulations cannot be fully enforced due to many operators lacking knowledge and understanding of the business. The government, therefore, has implemented a policy to foster awareness and understanding in order to develop restaurant operators so that they are able to operate according to the specified standards.

Issues

Main issues in implementing sustainability:

The empirical evidence demonstrated that the case companies lack supply chain visibility and control. Furthermore, they have faced difficulties finding suitable suppliers who can provide consistent quality products. Ingredient quality control was another issue that was challenging to implement.

Thailand's physical character is that of a fertile region supporting a large number of crops and livestock. Therefore, the ingredients used for cooking are varied and can be supplied from a wide range of locations, such as the fresh market, supermarkets, community outlets, or even the entrepreneurs who grow it themselves. However, the number of suppliers is still limited. Supplier services cannot meet restaurant requirements in terms of providing a variety of raw ingredients; the quantity corresponds to the demand and the raw ingredients' consistent quality.

Empirical evidence has shown that operators must purchase organic input products from various sources by searching in cultivated areas directly. Various standard product levels contribute to frequent monitoring of the procurement processes to ensure the product quality. The controversy raises concerns about the RSSCM service, including obstacles professionals face in procurement, difficulties in coping with inconsistent product quality, lack of coordination in the supply chain, and internal activity problems. The empirical evidence partly supports Touboulic et al. (2014), who researched buyer-supplier-supplier relationships and found that to promote environmental, social and economic development by defining effective management strategies, managers are expanding their understanding of supply chain relationships

in terms of dependency structure and control. According to Chu et al. (2017), team-maintained product diversity has a significant effect on restaurant business management. Therefore, the development of relationships between businesses and suppliers has a major impact on product innovation.

The government and knowledge organization should be promoted the policy or guidelines to support the enhancement of supply chain knowledge between firms.

Main general issues in sustainability:

Chapter Two analysed comprehensive literature on environmental issues and illustrated the various issues. Concerns about plastics are simply a politicized component of humanity's interaction with the natural world (Nielsen et al., 2019). Nielsen et al. (2019) conclude that most political study and debate on plastics focuses on the waste and garbage end of the plastic life cycle, with a particular emphasis on marine pollution. Furthermore, the emphasis so far has been placed on plastic manufacturing and overconsumption.

Wasted food has a negative environmental impact and it is an ethical issue (FAO, 2013). Food waste, which is regarded as a significant sustainability problem, is described as the unintentional loss or deliberate disposal of edible food mass at any stage of the supply chain (Gustafsson et al., 2013). According to the 2030 United Nations Agenda, food waste is a significant sustainability problem because of the social and environmental implications it carries (Moraes et al., 2020). Despite some progress, developing countries face supply chain losses before food reaches consumers (Wohner et al., 2019). Food and packaging are then discarded combined as residual waste, rather than being separated and disposed of as agricultural rubbish for food and plastic or municipality rubbish for packaging. Separation does not frequently occur in downstream trash disposal, and even when it does, food-contaminated packaging reduces the likelihood of mechanical recycling, resulting in a more significant environmental impact (Brancoli et al., 2017).

The empirical evidence in this study revealed issues with environmental complexity similar to those described in Chapter Two by previous researchers (Brancoli et al., 2017; FAO, 2013; Gustafsson et al., 2013; Moraes et al., 2020; Wohner et al., 2019). As a result, the findings are consistent with previous research on environmental complexity in general and food supply chain complexity, particularly on widespread problems from the customer perspective. The Styrofoam and plastic epidemic, raw ingredient quality, and food waste are the three critical environmental sustainability issues for restaurants in Thailand. Technology to managing waste in Thailand still limited, most areas demonstrate waste management problem. Only 19 percent of total waste can control dump, whereas 81 percent represent open dump (Thaipublica, 2022). Enhancing the Recycling Society, product recall and packaging systems, waste to energy processing or public private partnerships methods lead to increasing environmental management success.

8.2.2 Sustainability Practice Challenging

Empirical evidence presented three main challenges in practicing sustainability in the restaurants: a fast-paced workplace environment; raising awareness of sustainability; and teamwork.

Raising awareness in the sustainability subject:

The empirical evidence in this study exposed environmental sustainability situations that workers' environmental awareness differs depending on certain factors, including job title, sustainability practicum experience, and personal ecological awareness. Therefore, increasing operator awareness of their surroundings requires time and practice, but incorporating environmental work into job descriptions as part of everyday work will increase workplace knowledge of natural resources and environmental protection. Improving organisational citizenship behaviour is recommended for inclusion in environmental practices within operational functions, particularly in this organisation-wide initiative. As a result, considering the evolution of organisational strategic priorities relevant to sustainability activities on the employee's position and obligation leads to performance alignment and incorporation in terms of sustainable growth (Haddock-Millar et al., 2015). The value of inclusive understanding and Green organisational success in driving change is widely recognized (Chen and Chang, 2012).

A fast-paced workplace environment:

Working in a fast-paced setting is the most crucial impediment to developing environmental sustainability. The majority of participants stated that it affects the efficiency of sustainability management during the busiest periods in the restaurant's service phase. Since consumers usually come to access services at mealtimes, service providers must operate against the clock and improve the standard of service to ensure customer loyalty continues. As a result, practising environmental protection while accepting key commitments is a tremendous challenge, which sometimes leads to errors in order to drive cross-functional support to service customers. In reality, the kitchen task posed a significant challenge since vegetable scraps, food scraps, and other forms of waste might not be segregated into the required trash or gas control and energy use will not have been as effective as expected.

The importance of teamwork:

The empirical finding represented various positions in relation to sustainability enhancement from employees in varying roles and different levels of job experience. Most cases showed varying levels of recognition of individuals in environmental discussions and most cases continued to face teamwork challenges in driving sustainability. Teamwork and collaboration from within the organisation are needed as a partnership to drive a sustainability policy. As a result of the employees' diversity, both in terms of experience and maturity, certain connections were missed, and it was difficult for them to change their vision in the same direction. Building a team to focus on the environment is a vital part of how companies can enhance restaurant sustainability. Empirical evidence demonstrated challenging to form an executive team, especially an environmental sustainability team in a restaurant. Working in a fast-paced conditions and job description on work position does not include environmental sustainability responsible. A lack of an understanding of restaurant environmental sustainability issues or the lack of clarity in the practice process demonstrate as significant problems in all restaurant cases. Only restaurant owners or managers in sustainability duty can be understood and follow the senior sustainability plan. As a result, employees continue to lack awareness and grasp of everyday work in a sustainable manner. Furthermore, the government does not have a specific curriculum for teaching restaurant operators on sustainability; instead, it offers general courses that include waste separation as part of its curriculum. A lack of expertise would most likely result in wasted time and inefficiencies; therefore, enhancing teamwork capacity and working in environmental efficiency required an expert to fulfil operators' knowledge. Organisational behavioural competencies and skills can be built through environmental training, which can be used to prepare and design certain activities, such as litter patrols and cardboard recycling, which are commonplace.

Chapter Two analysed and detailed a literature review on environmental practice teamwork and its numerous issues. Haddock-Millar et al. (2015) proposed that sustainable teams or restaurant managers should incorporate sustainability activities into their personal life experiences and activities in the restaurants. Employee involvement is a well-studied topic; what tends to be missing in the subject of sustainability human resource management is a deep understanding and narrative representations of employee personal experiences, while formulating and developing environment protection initiatives (Haddock-Millar et al., 2015). Environmental education and greater awareness, coupled with increased encouragement, allow companies to enhance their environmental performance. Building an efficient team to achieve sustainability goals, on the other hand, necessitates a variety of factors. A specialist, in particular, must be present to inform and advise the operators.

8.2.3 Gaps of RSSCM and Benefits

Significant gaps in sustainable development:

Empirical evidence revealed three significant gaps in the implementation of sustainability in restaurants: gaps of knowledge; collaboration between firms; and lack of traceability control.

The findings indicated that sustainable practices still lack the proper knowledge and understanding both between organisations and inside the company itself. Restaurants, in some cases, still lack the required skills to practice, while others have progressed to the point of continuous training. Human resource development is expected to establish an education-conscious private sector with strong government support (Esichaikul, 1998). Collaboration between firms should be a priority for many stakeholders in the restaurant supply chain in order to increase sustainability effectiveness. Because of this, environmental cooperation has been proposed as a moderator for the link between sustainable supply chain management practices and sustainability efficiency (Chin et al., 2015).

The second chapter reviewed the extensive literature on environmental practice to support the conclusions and highlighted its numerous concerns. Chen et al. (2017) concluded that collaboration partners under scrutiny have primarily been the company and its clients and suppliers, with no attention given to rivals and other horizontal collaboration partners. Enhancing sustainable development and supply chain collaboration requires internal and external collaboration with vendors, consumers, and competitors (Chen et al., 2017). Governments and universities/research institutes may participate in the collaboration process by defining development policies and contributing to appropriate R&D activities (Lee et al., 2010).

The lack of traceability control represents a barrier to increasing sustainability development. Most products and local raw ingredients were non-traceable because of the specific methods and processes used by farmers and fisheries to manage their operations. As a consequence, tracing ingredient products back to their source is difficult in this situation. As a result of the lack of visibility and influence over supply chain processes, an SSCM technology advancement would have the most significant effect on sustainability activities. Traceability is a tool that is used to ensure that regulations are followed and that food safety and quality standards are met. It is seen to be an adequate safety and quality-monitoring system that can improve food chain safety while also increasing consumer confidence. Food chain integrity concerns, as a result of globalisation in the food industry, there are concerns about not just food safety, but also origin deception and quality. A crucial criterion of food quality and safety, consumers also want reliable traceability evidence.

Empirical evidence has emphasized the operator's standpoint; UKCR respondents recognize the importance of traceability. Traceability also aids UKCR in establishing trust, providing tranquillity, and increasing customer confidence in the food system.

On the other hand, case restaurants in Thailand fall behind in terms of develop and implement food safety and traceability requirements, with insufficient control of chemical usage, contaminants, and an arduous learning curve in tracking capability, limiting the participation of producers and processors

The challenge in supply chain traceability is not only consistently exchanging information among various nodes in the chain but also expanding traceability expertise to both private and public sectors.

Technology's role is also represented in increasing customer visibility of supply chain operations, placing pressure on the supply chain to handle sustainability issues from beginning to end (Anderson and Anderson, 2009; Grant et al., 2015). Advances in information, communication, and media technologies have increased the visibility of supply chain operations. Customers are now more demanding of information visibility and accountability about supply chain operations' sustainability (Carter and Rogers, 2008; Grant et al., 2015).

The benefits of improving sustainability:

Even though there are multiple challenges and barriers to implementing environmental sustainability, gaps in improving environmental activity efficiency were identified as significant issues during RSSCM. The overwhelming majority of participants agreed that developing greener services in all situations would benefit the organisation. According to the participants' views, the four key advantages of implementing sustainability are as follows:

- Customer satisfaction
- Increasing quality of raw ingredients
- Creating value-added menus and efficient ingredient usage
- Reducing waste and saving energy

They are referring to customers, key stakeholders in advancing service sustainability progress. Customer clients also have expectations for receiving sustainable dining services. The two main expectations include quality of raw ingredients and service quality. The crucial evidence shows that entrepreneurs have to accelerate the quality of products and services in accordance with consumers' needs. Furthermore, customers also view the benefits of restaurant sustainability in a comprehensive dimension, both for customer satisfaction with service and the general environment's sustainability.

According to empirical data, sustainable restaurant practices as a concept in food sustainability, water and energy conservation, and waste reduction techniques have significant positive benefits on utilitarian consumer value. The findings suggest that if restaurants adopt food sustainability policies such as providing sustainable menus, organic food, meat replacements, and certified seafood products, consumers will perceive restaurant dining to be more helpful and delightful, contributing to diners' actual behaviour. Customers respondents rarely expressed their views on

environmental sustainability initiatives; instead, they cited food-focused sustainable restaurant practices that they had encountered. Furthermore, some respondents noted that sustainable initiatives were more likely to give the restaurant a positive rating.

From the viewpoint of the client, the advantages of enhancing the restaurant's sustainability include:

- Benefits for the environment
- Selection of high-quality materials
- Customer health
- Community benefits

Chapter Two also highlighted that customer knowledge of sustainable restaurant practices and environmental concerns are significant predictors of consumer intent to visit sustainable restaurants (Hu et al., 2010). Consumer principles tend to be crucial factors in their attitude, satisfaction, and destination images in relation to various aspects of sustainability in restaurants

Therefore, this research's findings strongly support the extant literature, which maintained that RSSCM advancement influences customer values both in terms of customer satisfaction with the dining service and the general environment sustainability perspectives. On the other hand, this research provided fascinating insights into the integration of restaurant benefits and consumer values in the hospitality industry's sustainability practices.

The following sections will analyse RQ2 by comparing empirical evidence of major findings with the existing literature.

8.3 RQ2: Sustainable Restaurant Development in Thailand

Key empirical findings in RQ2: How sustainable are restaurants in Thailand?

Extending the literature reviews, this section includes case studies of companies' environmental sustainability efforts. As a result, restaurant operations management will be explained as a division between how sustainable Thai restaurants are in comparison to sustainable restaurant management in the UK. The empirical evidence in terms of customer satisfaction and government policy to improve sustainable development will be examined by following the sustainable restaurant practice functions. Figure 8.2 represented restaurant practice diagram to highlight input, process and output in practicing sustainability into restaurants.

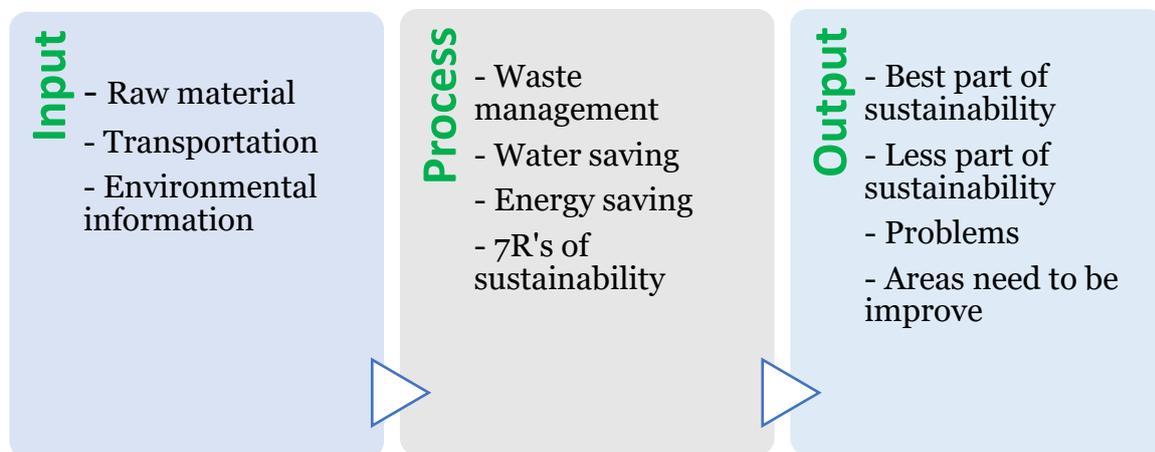


Figure 8.2: Sustainable restaurant practice diagram

8.3.1 Logistics and Supply Chain Management

The practice of sustainability turns inputs, process and output model in sustainability supply chain management. To demonstrated empirical finding on how sustainability is in cases setting, the approach describing the structure of sustainability practice into three tiers. First tier-input: raw material, transportation and environmental information. Second tier-process: waste management, water saving, energy saving and 7R's of sustainability. Third-tier-output: best part of sustainability, less part of sustainability, problem and areas need to be improved.

Input-related

The empirical findings represented a variety of percentages of local and organic sources on the menu, as follows:

- CRA 90%
- CRB 60%
- CRC 70%
- CRD 80%
- CRE 60%
- UKCR 50%

Case restaurants in Thailand demonstrated a higher proportion of local and organic products than in the UK case. However, the Thai cases defined input products as meat, vegetable, and seafood products while the UKCR expanded the product definition to include drinks, seasoning sauce, and all other ingredients. There are various raw ingredient sources in Thailand, including crop production, animal husbandry, and fishing. As a result, operators can conveniently purchase a variety of food products, but the study found it was difficult to find high-quality local ingredients in wider areas. Furthermore, organic products remain at a high price compared to conventional products, and there is the product choice is insufficient to meet restaurant requirements. The government emphasizes raw ingredient management, enacting several laws that have been used to increase food product quality. However, there is still an excess of chemical contamination in the food, requiring restaurant operators to be meticulous and continuously check the quality of the raw ingredients. For example, CRE constantly checks the ingredients to ensure there is no pesticide contamination. If the product colour is too dark, it is believed that the food has been contaminated by pesticides, and these inferior raw ingredients will be returned.

Empirical evidence demonstrated that developing a restaurant's sustainability through sourcing quality ingredients requires individual efforts and expertise in each company for them to obtain raw ingredients and maintain quality control on a continuous basis. As a result, entrepreneurs must employ a wide range of skills and services to procure environmentally sustainable raw ingredients. This issue remains a significant barrier to widespread acceptance of sustainable restaurants. The option persists that if quality raw ingredients are difficult to find and not affordably priced, an easy-to-buy, relatively low-quality product will be substandard in terms of sustainability.

The empirical findings have shown that participants from Thailand did not elaborate on eco-friendly transportation; instead, they only provided information on transportation management. The food ingredients illustrated a range of distribution methods, with some goods shipped directly from the source or suppliers. Furthermore, the entrepreneurs drive to purchase ingredients from the source or the community market. However, the UK case mentions pollution controls and other transportation arrangements under UK Management of Health and Safety regulations and European area regulations.

The customer highlighted the restaurant's value locally and organically in terms of contributing to the restaurant's quality of service and ensuring sustainability progress.

The awareness of environmental problems and customer health concerns is a key driver that restaurant operators must adapt to meet their needs. However, the findings show that the vast majority of participants have a constructive attitude toward environmentally conscious operations. Therefore, knowledge, understanding, work experience, and positions of responsibility contribute to sustainable restaurant practice development.

Process-related

Following a system boundaries study of restaurant services (Figure 8.2), restaurant activity involves water and energy consumption in many operational stages.

Waste management:

Empirical evidence demonstrated waste occurs throughout the restaurant process from the first step of the operation to the final function. A significant challenge for developing a sustainable restaurant is the abundance of packaging supply and distribution that comes with food products. Furthermore, packaging is the last line of defence for food items, and with the advent of suitable packaging materials, its protective purpose has developed into an active one. The proportion of surplus non-environmentally friendly products can be reduced by a commitment to minimize use of foam and plastic or by an exchange container scheme. Food scraps are produced during the preparation and cooking of food, separated out to make Bio Extracts then used to water plants. Restaurants in Thailand and the UK divided waste into three categories: general waste, food waste, and recycling in all cases. There was no certification or recycling scheme in place in the Thai cases. Rather than the government organizing a system, waste efficiency was determined by individual results and personal networking content. Food waste and scraps are only partly treated, with some of them being mixed in with general waste at collection points. Besides this, the alignment of recycling waste is still an issue. Many forms of debris are unable of being recycled due to technological constraints and the capacity of the recycling operators.

In most cases, restaurants employ a housekeeping policy for dealing with recyclable waste, assigning the task to them to classify and sell the items for personal gain. Despite the fact that the method benefits both the company and the customer, the approach impedes the organization's development in productively reusing and recycling items. The management method has a direct impact on the quality of restaurant waste management. Findings indicate that establishing a corporate network or locating a region with a central waste management schedule results in higher waste and recycling productivity than when no support venue exists.

Similarly with previous studies identified a range of good business practices for ineffective restaurant food waste management include committed food waste management in their corporate agenda, arrangement with a nearby farm to provide them with most of its food waste, which was composted (Filimonau et al., 2017; Wohner et al.,2020). Food supply plays a significant role when considering global environmental impact, and food waste has become a considerable sustainability

problem in developing countries as they continue to urbanize and consume increasingly large amounts (Wang et al., 2018). As a result, efficient waste management is vital for environmental protection in both upstream and downstream industries.

Water and energy management:

According to empirical evidence, the lack of water quality in restaurants as a result of water service technology is a significant deficiency in sustainability practice. As a result, restaurants must develop a robust water supply that includes both water intake and water quality, both of which are critical aspects of sustainable gastronomy. As a result, every case study aims to strengthen the definition of water conservation, such as using a water bottle, watering plants with used water, using standardisation items to save water, and testing equipment conditions regularly. CRB, for example, has conserved water in its operations by using conventional methods and common sense. CRC aims to save water by using hand-rinsing cycles or performing daily measurements of water-use areas.

Energy conservation is an important activity, as all aspects of energy usage can be conserved. Energy management starts with monitoring and progresses to energy use preparation. In most situations, businesses minimize energy usage by adding some green equipment to their operations management, thereby decreasing electricity and gas consumption. The restaurant adapts technology function to conserve energy, such as replacing incandescent lighting with LED lighting or using certified energy-saving equipment. It uses charcoal instead of gas or prepares large portions of food at the same time to save gas. In a similar vein, energy efficiency through reduction of cooking time was identified as a critical feature in potential innovations for restaurant sustainability (Chou et al., 2018). To increase energy efficiency, the UK case operator used technology to control electric power, including automatic devices and control through mobile phone applications.

Therefore, restaurant management could adopt policies focused on the use of sustainability both inside and outside the restaurant: insulation, an energy-saving lighting device, or the use of electric or pellet-fired ovens instead of wood, and so on.

7Rs management:

Empirical evidence suggests that for certain areas, the majority of respondents understand 7Rs management. In all cases, the restaurant lacked a systematic strategy to handle waste, and save water and other resources in compliance with the 7Rs of sustainability: rethink, refuse, reduce, repurpose, reuse, recycle and rot. The methods for effectively developing sustainability are still limited. Knowledge, experience, and consistency in practice all have a massive impact on effectiveness. Restaurants that focus on reducing energy consumption by using certified energy-saving systems or implementing energy-control technology, for example, will improve their energy capacity. Most of respondents represented a lack of understanding in 7R's of

sustainability both in terms of knowledge of the seven elements and how to imply the model elements to encourage with waste, water and energy saving. A sustainability work plan should be promoted and implemented to enhance waste management, water conservation, and energy efficiency. As Maynard et al. (2020) concluded when dividing restaurant efficiency into three sections: “1. water, energy, and gas supply; 2. menu and food waste; 3. waste reduction, construction materials, chemicals, employees, and social sustainability.” (Maynard et al., 2020). Furthermore, enhancing energy efficiency, water conservation, emissions control, reuse and recycling, minimising food waste, using green building designs, and using eco-friendly materials in infrastructure construction and facilities are part of the unique restaurant sustainability planning. There are also several negative environmental consequences associated with restaurant and food industry activities, such as unnecessary energy use, which contributes to the accumulation of carbon footprints, food waste, excessive plastic use, and product misuse. On the contrary, environmental effect avoidance can be accomplished without incurring additional costs, like cost-neutral, even with the potential of monetary benefits (Baldwin et al., 2011).

Output-related

In environmental stewardship the effects of practicing are relative to the practice's focus areas. In businesses where the owner imposes a greater emphasis on sustainability to protect the environment, employee accountability is more enthusiastic than in businesses where the owner engages in training less. As shown in Table 8.2, empirical evidence devoted the best part and worst part of sustainability practice depending on the unique background.

Table 8.2: Sustainability practice output

Sustainability practice output	Degree of opinions	Results	Remark
Best part	Slightly vary	Cases = Input and process Customer = Input and output	Results accordance with focus activity and area to continue to practice
Worst part	Slightly vary	Input, process, and output	

The venue assessment outcome revealed that the best part of sustainability practice is the input product and restaurant operation process. Furthermore, the measured restaurant input and output are better indicators of sustainability viability than the operational processes. However, the empirical findings revealed that all aspects of operation management, including input, process, and output, are still weak areas in terms of sustainable restaurant development. Furthermore, to engage in sustainable practices is restaurants social duty (Raab et al., 2018). Increased consumer awareness of environmental and health issues puts pressure on businesses to respond to changing customer demands. Consumers are more concerned with sustainability, and they want their restaurants to use sustainable metrics to achieve this goal. From a consumer

standpoint, organic and locally sourced products are the most important focus area. At the same time, the process of food waste management is a fairly important point, and restaurant energy and water management represent a somewhat important segment.

Table 8.3 : Self-assessment comparison evaluation

Cases	Score of 10	Customers	Score of 10	Customer Assessment
CRA	7.4	CCRA	9	Higher
CRB	6.6	CCRB	7	Higher
CRC	7.8	CCRC	7	Lower
CRD	8.2	CCRD	8	Lower
CRE	6.8	CCRE	7	Higher

Empirical evidence showed that customers from CRA, CRB, and CRE rated the restaurant’s environmental sustainability higher than the they self-assessed, while the CRC and CRD customers gave a lower environmental rating than the case's self-assessment. Customers with ecological concerns and health awareness have expectations regarding the service in terms of sustainability. Customers' expectations and aspirations for restaurant sustainability are reflected in the assessment results. The customer respondents were focused on the service received, thus empirical perception through the food menu. Ingredients and services affect environmental sustainability assessments, and where there was a lack of awareness of management information. On the other hand, the restaurant cases self-assessment reflects management practice. Furthermore, the performance standards of persons in various roles will result in varied evaluation outcomes. However, the assessment results underscore the importance of environmental sustainability development in the restaurant business.

The relationship between restaurant customers' knowledge of sustainable practices and their willingness to patronize such restaurants is essential for pointing out sustainable restaurant involvement (DiPietro et al., 2013; Wu et al., 2013). Customers with different levels of knowledge of restaurant sustainability qualities have other decision-making processes, according to Raab et al. (2018). However, they all share the value of a happier existence (Raab et al., 2018). Restaurants can successfully

embrace sustainable brand positioning by basing customer loyalty on a sustainable image factor. To explain the importance of customer satisfaction in ensuring the long-term viability of a restaurant, customers' intention to patronise a restaurant was significantly influenced by its sustainable practises, according to Hu et al. (2010). They also revealed that a consumer's intention to visit an environmentally friendly restaurant was positively associated with their income and education levels.

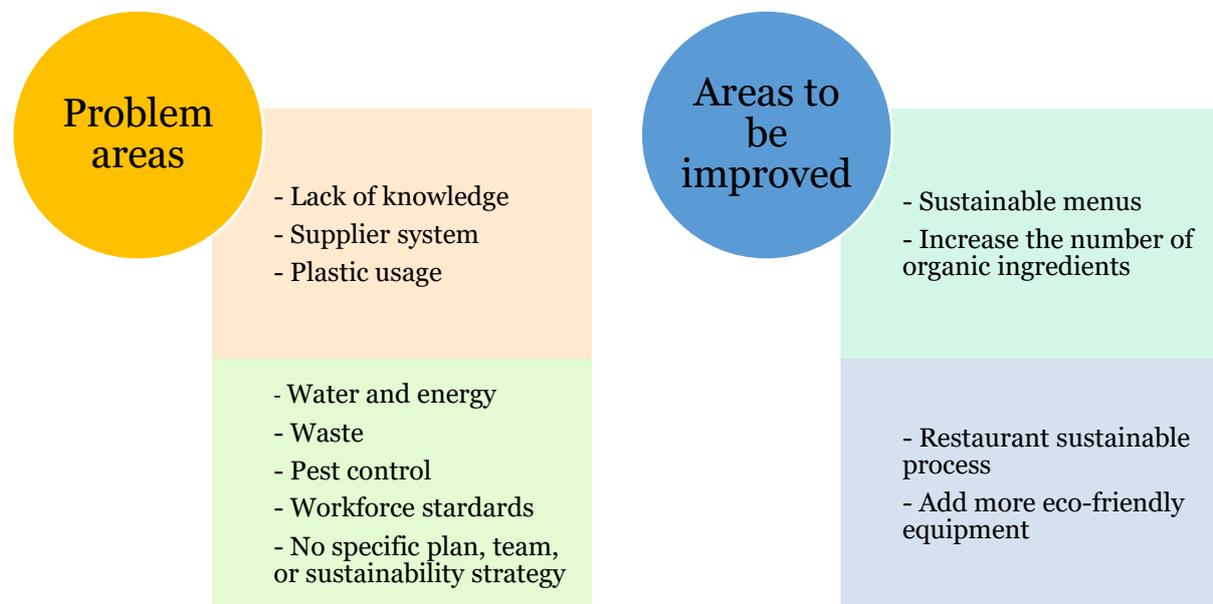


Figure 8.3: The problem areas versus areas to be improved

Empirical findings detected various problem areas in environmental sustainability practice in the restaurant as presented in Figure 8.3 lack of knowledge, supplier systems, and plastic usage were the top three significant problems. Other barriers such as water, energy and waste management continue to be constantly evolving parts to practice. Pest control problems, workforce standards, and a lack of specific plans, dedicated team or sustainability strategy provide insight into the obstacles for driving restaurant sustainable advancement. Furthermore, improving the sustainable service to meet customer' needs requires the ability to accelerate the renovation of four factors: sustainable menus; increasing the number of organic ingredients; sustainable restaurant process; and adding more eco-friendly equipment. Based on the evidence demonstrated, it is possible to infer that sustainability improvement would necessitate improvements in various areas, both internally and externally, across the restaurant supply chain.

The government's Green Restaurant Project is an excellent place to start when it comes to determining the restaurant industry's sustainability development. Despite the limited number of participants in the project, it can serve as an example to other organisations aiming to improve their environmental practices. However, ensuring supply chain sustainability would necessitate additional programmes that cover both downstream and upstream operations. Focusing exclusively on restaurant

entrepreneurship would not be enough to support the industry's sustainability development. Sustainable agriculture, enhancing sustainable suppliers, construction waste management, and technical advancement for water and energy conservation all need public and private sector support.

Chapter Two also highlights that sustainable development is critical to the success and competitiveness of food businesses; however, it is difficult for companies to achieve true sustainability (Hutchinson et al., 2012). Lack of technical advice and services are significant roadblocks (Jang, 2016). The four elements of organisational learning characteristics for restaurant innovation practice, according to Chou et al. (2016), are information-sharing, inquiry environment, learning to practice, and achievement mentality. The Green Restaurant Association (2015) highlights Energy and water efficiency and conservation in food-service facilities are two significant areas where sustainable practises can be implemented. There are several areas that need to be focused on as sustainability development functions: “the zero-waste target through reducing, reusing, recycling, and composting; green food purchases through sustainable, organic, and local channels; reducing chemical use and pollution; and sustainable duplication”.

A strong correlation can be seen about the case companies' capability creation developments by analysing the relationship between the literature and empirical evidence (input, method, and output sections). Furthermore, empirical evidence supports the form of capacity development sustainability described in the literature and used by the case companies in the Thai food and catering industry. As a result, the findings back up the above researchers' claims about capacity growth in restaurant sustainability supply chains.

RQ3 will be examined in the following section by comparing empirical evidence of major results to the established literature.

8.4 RQ3: Best Practice in Sustainability

There were key empirical findings from RQ 3: What is ‘best practice’ in terms of the restaurant sustainability in Thailand?

This section extends the literature reviews to include dedicated empirical findings from case studies of the companies' environmental sustainability efforts. In order to develop a sustainable restaurant, the best environmental sustainability restaurant practices in Thailand will be clarified. The empirical evidence will be divided into two sections: sustainable restaurant improvement areas, and enhancing environmental sustainability best practices.

8.4.1 Sustainable Restaurant Improvement Areas

Sustainable restaurant improvement areas were found as a sustainability weakness, and some areas had to be improved in order to develop restaurant environmental sustainability using the three-element functions: key activity in implementing sustainability; best way to implement sustainability; and sustainable supply chain management. The empirical findings from each function compare these improvement areas with existing literature.

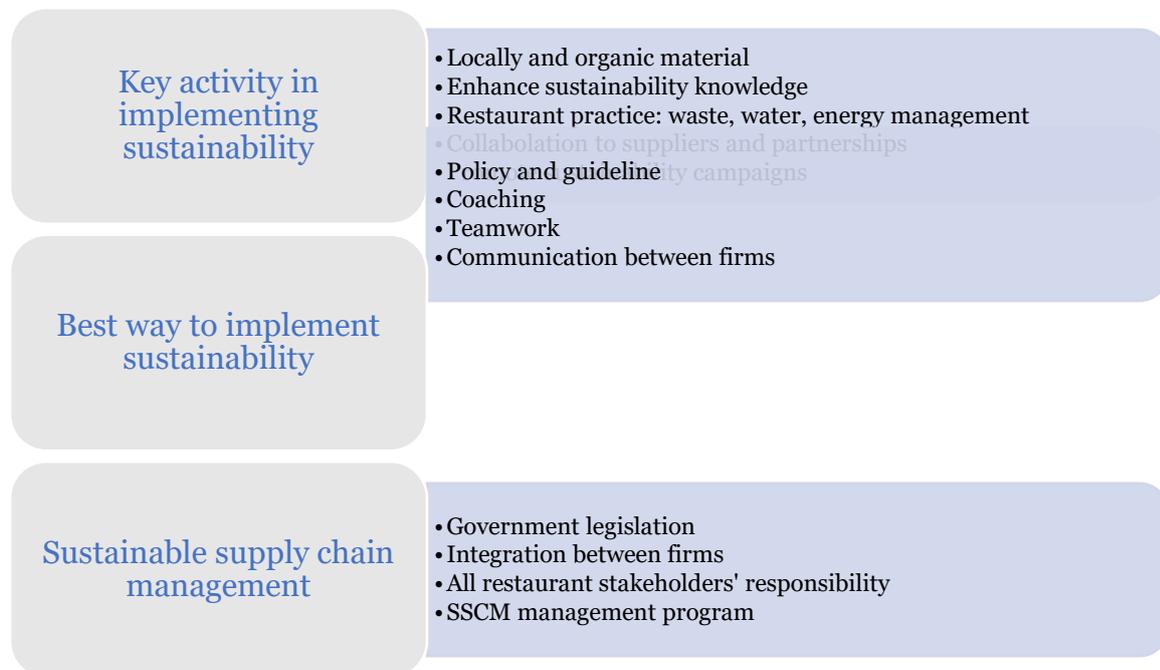


Figure 8.4: Sustainability improvement chart

Key activity in implementing sustainability:

Empirical evidence dedicated to five key activities must be focused on implementing environmental sustainability into the restaurant. The critical finding functions were divided into internal and external factors to develop the restaurant implementation in order to achieve best practices.

First, local and organic ingredients were represented as a significant activity and need to be improved to develop a sustainable restaurant. To increasing organic food consumption will promote a healthier and more sustainable diet. As a result, restaurant owners can distinguish their menus by including local foods and organic items. Restaurants may become effective marketing platforms for local farmers, creating a restaurant offering consisting of a simple menu of local foods seamlessly integrated with organic farm produce that focuses on long sustainable development and food quality. Organic goods and animal welfare, on the other hand, seem to have a minor effect (Filimonau and Krivcova, 2017).

Second, enhancing sustainability knowledge is related to empirical findings on the current state (section 8.2.2) and logistic and supply chain management (section 8.3.1). Consequently, knowledge is increasingly being discussed as an organisational capacity, with origins in both the resource-based and, more recently, complex capability perspectives (Piyya, 2015). There is also information listed in the literature on sustainable supply chains. For example, Carter and Rogers (2008) focused on information management and asserted that knowledge is a well-known and generally accepted concept. According to Carter and Rogers (2008), awareness and human capital resources include the preparation, experience, social relationships, and insights of managers and staff in an organisation. In order to apply the resource-based view of supply chain resources to improve sustainability awareness in both restaurant operations and fulfil stakeholders' knowledge.

Third, restaurant practice: waste, water and energy management. The importance of empirical evidence devoted to restaurant waste, water, and energy practices improving sustainable restaurant operations. Recycling, closed-loop and green production systems, waste management technologies, green or eco-design technologies, emission reduction transportation systems, resource and energy conservation technologies, refurbishing, and repainting are all similar to the significant technological advancements listed in sustainability literature for their positive impact on sustainability and, ultimately, firm performance (Grant et al. 2015; Winkler, 2011). Restaurants, particularly in the catering sector, practice waste separation, especially for food waste, and manage both water and energy efficiency as critical practice areas that contribute to food industry sustainability success.

Fourth, the empirical findings showed that restaurant collaboration with suppliers and partnerships is the key relevance for practising sustainability into the restaurant throughout the supply chain. Ku et al. (2020) mentioned that a supplier who is capable of producing restaurant companies' products efficiently may be able to meet the product project's needs for adapting to restaurant companies and improving mutual coexistence. Furthermore, when suppliers or businesses make significant decisions, a supplier–supplier relationship is established. Suppliers can work with restaurant companies to enhance the distribution process by investing in highly specialized equipment and, in turn, improving supply chain efficiency. In Chapter Two, restaurant

collaborations' advantages were discussed, including collaboration with customers and competitors, improved profitability, engaged long-term relationship and reducing environmental impacts (Un and Asakawa, 2015; Alzoubi et al., 2019; Chin et al., 2015; Chen et al., 2017). Supply chain companies are increasingly interested in forming collaborative relationships with supply chain partners to co-create world-class products, attract the most valuable customers, and achieve extraordinary profits.

Fifth, empirical evidence seems to promote the benefits of sustainability campaigns or developing sustainability throughout the supply chain. Due to a lack of knowledge and less awareness of environmental sustainability practice, people interested in environmental protection and resource use issues should participate in a long campaign. In-house preparation, implementation, and ongoing practice were the other vital components. When an organisation conducts environmental sustainability campaigns via restaurant social media, it is critical that managers increase followers' confidence in the restaurant, as this will have a significant impact on the campaign's success (Martínez-Navalón et al., 2019).

Thus, the empirical evidence provides novel insights by exploring that, on the one hand, knowledge is a dynamic capability, and on the other, it is a vital activity in implementing sustainability due to lack of it. Therefore, it can be argued that the five key activity factors: local and organic material; enhancing sustainability knowledge; restaurant practice: waste, water, and energy management; collaboration to suppliers and partnerships; and promoting sustainability to help case restaurants to improve sustainability effectively and efficiently.

Best way to implement sustainability:

Empirical findings demonstrated four best ways to implement sustainability into the restaurant: policy and guidelines; coaching; teamwork; and communication between firms.

First, sustainability policies boost management experience and employee engagement. Policy and guidelines emphasize the importance of solid collaborations between managers and employees, which are currently complicated by various environmental sustainability experiences. Providing clear policies and instructions has several advantages in terms of empowerment consolidation in operations. National environmental policy support allows the operator to enhance awareness of sustainability improvement and rapid change individual policy in accordance with the regulations. The fundamental driving forces for environmental policy implementation are compliance with regulations and legislation and cost savings. Restaurants can effectively use the metrics to boost their sustainability efficiency as a guideline to mapping restaurant practice and guideline indicators.

Second, coaching: owing to the extreme lack of necessary expertise to follow sustainability terminology, a competent individual is an essential component of driving successful practical training. Robust monitoring and continuous assessment within the venues are used to establish coordination of practice progress for external specialists and internal authorities. Restaurant management can encourage personnel

employees to take part in long-term service-related training to help them think more creatively. Increasing employee access to fresh knowledge, organising innovative competitions, and forming teams to be accountable for developing and executing new ideas (Chou et al., 2018). The learning practice aspect focuses on the types of activities that organisational participants participate in to learn, and it can be a helpful indicator of sustainable service innovation. Members, in other words, take the opportunity to learn in order to boost the catering industry's sustainability operations (Chou et al., 2016).

Third, teamwork: empirical evidence represented teamwork as the most efficient way to improve restaurant performance. In conjunction with coaching and supervision activities, the restaurant policy and guidelines ensure knowledge transfer between departments and promote effective teamwork. In a fast-paced workplace environment, effective teamwork is critical to progress towards environmental sustainability. Teamwork awareness affects both team and individual outcomes. Moreover, team learning behaviour was revealed to buffer the correlations between collaboration experience and team results. Therefore, improving sustainability practices has a direct influence on the growth of successful teamwork.

Fourth, communication between firms: to ensure that the operational shared with the correct view of environmental sustainability, communication between firms and stakeholders must be regularly strengthened. Both the bottom-line path and feedback feature to successful sustainable business involved both communications between stakeholders and venue transmission; two-way communication stands out as essential operations. The ways and degree to which organisational members share information are highly related to information sharing in the restaurant business for sustainable service innovation; that is, members are willing to share information, especially in the catering sector (Chou et al., 2016). The value of communication and information sharing in business supply chains is seen, for example, in rapid response, pattern identification, agility and responsiveness, visibility and control, supplier management, and as characteristics of networked and virtually integrated supply chains (Piyya, 2015). Knowledge sharing and communication with consumers are also emphasized in sustainability literature, which mentions to encourage and educate consumers about non-sustainable practices in restaurant supply chains. Inclusion, knowledge exchange, and contact with various stakeholders are also highlighted in the sustainability literature for credibility purposes, should any adverse occurrence come about, either consciously or unconsciously (Grant et al., 2015; Carter and Rogers, 2008; Seuring and Muller, 2008).

Sustainable supply chain management:

Empirical findings represented the four elements preventing negative environmental impact throughout restaurant supply chain processes: government, integration between firms; all restaurant stakeholders' responsibility; and the SSCM management programme.

To compare sustainability practices in Thai restaurants in Thailand and the UK, the findings revealed that restaurants in the UK had made progress in terms of sustainability through public and private sector cooperation. Specific guidelines,

competent organizations, improved logistics, and increased public awareness are all factors that contribute to progress towards environmental sustainability conservation. Furthermore, the SSCM management programme was retained as a key component of the guided property topic, resulting in the prevention of adverse ecological effects in the supply chain processes.

Consequently, restaurant sustainability best practice is associated with sustainable development throughout the supply chain. The government plays an essential role in supporting the progress of environmental sustainability development. Environmental consciousness has increased due to the law, and businesses can improve their business practices and environmental policies (Yuçedag et al., 2018). The government's environmental focus and specific regulations to promote sustainability processes contribute to improving ecological sustainability advancement.

Developing environmental sustainability requires cooperation from many sectors. Integration between firms is a crucial tool for driving productivity and effectiveness across the supply chain, contributing to long-term sustainable cooperation. Improving supply chain efficiency requires both internal and external supply chain organization. Therefore, the best-performing restaurants use improved coordination to effectively manage internal and external relationships between functions and organizations. Cross-functional and multidisciplinary teams should develop critical skills such as imagination and flexibility. As a result, internal feature alignment and organization are necessary for sustainability improvement and innovation.

All restaurant stakeholders, both upstream and downstream as well as inside the corporation, such as restaurant employees, play a role in driving the improvement. Therefore, the stakeholder's responsibility lies in connection with the success of implementing the policy to concrete implementation. In order to reduce the environmental effects of the restaurant and food industry, it is critical to arrange educational workshops and seminars for workers and other stakeholders on environmental awareness and issues. While restaurateurs agree that customers are becoming more aware of the impact of their food choices on their health and the environment, they are sceptical of menu design as a means to influence consumer choice (Filimonau and Krivcova 2017). The quality of the food is at the heart of a restaurant's experience, thereby affecting customer satisfaction.

The empirical evidence indicated that the Thai restaurant in the UK follows specific legislation, guidance, or regulations to meet environmental sustainability. Furthermore, as an SRA member, a non-profit organization dedicated to driving and fostering meaningful change in the food-service industry, the business can develop gradually under professional oversight. A lack of knowledge and expertise is often a significant impediment to improving environmental sustainability (Kasim and Ismail, 2012). To enhance sustainable development in a developing country such as Thailand also requires a specific development programme to stimulate manufacturers, retailers, consumers and reverse logistics flow of sustainable processes.

The association between empirical findings and the existing literature indicates that the four elements of government, integration between firms, all restaurant stakeholders assuming responsibility and the SSCM management programme is innovative and strategic in preventing negative environmental impact throughout restaurant supply chain processes. Hence, this study contributes by examining how

RSSCM can be improved by concentrating these elements, especially in a chaotic and competitive industry such as the catering industry.

8.4.2 Enhance Environmental Sustainability Best Practices

Empirical evidence dedicated to achieving restaurant sustainability best practice requires concentration from both internal and external venues. As research findings are presented in the section above (section 8.4.1), the key activity in implementing sustainability complies with the sustainable restaurant practice diagram (Figure 8.2): input; process; output. Local and organic raw ingredient is the significant component to drive the catering services phenomenon. Activities in the restaurant process, such as practicing waste management, water and energy efficiency, and improving supporting activity, are shown as crucial comprehensive practices.

Empirical findings show a lack of knowledge of sustainability terms about enhancing sustainability practicing in the restaurant and potentiality embracing environmental longevity throughout the supply chain processes. Restaurant sustainable best practice in Thailand needs to be sort certain environmental criteria into the practice of developing core activity and supporting activity, including in cooperation with external stakeholders.

In this study the three major areas of restaurant sustainability best practice (Figure 8.5) are introduced to amplify restaurant environmental sustainability advancement by researcher as follows:

- (1) sustainable products: local and organic products;
- (2) sustainable process:
 - process 1: waste, water, energy efficiency;
 - process 2: teamwork, communication between firms, exchanging knowledge
- (3) sustainable knowledge: policy, guidelines, and coaching.

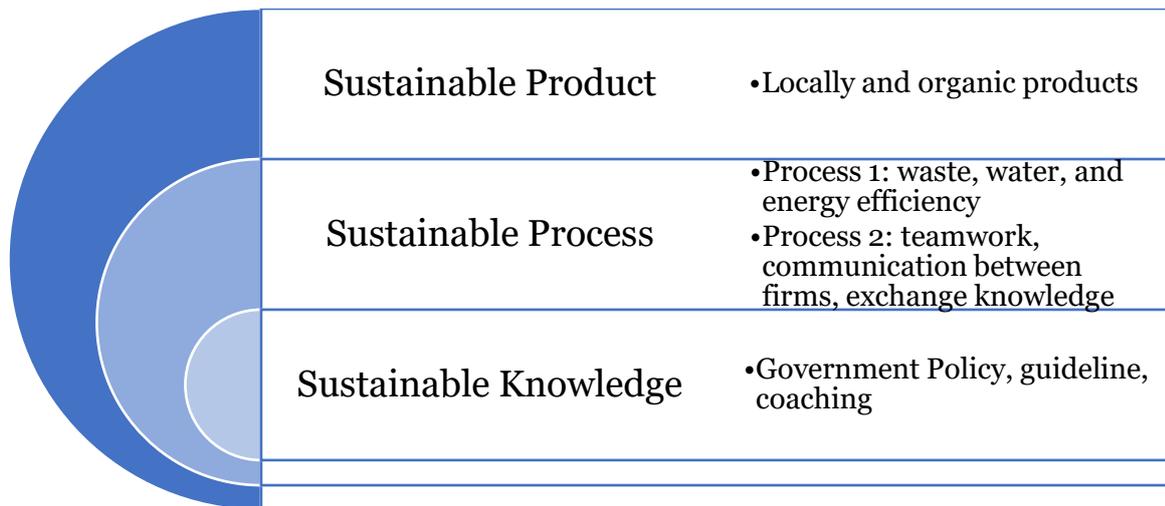


Figure 8.5: Three major areas of restaurant sustainability best practices

The literature review in Chapter Two examined the existing literature on environmental sustainability practices, presenting that different researcher proposed various elements and management functions. Various strategies and processes for integrating and managing supply chain sustainability were described in Chapter Two.

The empirical evidence partially supports previous studies in terms of demonstrated the main areas of sustainability practice (GRA, 2016; Jang, 2016; DeMicco et al., 2014; Schubert, 2008; Szuchnicki, 2009). Given the restaurant industry's escalating production costs and environmental fines, offering sustainable food and service through new technology and management has become a significant concern for the industry's future growth. Hence, organizational knowledge plays a critical role in the practice process for developing creativity and maintaining the relationship between individuals and the environment. However, the empirical evidence showed that none of the six case companies had a dedicated department or specific person responsible for supply chain sustainability progress. With regard to RSSCM, empirical evidence revealed a lack of information on how to implement efficient practice creativity following the restaurant duty. Furthermore, the case companies do not have a structured strategy in place, and the procedures they use are primarily integrated into the managers' job duties and responsibilities. However, empirical evidence indicates that a constructive attitude toward environmental operations is a major managerial factor in RSSCM's ability to achieve long-term success.

To extend the literature, this research focuses on sustainable restaurant best practice through corroborating with stakeholders throughout the supply chain, specifically in the internal practice development. Sustainability activities may be a critical feature of sustainability capability, and restaurants should prioritize causing an indirect impact on firm results due to the potential for sustainability. A substantial connection between motivation and competitive pressure moderates the relationship between perceived innovation and the organization's ability to harness sustainability success. Employees have more opportunity to learn new things, organise ground-breaking competitions, and create teams to be accountable for establishing and implementing a sustainable service by encouraging them to engage in sustainable service-related

practise to strengthen their creative thinking talents (Chou et al., 2018). Therefore, the three major areas of restaurant sustainability best practice consist of sustainable product, sustainable process, and sustainable knowledge.

The following sections will examine RQ4 by comparing empirical evidence of major findings to existing literature.

8.5 RQ 4: Framework

Key empirical findings for RQ4: What framework or model could be developed and used to encourage best practice in terms of restaurant sustainability in Thailand?

The literature reviews contain empirical findings from case studies of corporations' environmental conservation efforts to a reasonable degree. A division on essential elements to improve environmental sustainability in Thai restaurants will be explained to develop a framework to facilitate three major areas of restaurant sustainability best practice. There will be four parts of the evidence: RSSCM concentration functions; enablers and barriers in developing sustainability; key success; and sustainable restaurant framework.

8.5.1 RSSCM Concentration Functions

Empirical findings revealed that there was still scope for improvement in the Thai restaurant supply chain regarding sustainability in various fields, including industry backwardness, restaurant operations, and downstream vertical integration. The key focus areas are dedicated to 14 areas divided into four categories of the restaurant supply chain (Figure 8.6). The first category is input: raw ingredient, seasonal fishing, farmers, fisheries, and pesticide problems. The second category is operations: restaurant practice, food waste management, water and energy conservation. The third category is stakeholders: government regulations, eco-friendly products, recycling operators, distributors, and the community. The fourth category is sustainability: enhancing public knowledge, traceability, and efficiency supplier management programme.

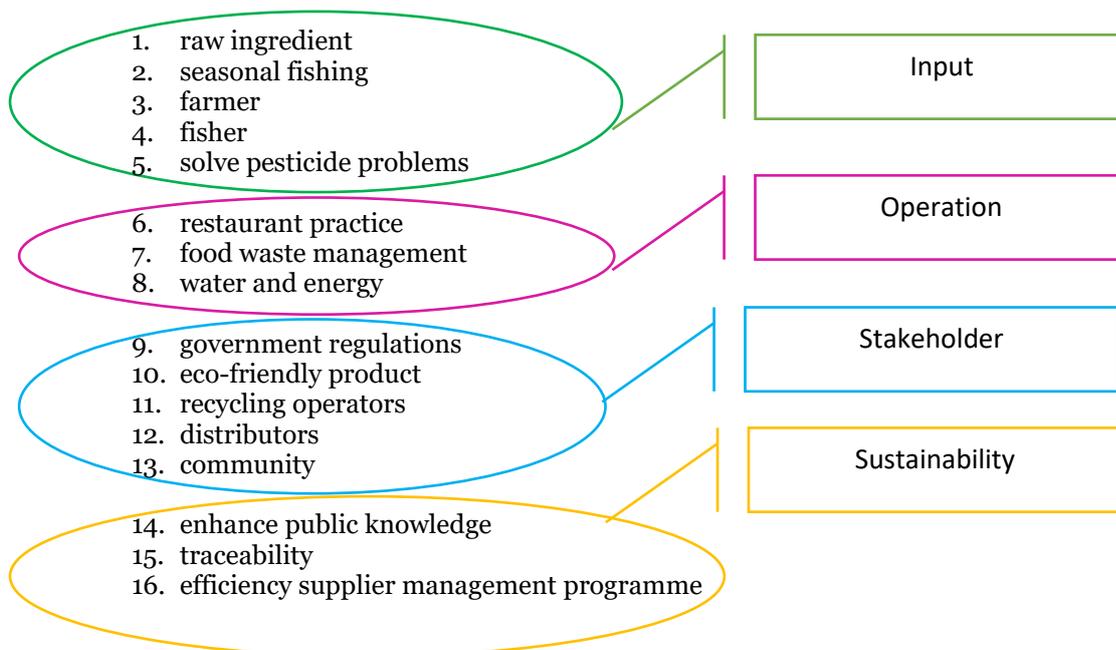


Figure 8.6: RSSCM key focus areas

Environmental sustainability can provide restaurateurs with a competitive advantage (Schubert et al., 2010). In terms of developing sustainability throughout the restaurant supply chain, the management process for obtaining quality raw ingredients is the main factor behind enhancing sustainability. Therefore, focusing on improving raw ingredients, seasonal fishing, talking with suppliers and solving pesticide problems is critical to improving the quality of input products. Organic farmers raise livestock ethically and follow sustainable farming and fishing standards that safeguard the environment instead of traditional farming and industrialized food processing. Despite high prices, limited supply, and the public's lack of knowledge and understanding about environmental sustainability, more excellent knowledge transfer to producers and consumers is critical to improve Thailand's sustainable food production and consumption. Restaurant practice, especially in waste, water, and energy management areas, is beneficial to both the environment and business. In addition, improving solid waste management and controlling water and energy usage showed that environmental practices will subsidize the bottom line while reducing their adverse ecological effects. Therefore, improving supply chain output necessitates addressing several similar problems in physical goods flow and knowledge flow in Thai restaurants. In the case of fresh food with a short shelf life, waste can be prevented by ensuring that the product arrives on the market in outstanding shape and at its peak freshness. Waste reduction, on the other hand, is a vital component in ensuring the supply chain's long-term viability (Kaipia et al., 2013).

Empirical evidence revealed that restaurant stakeholders are crucial partners in improving sustainability. Government regulations, eco-friendly product, recycling operators, distributors, and the community are shown as critical areas in the development of RSSCM. Environmentally focused sustainability initiatives in the food industry can provide a long-term competitive advantage. Therefore, government support and educational institutions are critical in raising awareness and promoting positive attitudes toward organic foods among producers and consumers (Pumhiran, 2016). Building sustainability requires holistic views to stimulate all stakeholders to perform their duties according to the regulation. Therefore, the areas of improving sustainability are significant for enhancing public knowledge to achieve the right kind of knowledge and lead to environmental awareness. Furthermore, the Thai restaurant still lacks traceability control; most restaurant products are non-traceable. Consequently, developing traceable data to the source, both about cultivation method and livestock, care model encourages restaurant operators and their stakeholders, especially the customers, to perceive the higher quality of products and services. In addition, an efficient supplier management programme also expands the environmental dimension of sustainability inherent to the catering sector's nature. Greater understanding and awareness of the sector's sustainability priorities is needed, which could be achieved through a collaborative rather than competitive supply network.

8.5.2 Enablers and Barriers in Developing Sustainability

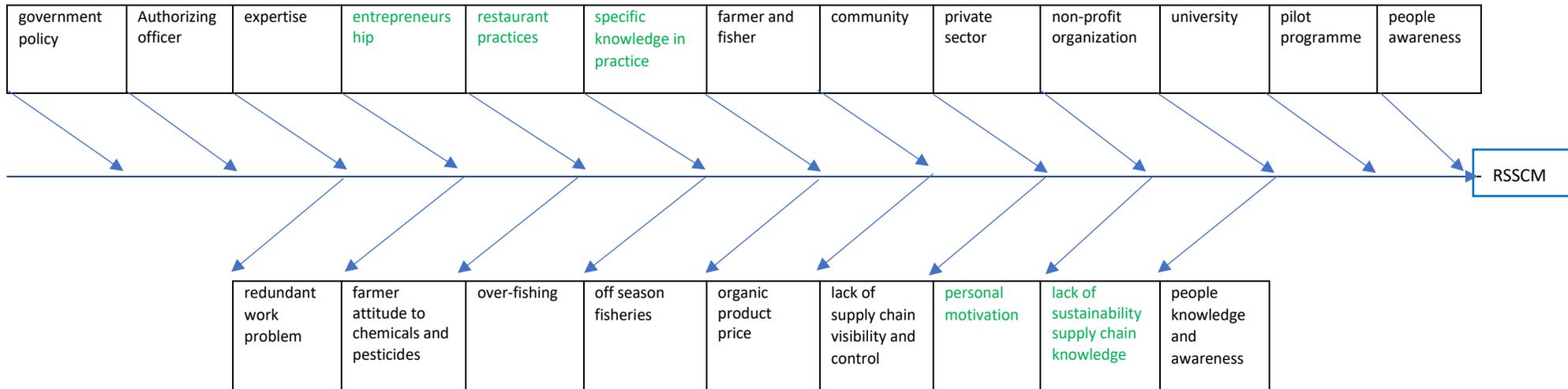
In order to develop a sustainable framework to encourage restaurant best practice, thirteen enablers and nine barriers were identified across all three dimensions of the study. There are more enablers to the adoption of RSSCM than barriers. According to the literature review, more studies have identified both enablers and barriers, likely due to a willingness to intensify on the positive and negative aspects of sustainability SCM research (Mollenkopf, 2006; Walker & Jones, 2012; Tate et al., 2012; Shaw et al., 2021).

The primary enabler and barrier statements defined in both internal and external categories were used to construct the Fishbone diagram in Figure 8.8. The internal drivers can be related back to organizational theory in the existing SSCM practice literature. Entrepreneurship represented significant issues for the organizations participating in the interview sections. Restaurant practice and specific knowledge in practice were mentioned regarding the complexity, particularly to improve their knowledge and operational efficiency. External drivers, including government policy, are key drivers of advances in practicing compliance with legal requirements. Authorizing officer and expertise are important elements in the transmission of knowledge to progress with a sustainable environmental policy and guidelines.

In contrast, RSSCM barriers have been identifying both independent elements and co-elements as the driver. The internal barrier to developing sustainability is dedicated to two major areas: lack of sustainability supply chain knowledge; and lack of personal motivation. While external obstacles can also group together to link to the enabler: farmers' attitudes to chemicals and pesticides, over-fishing, and off-season fisheries at the same time farmer and fishers identify as a key driver. There were proponents and opponents of certified organic farming in the study. Organic requirements were deemed too costly, posing a regulatory barrier to entry for small farmers and producers. Public knowledge and awareness were important to both sides; therefore, this reinforces the focus on fostering sustainable environmental knowledge as being extremely helpful in driving activities across the supply chain. In addition, seasonality, scarcity of supply, and a disconnect between producers' desire to supply locally and buyers' desire to source locally have all been mentioned in sustainable food system barriers literature. Similarity with Kasim and Ismail (2012) studied the effect of food services on the environment and the factors and barriers to reform, an analysis of environmental management in the food-service business, in general, and the restaurant industry, in specific, was emphasized. They found several barriers to reform ecological management, including "a lack of enforcement of environmental laws and regulations", "a short and sporadic green supply chain", "a lack of trade pressure", and "a lack of consumer and community appetite" for restaurants to adopt green practices. Government action, such as public information, capacity building, and commerce and agricultural reform to produce more organic crops are all examples of government intervention.

Empirical evidence suggested the exploring strategic alliances and networks would be a brilliant idea. Networks consisting of government, farmers, fishers, community, private sector, non-profit organizations, universities, local restaurants, the pilot programme, and consumers can assist actors in resolving the scaling-up issue that occurs in the restaurant supply chain. The lack of previous research reflected RSSCM enablers and barriers. The empirical findings are specific to an integrated drive to reduce barriers that strengthen the restaurant supply chain. Figure 8.7 interpret Table 7.8 and Table 7.9 show barriers and enablers in developing restaurant sustainability.

ENABLERS



BARRIERS

Figure 8.7: Enablers versus barriers in restaurant sustainable development

Remarks: External factor in black colour; Internal factors in green colour

8.5.3 Key of success

In Chapter Two, the importance of government support and policy and guidelines in order to achieve sustainability success was also highlighted, for example, in restaurant practice for quick response, improved visibility and control, supplier management network, and to encourage cooperation between firms (Yuçedag et al., 2018; Boosabong, 2019). The increased level of awareness and development phase of RSSCM strategies are also key success factors in improving sustainability rapidly and increasing long-term success, according to RSSCM literature (Schubert et al., 2010; Carter and Rogers, 2008; Seuring and Muller, 2008).

Empirical evidence shows that the Thai restaurant in the UK demonstrates a greater degree of progress than the restaurant in Thailand. In order to develop sustainability in hospitality areas and continue to set higher goals, specific legislation and guidance from government and specific organizations such as the SRA are the driving force for restaurants to adapt and develop according to professional guidelines (Table 8.3). Hence, restaurant operation on an environmental mission under government policy and under-investigated experts allow the businesses to encourage widespread adjustment.

Table 8.4: Sustainable development factors in comparison

Thailand	The UK
<ul style="list-style-type: none"> - government regulations, policy, and guideline - restaurant owner - restaurants policy and guideline - work plan - knowledge - expertise - cooperation between firms - sustainability leader model in catering industry - consistent practice and continuous improvement 	<ul style="list-style-type: none"> - specific plan - attending SRA programme - continually setting high level goals - specific legislation and guidance: Government and SRA

Empirical evident highlighted the importance of enhancing knowledge and information sharing, and communication with varied stakeholders for reputation purposes. Customer knowledge and customer awareness of environmental issues with crucial functions to stimulate and promote operators regarding different non-sustainable practices within the restaurant supply chains. Several studies show that consumers from various countries and cultures have different perceptions, respond differently to service interactions, and have different behavioural intentions (Zhang et al., 2008). Furthermore, Sultan and Simpson (2000) claimed that a customer's

nationality affects their perceptions and perceived results. Similarly, to the empirical findings represented knowledgeable customers are aware of health and environment that require operators to improve quality of services to meet consumer specific needs. Both Thailand and the UK operators are concerned about food safety, cleanliness, and improving quality of service. However, the restaurant in the UK needs to develop service quality at a higher level than the case company in Thailand because customer demand continues to evolve. For example, the UK case provides traceable information to their customers in response to the awareness of sources and process management to qualify safety of consumption and support sustainability and farmer welfare. Furthermore, advances in catering to particular groups such as allergy sufferers, gluten-free consumers, and free-range consumers have benefited from health concerns. These factors contribute to the adaptation to planning business work in line with social and environmental sustainability advancement.

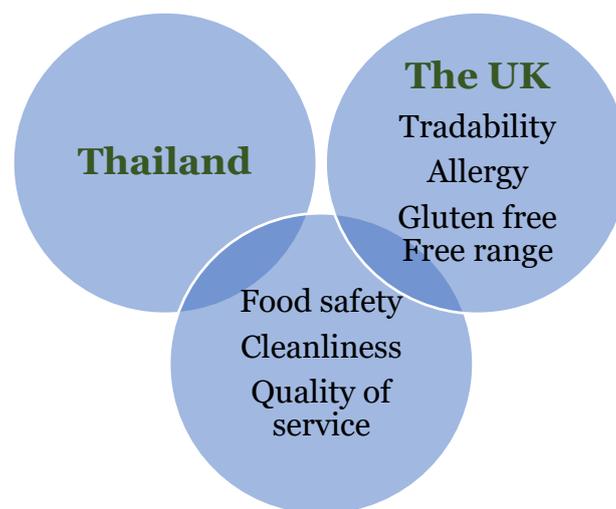


Figure 8.8: Hospitality sustainable advancement

8.5.4 Sustainable Restaurant Framework

Chapter Two also reviewed extant literature on the sustainable framework with which to develop a restaurant supply chain. Most of the RSSCM literature focuses on the processes of restaurant functions, highlighting the operation of practising progress, and making suggestions to enhance sustainability throughout the supply chain. SRA is founded as a not-for-profit organisation based in the UK that driven 14 key focus areas of sustainability in three main functions: sourcing, society, and environmental practices. First, sourcing focuses on five areas: local and seasonal, ethical meat and dairy, environmentally positive farming, sustainable fish, and fair trade. Second,

society includes four elements: treating people fairly, healthy eating, responsible marketing, and community engagement. Third, environmental practice states five areas: supply chain, waste management, workplace resources, energy efficiency, and water-saving.

McDonald developed a sustainable framework by using five elements: food, sourcing, planet, people, and community. The first perspective is food; they provide balanced choices for customers. Second, sourcing all of their food and packaging sustainably. Third, the mission to develop and operate the most environmentally efficient McDonald's restaurants. Fourth, the people element focuses on committed to their people and, finally, community the meaning of giving back to their communities (McDonald's, 2014).

There are certain essential characteristics for an effective and sustainable development approach in the restaurant industry, specifically in the Thai context, in order to improve sustainable supply chain efficiency. According to empirical findings, Thailand has a wide variety of food ingredients that can be harvested throughout the year. They're abundant and easily obtainable, and business owners can even grow them. Accelerating sustainable raw ingredient production and building a supply chain system to enable venues to access the right quality and quantity of sustainability goods are two areas that need to be strengthened. Based on research findings that support the literature, the main focus areas for achieving environmental sustainability are enhancing raw ingredients and establishing internal activity processes. However, no previous studies have shown that supporting activity, particularly knowledge, can be integrated into the restaurant sustainability framework. It's possible that support activities like acquiring information are essential to overall development.

Nonetheless, given the lack of knowledge and understanding in today's society, the need for theological knowledge combined with practical training is critical. Empirical evidence from all activities of the research points to knowledge transfer, practice guidelines, and expert supervision. As a result, these three elements with 12 focus areas, are introduced as a new paradigm for developing restaurant sustainability and experiencing continuous progress. The three elements are represented in Figure 8.10: sourcing, self-operating, and supporting. In order to advance sustainable environments in the restaurant supply chain, each factor has a sub-crucial area as a details of sustainability enhancement.

The researcher was conducted sustainable restaurant framework as shown in Figure 8.9 below.

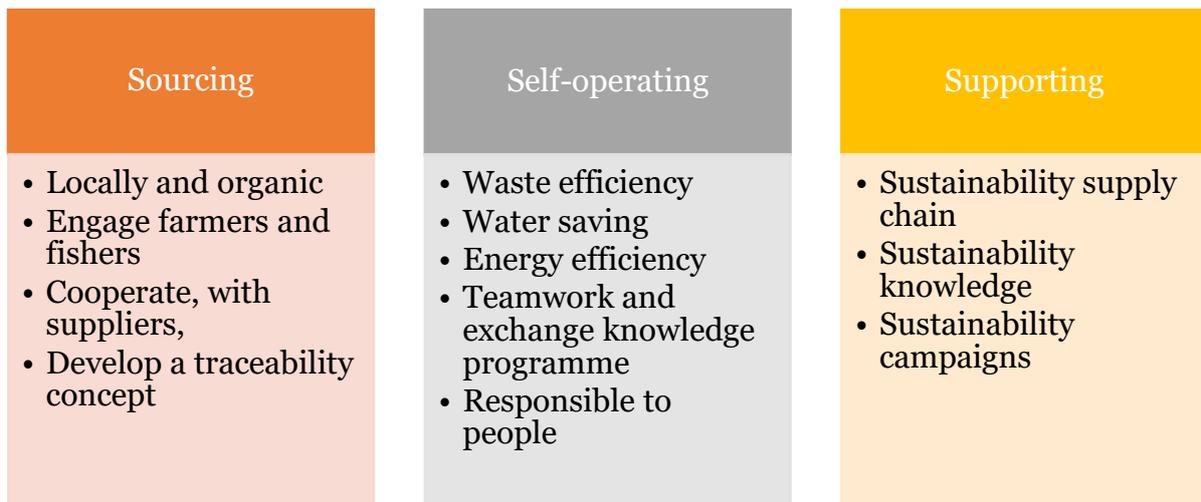


Figure 8.9: The three elements with 12 focus areas

The three elements with 12 focus areas (Figure 8.9) are introduced as a sustainable restaurant framework to enhance the sustainability phenomenon by researcher. Empirical evidence (Figure 8.6, Figure 8.7, Figure 8.8, and Table 8.4) intensely recommended focusing on sourcing processes, especially in local and organic procurement, engaging farmers and fishers, cooperating with suppliers, and developing a traceability concept that leads to an expansion of sustainable cultivation and fisheries to raise the quality standards of foodstuffs. Self-operating within the organization activities in waste efficiency, water-saving, and energy efficiency strongly support the literature reviews. Furthermore, teamwork, an exchange knowledge programme and responding to people represent the enhancement productivity programme to strengthen efficient teamwork and establish a socially responsible process for all stakeholders. In terms of supporting a sustainability best practice area for sustainability supply chain improvement, sustainability knowledge and sustainability campaigns are critical activities that raise awareness of environmental sustainability throughout the restaurant supply chain. Importantly, empirical findings show that knowledge is the key success factor to creating initiatives and lead to continuous improvement. Therefore, incorporating knowledge into the framework is critical to advancing environmental sustainability. The sustainable firm performance of the restaurant sector can be assessed by developing self-operating elements. Furthermore, the sourcing elements provide evidence that coincides with the literature review. However, developing a traceability concept and the Supporting elements highlighted the novelty in the proposed framework to develop RSSCM in the Thai context.

Researcher developed a restaurant framework by encouraging the three major areas of restaurant sustainable best practice shows a concrete consistency between the improvement activities and the sustainability goals. Figure 8.10 has shown the links of a restaurant environmental sustainability framework under the three elements with 12 focus areas to strengthen sustainable products, sustainable processes, and sustainable knowledge.

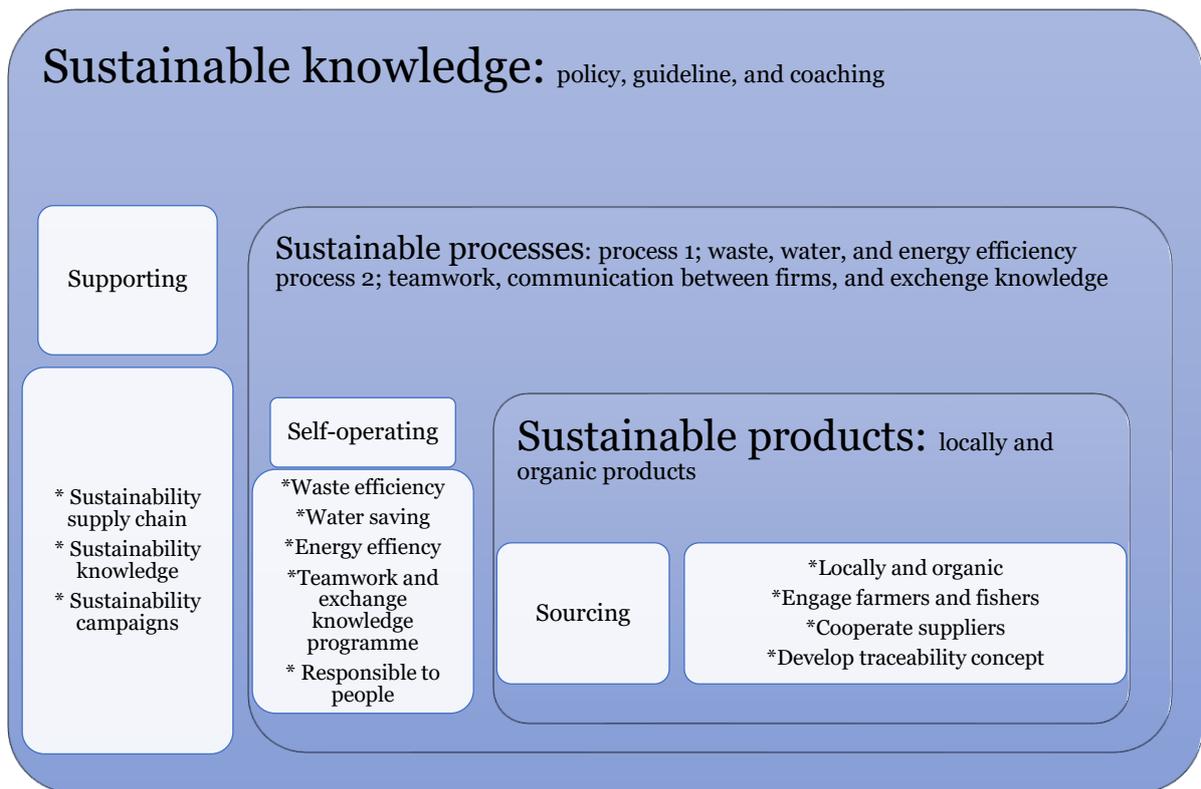


Figure 8.10: Sustainable restaurant framework encouraging the three major areas of restaurant sustainable best practice.

The following chapter will conclude this study by presenting a review of the thesis, addressing the research questions, and discussing the implications.

CHAPTER NINE

CONCLUSION AND IMPLICATIONS

9.1 Thesis Summary

This thesis explored the phenomenon of environmental sustainability in the context of the Thai restaurant industry. The core contribution of this study is "the framework for the sustainable restaurant in Thailand". This chapter concludes the thesis by first providing a summary of the central theoretical and practical contributions of the research followed by an assessment of the managerial implications, research limitations and future research direction.

Within the discipline of SCM, environmental sustainability management is a relatively emergent concept. Various attempts by the supply chain research group to consider the existing state of sustainability practice were outlined in the literature. However, it was discovered that the literature still lacked a grounded phenomenon of RSSCM at this level, which is critical to comprehending, conceptualising, and operationalising the concept in order to design RSSCM strategies. Following a review of the existing literature, it was discovered that, despite the fact that there are apparent issues, challenges, gaps in processes, and benefits related to environmental sustainability in supply chains, none of them had been constructed or discussed in the context of the Thai restaurant industry. Three aspects of the RSSCM were investigated: recognition, prioritisation, and mitigation of environmental impact. This study was conducted to answer the four research questions that will lead to the development of RSSCM. Therefore, answering RQ1 and RQ2 also helps restaurant stakeholders recognise environmental effects in the food and restaurant industry. Furthermore, the research results on RO3 and RQ4 lead to developing restaurant best practices and sustainability framework that also help to prioritise work in sustainability development progression and mitigate the environmental impact of the Thai restaurant industry.

The empirical evidence revealed a variety of problems affecting sustainable development, both in the implementation process and in general. Furthermore, there are several significant obstacles, including information gaps that obstruct work development and the fact that the procedures used are mainly ingrained in the managers' job duties and responsibilities. However, empirical findings are clearly consistent with previous researches that sustainable development benefits all stakeholders. The customer is the key mechanism that drives the business to expand sustainability areas in order to cover customer satisfaction. According to Chapter Two, customer awareness of sustainable restaurant operations and environmental challenges is a key indicator of consumer desire to dine at sustainable establishments. (Hu et al., 2010). Consumer perceptions of values tend to be significant variables in

their perspective, satisfaction, and destination image in connection to many aspects of sustainability in restaurants. Government legislation, guidance, and regulations pertaining to the restaurant industry are critical in order to improve sustainable operating processes. Despite this, legislation cannot be implemented entirely due to many operators' lacks of knowledge and awareness of the food industry. As a result, the government introduces a policy to encourage restaurant operators to operate according to the prescribed standards by fostering knowledge and understanding.

Empirical evidence found no formal plan to practice sustainability followed by the case companies. The restaurant practice advancement depends on individual capacity and ability to drive environmental policy, ethical compliance, and customer service demand. Empirical evidence further showed that the case companies are making substantial progress and improvements in RSSCM by regularly implementing in the same areas. Developing a restaurant's sustainability in sourcing quality ingredients necessitates each company's individual efforts and expertise to procure raw ingredients and maintain continuous quality control. As a result, in order to obtain environmentally friendly raw ingredients, entrepreneurs must employ a diverse set of skills and services. Furthermore, the results focused on a variety of environmental protection issues in the restaurant, with the top three issues being a lack of knowledge, the supplier system, and the use of plastic. Other limitations, such as water, electricity, and waste management, are always aspects of practice. Based on empirical evidence presented, it is reasonable to conclude that improving sustainability would necessitate changes in a variety of areas in the restaurant supply chain, both internally and externally.

Extant literature emphasizes that SSCM is dynamic and requires frequent changes, revisions, and modifications depending on the nature of the market, sector, geographic region, organisational structure, policy, community, and the internal or external context organisation must manage its SCM. Furthermore, it emphasizes the importance of sustainable development for the growth and competitiveness of food businesses; however, true sustainability is difficult for businesses to achieve and lack of professional advice and resources are major roadblocks (Hutchinson et al., 2012; Jang, 2016).

Empirical evidence shows that the Thai restaurant in the UK had made progress in terms of sustainability according to public-private sector collaboration. Specific guidelines, professional organisations, enhanced logistics, and increased public awareness are all factors that help the environmental maintain itself. In addition, the RSSCM management programme was retained as a key component of the directed property issue, resulting in the avoidance of adverse environmental effects in supply chain processes. As a result, restaurant sustainability best practices are linked to long-term growth in the supply chain. The government has a crucial role to play in advancing environmental sustainability growth. The legislation has increased environmental awareness, and companies will change their business practices and environmental policies as a result (Yuçedag et al., 2018). The government's environmental priorities and clear regulations to encourage sustainability processes

all help to advance ecological sustainability. However, according to the empirical evidence, none of the six case organisations had a dedicated department or specific person in charge of supply chain sustainability. SME businesses may need help to expect a dedicated department in corporate environmental sustainability. However, a firm incorporating sustainability into its core business strategy can benefit from lower costs, reduced risk, and new opportunities. The expert, who typically works in small and medium-sized firms, can play an essential role in the business. In the case of RSSCM, empirical evidence showed a scarcity of information on incorporating effective practice innovation in the aftermath of the restaurant duty phenomenon.

As a contribution to the body of knowledge, this study focuses on sustainable restaurant best practices, corroborating with stakeholders across the supply chain, especially in creating internal practices. Restaurants should prioritize operating an indirect impact on firm performance due to the possibility of being sustainable, as sustainability practices can be a critical feature of sustain capability. The association between perceived innovation and the organization's ability to harness sustainability success is complicated by an interaction effect between motivation and competitiveness pressure. Encourage employees to participate in a sustainable service-related activity to develop their innovative thinking skills, provide more opportunities for employees to learn new things, hold ground-breaking contests, and form teams to be accountable for designing and implementing sustainable service (Chou et al., 2018). As a result, sustainable product, sustainable process, and sustainable knowledge are the three major restaurants sustainable best practices.

Empirical findings indicate that the Thai restaurant supply chain still has opportunities for expansion in terms of sustainability in a variety of areas, including industry backwardness, restaurant operations, and downstream vertical integration. The 14 key focus areas of the restaurant supply chain are divided into four groups: input, operation, stakeholders, and sustainability. Empirical evidence revealed numerous enablers and barriers for businesses in the restaurant industry's sustainability growth. Both internal and external factors influence the SSCM in the cases company.

For reputational reasons, literature reviews often emphasize the importance of improving awareness and information exchange and cooperation with a variety of stakeholders. Customer knowledge and understanding of environmental concerns are important functions to stimulate and facilitate operators about various non-sustainable activities within restaurant supply chains, according to sustainability literature (Hu et al., 2010; Filimonau and Krivcova, 2017; Kargiannis & Andrinou, 2021).

The literature reviews corroborate the empirical findings, indicating that knowledgeable consumers are aware of health and environmental issues, necessitating operators to increase their quality of squares to meet consumer needs. Both Thai and UK cases company were concerned about food safety, cleanliness, and improving the

service quality. However, because consumer demand continues to grow, restaurants in the UK must improve service quality at a higher level than those in Thailand. The existing literature on the sustainable structure for developing the restaurant supply chain was also discussed in Chapter Two. The majority of RSSCM literature focuses on restaurant functions, emphasising the operation of practising progress and making recommendations to improve supply chain sustainability. In order to improve sustainable supply chain in the restaurant industry there are certain essential characteristics for an effective and sustainable development approach, especially in the Thai context.

To develop a sustainable restaurant framework encouraging the three major areas of restaurant sustainable best practice demonstrated a concrete consistency between the improvement activities and the sustainability goals. The three elements with 12 focus areas are introduced as sustainable restaurant framework to enhance sustainability. Key and supportive activities complement this to build concrete environmental sustainability throughout the restaurant supply chain.

This study is specific to restaurant sustainability development; therefore, the research project contributes to the SDG framework of the 17 Goals. To develop the new sustainable restaurant framework to encounter restaurant best practices, enhancing RSSCM in the hospitality industry. The new framework is associated with food security, maintains nutrition, and promotes sustainable agriculture (GOAL 2: Zero Hunger). The empirical evidence represents continuing practices substantially to conserve water, energy efficiency, and managing waste, especially in food waste enhance sustainable development and increase worker awareness in environmental issues to respond to climate change situation (GOAL 6: Clean Water and Sanitation), (GOAL 7: Affordable and Clean Energy), (GOAL 12: Responsible Consumption and Production), (GOAL 13: Climate Action). Sustainable fish and seafood product safety encouragement by protecting marine and coastal ecosystems and ending overfishing (GOAL 14: Life Below Water). Furthermore, the three elements with 12 focus areas presented in the sustainable restaurant framework led to incorporating the restaurant and their stakeholders to develop and assist statistical capacity-building in developing nations and general measures of progress on sustainable development (GOAL 17: Partnerships to achieve the Goal). Table 9.1 below features the research project contributes to the SDG framework of the 17 Goals.

Table 9.1 Research Contributes to the SDG Framework of the 17 Goals

The new sustainable restaurant framework		The SDG framework of the 17 Goals
Sourcing	Food security, maintains nutrition, and promotes sustainable agriculture	GOAL 2: Zero Hunger
	Sustainable fish and seafood product safety	GOAL 14: Life Below Water
Self-operating	Conserve water, energy efficiency, and managing waste	GOAL 6: Clean Water and Sanitation
		GOAL 7: Affordable and Clean Energy
		GOAL 12: Responsible Consumption and Production
		GOAL 13: Climate Action
Supporting	Incorporating the restaurant and their stakeholders	GOAL 17: Partnerships to achieve the Goal

The researcher will briefly describe the research questions and their answers in the following section.

9.2 Conclusions Regarding the Research Questions

RQ 1: What is the current state (e.g., issues, challenges, gaps and benefits) of environmental sustainability of restaurants in Thailand?

First, the empirical evidence presented the Thai restaurant sector's implementation of service quality, cleanliness, and food safety as the critical focus areas rather than specifics in sustainable growth. Refer to the RBV concept, which proposes that organisations have essential, unique, and unique resources that can be sustained over time. Strategic assets with value that can be used to increase customer value. Therefore, to meet sustainable development challenges and respond to pressures from various stakeholders, Thai restaurants and their supply chains must build and use specific organisational capacities. Its growth potential and individual capacity mainly determined the business's ability to enhance its environmental sustainability. The organisational aspects of the restaurant industry are covered by legislation, guidance, or regulations. Food sanitation training, chemical and pesticide control for meat and vegetables, Thai industrial quality food packaging control, and various campaign supports are all currently in place. Despite this, legislation limitations in implemented entirely due to many operators' need for experience and awareness of the food industry. As a result, the government introduced a policy to encourage restaurant operators to operate according to the prescribed standards by fostering knowledge and understanding. Consequently, only a limited portion of sustainable restaurant growth is currently possible.

Second: The lack of supply chain visibility and control and ingredient quality control are the main issues in implementing sustainability in the Thai restaurant industry. In contrast, the foam and plastic problem, quality of raw ingredients, and food waste are reflected problems in policy advocacy action. All significant issues represented obstacles through the restaurant supply chain as a challenge in the implementation.

According to empirical evidence, restaurant owners must purchase input items from various sources, including directly from cultivated areas and avoiding supermarkets and fresh local markets. Various standard product levels lead to regular procurement process control to ensure product quality. Empirical evidence shows that the debate centres on the RSSCM's operation, including challenges for procurement practitioners, difficulties dealing with product quality, a lack of supply chain coordination, and internal activity issues. Therefore, expanding the owner's and manager's understanding of supply chain relationships in terms of dependency structure and control also efficiency management strategies.

The restaurant has tried to manage environmental sustainability operations, and the foam and plastic problem has been reduced by replacing environmentally friendly products. However, the evidence shows that this type of waste still exists in high numbers. The quality of raw ingredients and the food waste problem are still essential issues in Thai society that need to be revised to a higher standard of quality to accommodate the change in sustainability. Further, sustainable development

challenges in the catering industry in terms of time-consuming work as a fast-paced environment workplace is a barrier to effective environmental sustainability practice. Empirical evidence is also dedicated to raising sustainability awareness and building teamwork to drive sustainability policy.

Third: The findings show that there still needs to be more knowledge and understanding of sustainable practices within restaurants and corporations. Most restaurants lack the necessary skills to practice sustainability, while some of them have advanced to the point of ongoing training. With strong government support, developments in human resources are expected to create a private sector aware of the value of education (Esichaikul, 1998). For many stakeholders in the restaurant supply chain, collaborations between firms should be a top priority to improve sustainability effectiveness. As a result, environmental collaboration has been suggested as a moderator of the relationship between sustainable supply chain management practices and quality (Chin et al., 2015).

Furthermore, the Thai restaurant sector struggles with a lack of traceability control. As a result, consumers cannot discover the source and processes involved in producing raw ingredients. However, empirical evidence suggests that customers are concerned about the environmental issues that affect their health. Therefore, customer demand has influenced the restaurant to improve the quality of its service to meet those customer needs. This result represents pressure on the sector to strive to overcome these challenges. Furthermore, the key stakeholder in driving change power is the government. Legislation or concrete regulations applied to various sectors leading to joint operations to achieve system-wide goals.

Fourth: The lack of previous research demonstrates the current state of restaurant sustainability development, which is the crucial point to understanding how to identify weaknesses, strengths, and external situations that push the development of a roadmap in order to develop restaurant sustainability efficiency.

RQ2: How sustainable are restaurants in Thailand?

First: Empirical evidence shows that developing a restaurant's sustainability in sourcing quality ingredients requires each company to focus its efforts and expertise on procuring raw ingredients and maintaining continuous quality control. In order to obtain environmentally friendly raw ingredients, entrepreneurs must employ a diverse set of skills and services. This problem continues to be a significant impediment to the widespread acceptance of sustainable restaurants. If high-quality raw ingredients are hard to come by and expensive, the only viable option results in a low-cost, low-quality product that fails to meet sustainability standards.

Compared to Thai restaurants in the UK, the case restaurants in Thailand used a higher percentage of local and organic items. The Thai cases, on the other hand, only

specified meat, vegetable, and seafood products for input, whereas UKCR broadens the scope to include beverages, seasoning sauces, and all other ingredients. Thai restaurants in the UK offer more organic sources and ingredient control. The benefit of SRA members who provide organic source lists and systems improves the case restaurant's traceability capability. However, the primary restaurant ingredients remain in the global supply chain, indicating long food miles. The greater the distance travelled by food, the more energy is expended on transportation, resulting in higher CO₂ emissions. These emissions significantly affect air quality and contribute to global warming. Hence, the longer food travels, the more greenhouse gases it emits, which directly impacts climate change. As a result, encouraging environmental sustainability practises in Thai restaurants in Thailand, as well as developing local supply chain traceability control, results in less transportation and handling and fewer chances of contamination throughout the supply chain, ensuring safety and sanitary food.

The Thai restaurant sector still faces an ingredient quality management challenge in sourcing local ingredients and organic items. Despite the need for more management expertise and knowledge about product source requirements, only a limited number of restaurant operators can handle raw ingredients effectively. Furthermore, the number of existing suppliers and their standard of service continue to impede restaurants. Consequently, the government supports efforts to improve raw ingredients' management and quality control, enacting several laws that have helped improve food product quality. However, there is still an abundance of chemical pollution in the goods, meaning restaurant operators must pay careful attention to the quality of the raw ingredients.

Second: In terms of sustainability practices in the restaurant, all cases are shown to have no formal plan to enhance the ability to achieve sustainability. The waste management process was used to implement sustainability; however, the ability to classify still needs to be improved by the demand and product types of waste management and recycling operators. In most cases, restaurants use a housekeeping strategy to handle recyclable waste, entrusting them with the duty of classifying and selling the products for profit. In the Thai cases, there was no certification or recycling programme. Empirical evidence showed that restaurants used their capacity and individual networking contacts to manage waste rather than any coordinating structure from the government.

Empirical evidence shows that the lack of a food waste management system means the government can still not deal with a large amount of food waste. Food waste management arrangements are subject to the availability of the restaurant's private networks to transfer food waste back to the farm for animal feed. Therefore, food waste and scraps are only partially processed, with some mixed in with general waste at collection points. Furthermore, recycling waste alignment remains an issue. According to technical limitations and the capability of recycling companies, many types of waste cannot be recycled. Empirical evidence shows that food scraps are produced during food preparation and cooking and that, in some cases, restaurants separate the items to make Bio Extracts. The government's decision to promote Bio Extract products is

another unique feature that improves restaurants' ability to handle food scraps effectively and thereby reduce the amount of food waste.

Energy conservation is essential since it can be applied to all facets of energy use. Monitoring and planning energy use are the first steps of energy management. In most cases, companies reduce their energy consumption by incorporating green equipment into their operations management, resulting in lower electricity and gas consumption. Some restaurants used technological features such as LED lighting instead of incandescent lighting and certified energy-saving equipment to save energy. In order to conserve gas, other venues cook with charcoal instead of gas or prepare large portions of food in advance. However, all cases in the study pursue some energy-saving methods based on their limited experience and knowledge, although these limitations mean the sector is still in progress regarding environmental sustainability.

According to the empirical evidence, a significant weakness in sustainability practice is the lack of water-saving technology. Consequently, restaurants must create a reliable water source that includes water intake and water quality, both essential aspects of sustainable gastronomy. As a result, each case study seeks to improve the concept of water conservation, such as using a water bottle, watering plants with used water, using standardization products to conserve water, and constantly checking the condition of the equipment.

Third: The empirical findings revealed that in terms of sustainable restaurant development, all aspects of operational management, including input, method, and output, are still weak. Furthermore, it is the social responsibility of restaurants to participate in sustainable practices (Raab et al., 2018). Businesses are under pressure to adapt to changing customer expectations as consumer understanding of environmental and health issues grows. Consumers are more concerned about sustainability, forcing restaurants to use environmental metrics to accomplish this aim. Customers expect the rehabilitation of environmentally sustainable facilities in the restaurant industry to be accelerated. Based on the evidence presented, it is reasonable to conclude that improving sustainability would necessitate changes in various areas, both internally and externally, across the restaurant supply chain.

RQ 3: What is 'best practice' in terms of restaurant sustainability in Thailand?

First: Improving the restaurant implementation and achieving best practices. The essential finding functions were examined at both internal and external variables. The importance of sustainability advancement was illustrated by planning, implementation in particular fields, and practising regularly. Only one case in Thailand represents specific practices for a sustainable supply chain, whereas the other cases demonstrate typical practices.

The empirical evidence presented the critical activities needed to implement sustainability in the restaurants: 1) locally sourced and organic ingredients; 2) enhancing sustainability knowledge; 3) restaurant practice in terms of waste, water

and energy management; 4) collaboration with suppliers and partnerships; and 5) promoting sustainability campaigns. In order to decide the best way to implement sustainability, all participant dimensions were organized into four essential elements: 1) policy and guidelines; 2) coaching; 3) teamwork; and 4) communication between firms. Moreover, the elements of sustainable supply chain management that support activity to achieve sustainable goals were organized into four functions: 1) government; 2) integration between firms; 3) all restaurant stakeholders taking responsibility, and 4) SSCM management programmes.

Therefore, developing RSSCM requires the development of restaurant activities across all the department functions. All stakeholders mentioned supportive venues as the critical factor for practising sustainability in restaurants throughout the supply chain. The advantages of restaurant collaboration were discussed, including responsiveness, reduced time-to-market, improved profitability, increased productivity, and proactiveness. The government plays a vital role in providing regulations, registration, and driving environmental policy; in the Thai context, the Green Restaurant Project and the national sustainable development policy are essential measures needed to make restaurants aware of the environmental sustainability conversation.

Second: Benchmarking was discussed as a valuable method to enhance restaurant sustainability. Sharing both comparison and transaction knowledge phenomena between restaurants leads to progress. Empirical evidence suggests that Thai restaurants in the UK adhere to particular environmental laws, guidance, or regulations. Furthermore, as a member of the SRA, a non-profit organization dedicated to driving and promoting positive change in the food-service industry, the company will develop at its own pace under professional supervision. A lack of awareness and experience is often a significant impediment to environmental sustainability improvement (Kasim and Ismail, 2012). This situation could be improved by professional investigation and regulation of restaurant practices and market strengthening among practitioners as to whether companies are adopting improved sustainability capacity that could be directly involved in industry management. A specific development programme to stimulate producers, distributors, and customers and a reverse logistics flow of sustainable processes are also needed to enhance sustainable development in developing countries, including Thailand.

Third: The evidence demonstrates that prior studies focused solely on restaurant processes to achieve sustainability. As a result of this study, it was discovered that knowledge is a crucial factor in improving restaurant sustainability practices and the desire to embrace environmental sustainability in the supply chain processes. Restaurants in Thailand must incorporate those environmental requirements into their operations to improve core and supporting activities, including collaborations with external stakeholders. Therefore, the three significant areas of restaurant sustainability best practices are introduced to amplify restaurants' environmental sustainability progress: (1) sustainable products: locally sourced and organic products; (2) sustainable processes: waste, water and energy efficiency; and teamwork, communication between firms, and knowledge exchanges; and (3) sustainable knowledge: policy, guidelines, and coaching.

RQ4: What framework or model could be developed and used to encourage best practice in terms of restaurant sustainability in Thailand?

First: The 14 practices that are the main focus of the restaurant supply chain are divided into four categories: input, operation, stakeholder, and sustainability. The management method for sourcing quality raw ingredients is the most critical factor in the restaurant supply chain. As a result, improving the quality of input products requires an emphasis on improving raw ingredients, seasonal fishing, and practices among farmers and fisheries, as well as resolving pesticide issues.

Empirical evidence shows that restaurant practices, especially waste, water, and energy management, are environmentally and economically beneficial. On the other hand, waste reduction is an essential component in ensuring the supply chain's long-term sustainability (Kaipia et al., 2013). In addition, stakeholders in the restaurant sector are critical to enhancing sustainability. Government legislation, environmentally friendly products, recycling operators, dealers, and the community have all been identified as essential factors in developing RSSCM.

More knowledge and a better understanding of the sector's sustainability goals are needed, which could be accomplished by establishing a collaborative rather than a competitive supply network. However, this would require substantial investment (Shokri et al., 2013). Furthermore, traceability control still needs to be improved in Thai restaurants; most items are non-traceable. Empirical evidence suggested that developing traceable data to source in both the cultivation and livestock models would benefit restaurant operators and their stakeholders in perceiving higher quality products and services.

Second: Across all three dimensions of the research, 13 enablers and nine barriers were established. In both the internal and external categories, the primary enabler and barrier statements reflected the direction of sustainability change. External drivers, such as government policy, are essential drivers of progress in practising legal enforcement. Authorizing officers and skills are crucial in the dissemination of information in order to move forward with sustainable environmental policies and guidelines. Internal factors, particularly restaurant practice and specific knowledge of the practice, were listed as contributing to the difficulty, aiming to improve restaurant knowledge and operational efficiency.

Internally, there are two main barriers to developing sustainability: a need for sustainability supply chain awareness and personal encouragement. Although external challenges such as farmers' attitudes toward chemicals and pesticides, over-fishing, and off-season fisheries can all be linked to the enabler, farmers' and fisheries' attitudes are also vital factors.

The development of self-operating elements can be used to assess the restaurant sector's long-term firm performance. Additionally, the sourcing elements provide evidence consistent with the literature review. On the other hand, developing a

traceability concept and the supporting elements highlighted the novelty in the proposed framework to develop RSSCM in the Thai context.

Third: Customer awareness and knowledge of environmental issues are critical functions that encourage and foster operators' awareness of various non-sustainable activities within the restaurant supply chains (Hu et al., 2010; Filimonau and Krivcova, 2017; Kargiannis and Andrinou, 2021). Empirical results revealed that knowledgeable consumers are aware of health and environmental issues, meaning operators must increase service quality to meet consumer expectations. Both Thai and UK operators were concerned about food safety, cleanliness, and improving the service quality. However, since consumer demand continues to grow, restaurants in the UK must enhance the standard of service at a higher level than companies in Thailand. Therefore, traceability control, allergy awareness, catering to gluten-free customers, and free-range products are still in place in the UK services.

According to the research results, the key focus areas for achieving environmental sustainability are improving raw ingredients and developing internal operational processes. However, previous research has yet to demonstrate that supporting activity, especially knowledge, can be incorporated into the restaurant sustainability framework. Empirical evidence suggests that a framework that could lead to effective utilization should have three elements: specific sourcing, self-operating, and supporting features. Therefore, the three elements are introduced with 12 key focus areas to improve the sustainability phenomenon within the sustainable restaurant system.

9.3 Theoretical implications

This study has several theoretical implications for the hospitality literature and sustainability research, particularly in the area of environmental sustainability in the restaurant industry. This research contributes to the conceptual framework in the context of five restaurants in Thailand and one Thai restaurant in the UK.

The findings support the assertion that sustainable restaurant practises, including the three practise constructions of energy, water, and waste reduction of food sustainability, play an essential role in enhancing environmental sustainability in restaurants. Furthermore, the findings suggest that sustainable restaurant practices directly attract consumer participation in sustainable dining behaviour, which leads to diners' restaurant satisfaction.

The results dedicated that expanding the understanding of the circumstances surrounding supply chain collaboration can influence or change the development of supply chain sustainability. Furthermore, the results represent that benchmarking cross-country companies influences transaction knowledge between firms leading to

the development of scales capable of enhancing the various competitive dimensions of value for SSCM.

These research findings strongly suggest that the government influenced the adoption and spread of formal organisational structures, such as written policies, standard practises, and new organisational forms, to improve RSSCM. Furthermore, the findings indicate that restaurants associated with government regulations, sustainability policies and guidelines, specific training plans, and collaborations with partners provide the direction to enhance long-term sustainability development.

Notably, the findings show that the restaurant logistics and supply chain industry must understand and know about environmental management practices. Furthermore, the empirical findings support additional literature that logistics and supply chain practitioners require environmental training and education to reduce environmental impact. Empirical findings support the notion that knowledge is a critical success factor in initiating initiatives that lead to continuous improvement. As a result, incorporating knowledge into the framework is critical for moving environmental sustainability forward. The development of self-operating elements can be used to assess the restaurant sector's long-term firm performance. Additionally, the sourcing elements provide evidence consistent with the literature review. On the other hand, developing a traceability concept and the supporting elements highlighted the novelty in the proposed framework to develop RSSCM in the context of Thai restaurant environmental sustainability.

The findings of this study on the effect of sustainable restaurant practices on utilitarian value extend the link between the restaurant framework and best practices to improve environmental sustainability. The positive influence of sustainability restaurant practices on perceived value, both internal (sourcing and self-operating elements) and external factors (supporting elements), contributes significantly to sustainability restaurant research. In this thesis, it can be concluded that stakeholder theory and institutional theory may influence RSSCM at three significant points in the sustainable progression: 1) in the establishment of awareness in organisations, 2) in the adoption of sustainable goals, and 3) in the implementation of sustainable and practises. As a result, this thesis's empirical findings and recommendations are expected to be essential for policy aimed at promoting sustainable supply chain management development in Thailand using the RSSCM framework and practices.

9.4 Managerial Implications

This thesis provides numerous implications for restaurant owners and their stakeholders within the supply chain. In order to identify key implications for the execution of the research strategy, the perspectives of managerial contributions will be discussed in two contexts: the business context, and the policy and advocacy context.

9.4.1 Business Context

1. This thesis has provided an understanding of the current state of environmental sustainability in restaurants. It provides insights into assessing and minimizing its effect on the industry as a source of competitive advantage to help direct future policy decisions. An understanding of RSSCM would allow businesses to handle environmental sustainability more constructively through stakeholder interactions, resulting in improved awareness and effective responses to internal processes.
2. The research demonstrated three major areas of restaurant sustainability best practice as a concrete guideline for improving restaurant operations to advance environmental sustainability. According to the best practice model, businesses should have a consistent understanding and awareness of environmental issues through behaviour policies, guidelines, and supervisory investigations into sustainable practices. The best practice function encourages businesses to concentrate on operational activities to achieve a specific organizational style that will enable them to control their RSSCM. Additionally, the proven sustainability roles will assist the companies in applying RSSCM iteratively and holistically to improve the catering industry.
3. This research examined the enablers and barriers to implementing SSCM in the restaurant industry. However, even though the existing literature identified many enablers and barriers, it was unclear which types of features exist in the restaurant industry's environmental sustainability. Exploring both internal and external influences, and in particular types of barriers, will help in the design of RSSCM typology and enable targeted solutions to those barriers. In addition, this study provided an in-depth empirical exploration of RSSCM in the contemporary context of case company comparison, especially through benchmarking a Thai restaurant in the UK region. As a result of the study, there was a cross-section of knowledge between firm phenomena in terms of a sustainable development strategy, which will enhance firms' ability and capacity to advance restaurant sustainability.
4. A sustainable restaurant framework has been developed to promote best practice in restaurant sustainability and identify restaurant companies that have understood the three elements of sustainability, including the 12 focus areas. Restaurant owners can learn how to hasten the transition to a more

environmentally friendly and socially progressive hospitality industry. In order to achieve the higher targets, the system would also include managerial guidelines for SSCM implementation within a structured sustainability plan.

9.4.2 Policy and Advocacy Context

1. The introduction of a sustainable restaurant framework is directly related to the government's Green Restaurant Project. These contemporary frameworks were established as a primary construct for incorporating environmental sustainability into the restaurant sector. They were linked to catering operations in the restaurant supply chain, in both primary activity and supportive venue movement. Consequently, from a managerial perspective, the process must expand the hospitality industry's potential for sustainability. Furthermore, government policy and the dynamics of the supply chain can enact new laws or regulations to improve sustainable environmental standards.
2. This study also revealed that all stakeholders play an essential role in the evolution process. Hence, the restaurant should become more cooperative and devise profitable strategies with regard to their partners. To handle RSSCM proactively and efficiently, more collaborative, integrative, and close partnerships are suggested, encouraged by information technology advances.
3. The findings show that the customer remains the primary motivator for RSSCM practitioners, and that organizations are driven by philanthropic motives rather than genuine environmental concern. Nevertheless, they will continue to improve on environmental sustainability practices, which matter to their customers and stakeholders, increasing their ability to comply with customer satisfaction. There is a substantial body of evidence in the academic literature of the relationship between restaurant customers' knowledge of sustainable practices and their willingness to patronize such restaurants, which should be pointed in order to encourage sustainable restaurant involvement (DiPietro et al., 2013; Wu et al., 2013). From a managerial standpoint, it is critical to recognize that it would benefit the owner or manager to exploit and share these positive results with key stakeholders.
4. The development framework will lead the restaurant sector to an integrated environmental perspective and sustainability processes across the supply chain. The 12 areas of sustainability relevant to both the downstream and upstream supply chains require multiple significant integrations and incorporating into a company's culture, structures, and processes. Therefore, implementing restaurant sustainability by following the framework will lead to an efficient environmental food system.

9.5 Limitations and Further Research Directions

As previously stated, this research should be repeated in depth in the hospitality industry and in developing countries to assess the generalizability of the findings and model. The results are specifically applicable to environmental sustainability development in five Thai restaurants and one Thai restaurant in the UK; however, any generalization of the analysis across different industrial and national contexts has broader implications.

This thesis has a number of limitations that leave potential for expansion into further study, of which the following are the most important:

Limitations

1. The small sample size of customers respondent in this study makes determining whether the specific outcome is a factual finding difficult. The research methods used in the case study should be expanded in order to obtain information on the application of instruments. Quantitative methods, which can also be used as part of a case study design, could investigate the role of customer perspective application by conducting survey research among a more extensive set of restaurant customers.
2. This research focused on both case restaurants experiencing sustainability and restaurants that are interested in developing environmental sustainability into the company. Although the research benefits from the exchange of knowledge between different potential sustainable businesses in response to the practice in each peer activity, it was found that in most cases, lack of knowledge and the development of impediments led to information on advancing best practice remaining limited.
3. While the thesis focused on creating a structure for spreading restaurants' best practices, it neglects to examine measurement, which is a critical success factor in supply chain collaboration. This research does not address the importance of how suppliers create the SSCM, such as the supplier management method, strategic enhancement of sustainability services, and standardization in order to meet restaurant requirements, as defined by practitioners.
4. The new sustainable restaurant framework introduced in this research deserves further work in processing the testing model before suggested use. A testing analysis of the framework's likelihood of adoption in practice will also be conducted. Although this study provides a new framework, however, the validity and reliability of the framework suggest that it needs to be used to accurately identify defects before being adopted in practice. The research methodology provides a general approach to the empirical validation of quality frameworks.

Future study on the following topics is suggested in order to overcome these limitations:

Future Research Directions

1. This research explored the phenomenon of supply chain sustainability development in the context of six case companies in the restaurant industry as well as shed light on customer and government official perspective as a crucial stakeholder role. Therefore, a similar investigation should be carried out with other stakeholders or expand customer and government officer types along the supply chain to advance the food and catering industry's environmental sustainability potential.
2. According to the findings, the case companies do not have a structured SSCM strategy. As a result, future research should concentrate on why, amid widespread recognition of the value of environmental sustainability, businesses still lack a systematic mechanism or strategy to address such a critical problem. Future research might concentrate on restaurant types to investigate whether organizational resources, particularly restaurant chains, might prevent companies from allocating resources or having a structured SSCM strategy.
3. This research was restricted to the Thai restaurant industry. As a result, future RSSCM activities can be viewed from a cross-national perspective, focusing on developing countries that are struggling to advance sustainable growth in a variety of ways. Corroboration with manufacturers and distributors in the management of SSCM might also be a fascinating area to investigate.
4. To develop profitability advancement in the restaurant sector, further investigation is necessary on the relationship between RSSCM and other perspectives in the bottom line, both economic and social.
5. In a cross-case analysis, the relationship between the elements of the sustainable restaurant framework and the proposed management tools can be tested to examine if they are suitable and beneficial to a sample of restaurants.

REFERENCES

- Abel, G. J., Barakat, B., Samir, K. C. & Lutz, W. (2016) Meeting the sustainable development goals leads to lower world population growth. *Proceedings of the National Academy of Sciences*, 113 (50), 14294-14299.
- Abu-Khalifa, H. & Al-Okdeh, S. (2021) The effects of applying just-in-time production system on maximizing profitability of small and medium industrial companies in Jordan. *Uncertain Supply Chain Management*, 9 (2), 393-402.
- Ackermann, F. & Eden, C. (2011) Strategic management of stakeholders: Theory and practice. *Long Range Planning*, 44 (3), 179-196.
- Aday, S. & Aday, M. S. (2020) Impact of COVID-19 on the food supply chain. *Food Quality and Safety*, 4 (4), 167-180.
- Adler, P. A. & Adler, P. (1994) Observational techniques.
- Ahi, P. & Searcy, C. (2013) A comparative literature analysis of definitions for green and sustainable supply chain management. *Journal of Cleaner Production*, 52 329-341.
- Ahmed, N. U., Montagno, R. V. & Firenze, R. J. (1998) Organizational performance and environmental consciousness: An empirical study. *Management Decision*,.
- Akkerman, R., Farahani, P. & Grunow, M. (2010) Quality, safety and sustainability in food distribution: A review of quantitative operations management approaches and challenges. *OR Spectrum*, 32 (4), 863-904.
- Alkaraan, F., Albitar, K., Hussainey, K. & Venkatesh, V. G. (2022) Corporate transformation toward industry 4.0 and financial performance: The influence of environmental, social, and governance (ESG). *Technological Forecasting and Social Change*, 175 121423.
- Alsetoohy, O., Ayoun, B. & Abou-Kamar, M. (2021) COVID-19 pandemic is a wake-up call for sustainable local food supply chains: Evidence from green restaurants in the USA. *Sustainability*, 13 (16), 9234.
- Alzoubi, H., Ahmed, G., Al-Gasaymeh, A. & Kurdi, B. (2020) Empirical study on sustainable supply chain strategies and its impact on competitive priorities: The mediating role of supply chain collaboration. *Management Science Letters*, 10 (3), 703-708.
- Amit, R. & Schoemaker, P. J. (1993) Strategic assets and organizational rent. *Strategic Management Journal*, 14 (1), 33-46.
- Andaleeb, S. S. & Conway, C. (2006) Customer satisfaction in the restaurant industry: An examination of the transaction-specific model. *Journal of Services Marketing*,.
- Anderson, D. R. & Anderson, K. E. (2009) Sustainability risk management. *Risk Management and Insurance Review*, 12 (1), 25.
- Anthony, T. (2000) Supply chain collaboration: Success in the new internet economy. *Achieving Supply Chain Excellence through Technology*, 2 41-44.

- Arora, N. K. & Mishra, I. (2021) COP26: More challenges than achievements. *Environmental Sustainability*, 1-4.
- Asgari, N., Nikbakhsh, E., Hill, A. & Farahani, R. Z. (2016) Supply chain management 1982–2015: A review. *IMA Journal of Management Mathematics*, 27 (3), 353-379.
- Baldwin, C. J. (2011) Sustainability in the food industry.
- Ballon, R. H. (2004) Business logistics/supply chain management. *Planning, Organizing and Controlling the Supply Chain*,.
- Bangkok Post Report (2021) *Food of Thailand for a Future World*. Available online: <https://www.bangkokpost.com/business/2138555/food-of-thailand-for-a-future-world> [Accessed: 15/082021].
- Banomyong, R. & Supatn, N. (2011) Developing a supply chain performance tool for SMEs in Thailand. *Supply Chain Management: An International Journal*.
- Barney, J. (1991) Firm resources and sustained competitive advantage. *Journal of Management*, 17 (1), 99-120.
- Barratt, M. (2004) Understanding the meaning of collaboration in the supply chain. *Supply Chain Management: An International Journal*,.
- Batra, A. (2008) Foreign tourists' motivation and information source (s) influencing their preference for eating out at ethnic restaurants in Bangkok. *International Journal of Hospitality & Tourism Administration*, 9 (1), 1-17.
- Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, 13(4), 544–559.
- Beadle, I. & Searstone, K. (1995) An investigation into the use of benchmarking within quality programmes. In Anonymous *Total quality management*. Springer, 509-512.
- Bell, E., Bryman, A. & Harley, B. (2018) *Business research methods* Oxford university press.
- Bendul, J. C., Rosca, E. & Pivovarov, D. (2017) Sustainable supply chain models for base of the pyramid. *Journal of Cleaner Production*, 162 S107-S120.
- Bengtsson, M. & Kock, S. (1999) Cooperation and competition in relationships between competitors in business networks. *Journal of Business & Industrial Marketing*, .
- Beske, P., Land, A. & Seuring, S. (2014) Sustainable supply chain management practices and dynamic capabilities in the food industry: A critical analysis of the literature. *International Journal of Production Economics*, 152 131-143.
- Bin, S. & Chaoyuan, S. (2005) The correlativity analysis between logistics industry and national economy development. *Available at: ISSN*,.
- Blackburn, W. R. (2012) *The sustainability handbook: The complete management guide to achieving social, economic and environmental responsibility* Routledge.
- Blaikie, N. (1991) A critique of the use of triangulation in social research. *Quality & Quantity: International Journal of Methodology*, 25 (2), 115-136.

- Bloemhof-Ruwaard, J. M., Van Beek, P., Hordijk, L. & Van Wassenhove, L. N. (1995) Interactions between operational research and environmental management. *European Journal of Operational Research*, 85 (2), 229-243.
- Board of Investment (2019) *Thailand food industry* Bangkok: Office of the Board of Investment.
- Bonnafeous-Boucher, M. & Rendtorff, J. D. (2016) *Stakeholder theory: A model for strategic management* Springer.
- Boossabong, P. (2019) Governing bangkok's city food system: Engaging multi-stakeholders for smart, sustainable and inclusive growth. *City, Culture and Society*, 16 52-59.
- Bortoletti, M. & Lomax, J. (2019) Collaborative framework for food systems transformation: A multi-stakeholder pathway for sustainable food systems. *Sweeting, A., Ed, .*
- Brancoli, P., Rousta, K. & Bolton, K. (2017) Life cycle assessment of supermarket food waste. *Resources, Conservation and Recycling*, 118 39-46.
- Braun, J., Beckie, M. & Caine, K. (2020) "Trust us, we feed this to our kids": Women and public trust in the Canadian agri-food system. *Agriculture and Human Values*, 37 (2), 495-507.
- British Quality Foundation (2015) *Benchmarking*, 2015. Available online: <https://www.bqf.org.uk/sustainable-excellence/benchmarking> [Accessed: 20/08/2018].
- Bryman, A. (2012) *Social research methods*: Oxford University Press.
- Bryman, A. & Bell, E. (2015) *Business research methods*: Oxford university press.
- Bryman A, Bell E. (2011) *Business research methods, 2nd ed* Oxford: Oxford University Press.
- Bryman, A. & Bell, E. (2007) *Business research methods second edition* oxford university press uk.
- Bryman, A. & Burgess, R. G. (1994) Reflections on qualitative data analysis. *Analyzing Qualitative Data*, 216-226.
- Bunn, M. D., Savage, G. T. & Holloway, B. B. (2002) Stakeholder analysis for multi-sector innovations. *Journal of Business & Industrial Marketing*,.
- Burrell, G. & Morgan, G. (1979) Sociolo-sociological paradigms and organizational analysis nal analysis.
- Campbell, D. T. & Fiske, D. W. (1959) Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56 (2), 81.
- Cao, M. & Zhang, Q. (2010) Supply chain collaborative advantage: A firm's perspective. *International Journal of Production Economics*, 128 (1), 358-367.
- Carter, C. R. & Dresner, M. (2001) Purchasing's role in environmental management: Cross-functional development of grounded theory. *Journal of Supply Chain Management*, 37 (2), 12-27.

- Carter, C. R. & Rogers, D. S. (2008) International journal of physical distribution and logistics management. *International Journal of Physical Distribution & Logistics Management*, 38 (5), 360-387.
- Carter, C. R., Rogers, D. S. & Choi, T. Y. (2015) Toward the theory of the supply chain. *Journal of Supply Chain Management*, 51 (2), 89-97.
- Cash, D. W., Clark, W. C., Alcock, F., Dickson, N. M., Eckley, N., Guston, D. H., Jäger, J. & Mitchell, R. B. (2003) Knowledge systems for sustainable development. *Proceedings of the National Academy of Sciences*, 100 (14), 8086-8091.
- Chan, E. S. & Hawkins, R. (2010) Attitude towards EMSs in an international hotel: An exploratory case study. *International Journal of Hospitality Management*, 29 (4), 641-651.
- Charlebois, S., Creedy, A. & von Massow, M. (2015) “Back of house”-focused study on food waste in fine dining: The case of delish restaurants. *International Journal of Culture, Tourism and Hospitality Research*,.
- Chen, C. & Bau, Y. (2016) Establishing a multi-criteria evaluation structure for tourist beaches in taiwan: A foundation for sustainable beach tourism. *Ocean & Coastal Management*, 121 88-96.
- Chen, L., Zhao, X., Tang, O., Price, L., Zhang, S. & Zhu, W. (2017) Supply chain collaboration for sustainability: A literature review and future research agenda. *International Journal of Production Economics*, 194 73-87.
- Chen, W. & Cheng, H. (2012) Factors affecting the knowledge sharing attitude of hotel service personnel. *International Journal of Hospitality Management*, 31 (2), 468-476.
- Chin, T. A., Tat, H. H. & Sulaiman, Z. (2015) Green supply chain management, environmental collaboration and sustainability performance. *Procedia Cirp*, 26 695-699.
- Cho, M., Bonn, M. A., Han, S. J. & Kang, S. (2018) Partnership strength and diversity with suppliers: Effects upon independent restaurant product innovation and performance. *International Journal of Contemporary Hospitality Management*,.
- Choi, G. & Parsa, H. G. (2007) Green practices II: Measuring restaurant managers' psychological attributes and their willingness to charge for the “Green practices”. *Journal of Foodservice Business Research*, 9 (4), 41-63.
- Chopra, S. & Meindl, P. (2009) Supply chain management: Strategy, planning and operation. 4th. Edition. *New Jersey: Person Prentice Hall*,.
- Chou, C., Chen, K. & Wang, Y. (2012) Green practices in the restaurant industry from an innovation adoption perspective: Evidence from taiwan. *International Journal of Hospitality Management*, 31 (3), 703-711.
- Chou, S., Horng, J., Liu, C. & Gan, B. (2018) Explicating restaurant performance: The nature and foundations of sustainable service and organizational environment. *International Journal of Hospitality Management*, 72 56-66.
- Chou, S., Horng, J., Liu, C., Huang, Y. & Chung, Y. (2016) Expert concepts of sustainable service innovation in restaurants in Taiwan. *Sustainability*, 8 (8), 739.

- Christopher, M. (2010) *Logistics and supply chain management* Pearson Business.
- Christopher, M. (1999) No title. *Logistics and Supply Chain Management: Strategies for Reducing Cost and Improving Service Financial Times: Pitman Publishing. London, 1998 ISBN 0 273 63049 0 (Hardback) 294 1× Pp., .*
- Chu, S. H., Yang, H., Lee, M. & Park, S. (2017) The impact of institutional pressures on green supply chain management and firm performance: Top management roles and social capital. *Sustainability*, 9 (5), 764.
- Chung, K. (2016) Exploring customers 'post-dining behavioural intentions toward green restaurants: An application of theory of planned behaviour. *International Journal of Organizational Innovation (Online)*, 9 (1), 119.
- Clarkson, M. A stakeholder framework for analyzing and evaluating corporate social performance. 1995. *Academy of Management*, 92-117.
- Clemens, E. S. & Cook, J. M. (1999) Politics and institutionalism: Explaining durability and change. *Annual Review of Sociology*, 25 (1), 441-466.
- Codling, S. (1995) *Best practice benchmarking: A management guide* Gower Publishing, Ltd.
- Collis, J. & Hussey, R. (2013) *Business research: A practical guide for undergraduate and postgraduate students* Macmillan International Higher Education.
- Collis, J. & Hussey, R. (2009) *Business Research. 3rd. Converse, J.M. & Schuman, H., 1974. Conversations at random: Wiley.*
- Connaway, L. S. & Powell, R. R. (2010) *Basic research methods for librarians ABC-CLIO.*
- Cooper, D. R. & Schindler, P. S. (2003) *Research methods. Boston, MA: Irwin, .*
- Cooper, M. C., Lambert, D. M. & Pagh, J. D. (1997) Supply chain management: More than a new name for logistics. *The International Journal of Logistics Management*, 8 (1), 1-14.
- Creswell, J. W. & Poth, C. N. (2007) *Qualitative inquiry and research method: Choosing among five approaches.*
- CSCMP (2018) *Council of Supply Chain Management Professionals*. Available online: <http://cscmp.org/> [Accessed 12/03/ 2018].
- Danese, P., Romano, P. & Formentini, M. (2013) The impact of supply chain integration on responsiveness: The moderating effect of using an international supplier network. *Transportation Research Part E: Logistics and Transportation Review*, 49 (1), 125-140.
- Darnall, N., Jolley, G. J. & Handfield, R. (2008) Environmental management systems and green supply chain management: Complements for sustainability? *Business Strategy and the Environment*, 17 (1), 30-45.
- David B, G., Trautrim, A. & Wong, C. Y. (2021) Sustainable logistics and supply chain management.

- De Bakker, F. & Nijhof, A. (2002) Responsible chain management: A capability assessment framework. *Business Strategy and the Environment*, 11 (1), 63-75.
- de Moraes, C. C., de Oliveira Costa, Flávio Henrique, Pereira, C. R., da Silva, A. L. & Delai, I. (2020) Retail food waste: Mapping causes and reduction practices. *Journal of Cleaner Production*, 256 120124.
- De Moraes, M. A., Da Silva, C. F. & Vieira, R. S. (2020) *Biopolymer membranes and films: Health, food, environment, and energy applications* Elsevier.
- Deetz, S. (1996) Crossroads—Describing differences in approaches to organization science: Rethinking burrell and morgan and their legacy. *Organization Science*, 7 (2), 191-207.
- Delforge, I. (2004) *Thailand: From the kitchen of the world to food sovereignty* Focus on the Global South.
- DeMicco, F., Seferis, J., Bao, Y. & Scholz, M. E. (2014) The eco-restaurant of the future: A case study. *Journal of Foodservice Business Research*, 17 (4), 363-368.
- Denzin, N. K. & Lincoln, Y. S. (2011) *The sage handbook of qualitative research* sage.
- Department of Commerce (2019) *The operating factors of the restaurant business* Bangkok: The Department of Commerce.
- Dey, A., LaGuardia, P. & Srinivasan, M. (2011) Building sustainability in logistics operations: A research agenda. *Management Research Review*.
- Dey, I. (1993) Creating categories. qualitative data analysis. London: Routledge. Edwards, SM, Li, H. & Lee, J.-H. (2002) Forced Exposure and Psychological Reactance: Antecedents and Consequences of the Perceived Intrusiveness Pop-Up Ads. *Journal of Advertising*, 31 (3), 83-95.
- DiMaggio, P. J. & Powell, W. W. (1983) The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 147-160.
- DiPietro, R. (2017) Restaurant and foodservice research: A critical reflection behind and an optimistic look ahead. *International Journal of Contemporary Hospitality Management*.
- Dissanayake, C. K. & Cross, J. A. (2018) Systematic mechanism for identifying the relative impact of supply chain performance areas on the overall supply chain performance using SCOR model and SEM. *International Journal of Production Economics*, 201 102-115.
- Distanont, A. & Khongmalai, O. (2020) The role of innovation in creating a competitive advantage. *Kasetsart Journal of Social Sciences*, 41 (1), 15-21.
- Dolnicar, S. (2015) Environmentally sustainable tourists? In Anonymous *The routledge handbook of tourism and sustainability*. Routledge, 158-168.
- Donaldson, T. & Preston, L. E. (1995) The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20 (1), 65-91.

- Doody, O. & Noonan, M. (2013) Preparing and conducting interviews to collect data. *Nurse Researcher*, 20 (5),.
- Duke, K. (2002) Getting beyond the 'official line': Reflections on dilemmas of access, knowledge and power in researching policy networks. *Journal of Social Policy*, 31 (1), 39-59.
- Easterby-Smith, M., Thorpe, R. & Jackson, P. R. (2012) *Management research* Sage.
- Easley, C. E. & Lenox, M. J. (2006) Secondary stakeholder actions and the selection of firm targets. *Academy of Management Proceedings*. Academy of Management Briarcliff Manor, NY 10510.
- Eisenhardt, K. M. (1989) Building theories from case study research. *Academy of Management Review*, 14 (4), 532-550.
- Elkington, J. (1998) Partnerships from cannibals with forks: The triple bottom line of 21st-century business. *Environmental Quality Management*, 8 (1), 37-51.
- Elkington, J. (1997) The triple bottom line. *Environmental Management: Readings and Cases*, 2.
- Ellram, L. M. (1996) The use of the case study method in logistics research. *Journal of Business Logistics*, 17 (2), 93.
- Emadi, M. H. & Rahmanian, M. (2020) Commentary on challenges to taking a food systems approach within the food and agriculture organization (FAO). In *Anonymous Food security and land use change under conditions of climatic variability*. Springer, 19-31.
- Engel, R. J. & Schutt, R. K. (2014) *Fundamentals of social work research* Sage Publications.
- Esichaikul, R. & Baum, T. (1998) The case for government involvement in human resource development: A study of the Thai hotel industry. *Tourism Management*, 19 (4), 359-370.
- European Greens (2008) *Green food policy for Europe*. Available online: <http://europeangreens.eu/menu/egp-policies/food-policy/> [Accessed: 20/06/2018].
- European Union (2020) *The Food and Beverage Market Entry Handbook: Thailand: A Practical Guide to the Market in Thailand for European Agri-food Products*. Available online: https://ec.europa.eu/chafea/agri/sites/default/files/meh-handbook-thailand-2020_en.pdf [Accessed: 15/06/2021].
- Eyaa, S., Ntayi, J. M. & Namagembe, S. (2010) Collaborative relationships and SME supply chain performance. *World Journal of Entrepreneurship, Management and Sustainable Development*.
- FAO. (2013) *Building a Common Vision for Sustainable Food and Agriculture: Principles and Approaches*; FAO: Rome, Italy, 2014. ISBN 978-92-5-108471-7.
- Farooq, M. U., Hussain, A., Masood, T. & Habib, M. S. (2021) Supply chain operations management in pandemics: A state-of-the-art review inspired by COVID-19. *Sustainability*, 13 (5), 2504.

- Fereday, J. & Muir-Cochrane, E. (2006) Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5 (1), 80-92.
- Filimonau, V., Lemmer, C., Marshall, D. & Bejjani, G. (2017) Restaurant menu re-design as a facilitator of more responsible consumer choice: An exploratory and preliminary study. *Journal of Hospitality and Tourism Management*, 33 73-81.
- Flint, D. J. & Golicic, S. L. (2009) Searching for competitive advantage through sustainability: A qualitative study in the new zealand wine industry. *International Journal of Physical Distribution & Logistics Management*,.
- Freeman, E. R., Harrison, J. S. & Wicks, A. C. (2007) Managing for stakeholders: Survival, relation and success.
- Freeman, E. & Liedtka, J. (1997) Stakeholder capitalism and the value chain. *European Management Journal*, 15 (3), 286-296.
- Freeman, E. M. (2011) *Restaurant industry sustainability: Barriers and solutions to sustainable practice indicators* Arizona State University.
- Freeman, R. E. (2010) *Strategic management: A stakeholder approach* Cambridge university press.
- Gerdt, S., Wagner, E. & Schewe, G. (2019) The relationship between sustainability and customer satisfaction in hospitality: An explorative investigation using eWOM as a data source. *Tourism Management*, 74 155-172.
- Gil, J. D., Daioglou, V., van Ittersum, M., Reidsma, P., Doelman, J. C., van Middelaar, C. E. & van Vuuren, D. P. (2019) Reconciling global sustainability targets and local action for food production and climate change mitigation. *Global Environmental Change*, 59 101983.
- Gill, P., Stewart, K., Treasure, E. & Chadwick, B. (2008) Methods of data collection in qualitative research: Interviews and focus groups. *British Dental Journal*, 204 (6), 291-295.
- Gillham, B. (2000) *Case study research methods* Bloomsbury Publishing.
- Gimenez, C., Sierra, V. & Rodon, J. (2012) Sustainable operations: Their impact on the triple bottom line. *International Journal of Production Economics*, 140 (1), 149-159.
- Giunipero, L. C. & Brand, R. R. (1996) Purchasing's role in supply chain management. *The International Journal of Logistics Management*,.
- Golafshani, N. (2003) Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8 (4), 597-607.
- Golan, M. S., Jernegan, L. H. & Linkov, I. (2020) Trends and applications of resilience analytics in supply chain modeling: Systematic literature review in the context of the COVID-19 pandemic. *Environment Systems and Decisions*, 40 222-243.
- Gössling, S. (2002) Global environmental consequences of tourism. *Global Environmental Change*, 12 (4), 283-302.

- Grant, D. B., Banomyong, R. & Gibson, B. J. (2021) A brave new world for retail logistics and SCM in the 2020s and beyond. *International Journal of Logistics Research and Applications*, 1-14.
- Grant, D. B., Trautrim, A., & Wong, C. Y. (2015) *Sustainable Logistics and Supply Chain Management: Principles and Practices for Sustainable Operations and Management (Revised Edition)*. Kogan Page Publishers.
- Grant, T., Barichello, V. & Fitzpatrick, L. (2015) Accounting the impacts of waste product in package design. *Procedia CIRP*, 29 568-572.
- Green Restaurant Association (2015) *Certification Standards*. Available online: <http://www.dinegreen.com> [Accessed: 15/06/2017].
- Group of Chief Scientific Advisors (2020) *Towards a Sustainable Food System: Moving from food as a commodity to food as more of a common good*: European Commission.
- Guba, E. G. & Lincoln, Y. S. (1994) Competing paradigms in qualitative research. *Handbook of Qualitative Research*, 2 (163-194), 105.
- Guchait, P., Lei, P. & Tews, M. J. (2016) Making teamwork work: Team knowledge for team effectiveness. *The Journal of Psychology*, 150 (3), 300-317.
- Guest, G., Namey, E., Taylor, J., Eley, N. & McKenna, K. (2017) Comparing focus groups and individual interviews: Findings from a randomized study. *International Journal of Social Research Methodology*, 20 (6), 693-708.
- Guion, L.A., Diehl, D.C. & McDonald, D. (2011) *Conducting an in-depth interview, FCS, Institute of Food and Agricultural Sciences*: University of Florida.
- Gunasekaran, A., Patel, C. & McGaughey, R. E. (2004) A framework for supply chain performance measurement. *International Journal of Production Economics*, 87 (3), 333-347.
- Gustafsson, J., Cederberg, C., Sonesson, U. & Emanuelsson, A. (2013) The methodology of the FAO study: Global food losses and food waste-extent, causes and prevention”-FAO, 2011.
- Hagelaar, G. J. & Van der Vorst, Jack GAJ (2001) Environmental supply chain management: Using life cycle assessment to structure supply chains. *The International Food and Agribusiness Management Review*, 4 (4), 399-412.
- Han, H., Hsu, L. J. & Lee, J. (2009) Empirical investigation of the roles of attitudes toward green behaviors, overall image, gender, and age in hotel customers’ eco-friendly decision-making process. *International Journal of Hospitality Management*, 28 (4), 519-528.
- Handfield, R., Sroufe, R. & Walton, S. (2005) Integrating environmental management and supply chain strategies. *Business Strategy and the Environment*, 14 (1), 1-19.
- Harrison, J. S. & St. John, C. H. (1996) Managing and partnering with external stakeholders. *Academy of Management Perspectives*, 10 (2), 46-60.
- Hart, C. (1998) Reviewing and the research imagination: Doing a literature review.

- Hart, S. L. (1995) A natural-resource-based view of the firm. *Academy of Management Review*, 20 (4), 986-1014.
- Hart, S. L. & Dowell, G. (2011) Invited editorial: A natural-resource-based view of the firm: Fifteen years after. *Journal of Management*, 37 (5), 1464-1479.
- Hartmann, P. & Apaolaza-Ibáñez, V. (2012) Consumer attitude and purchase intention toward green energy brands: The roles of psychological benefits and environmental concern. *Journal of Business Research*, 65 (9), 1254-1263.
- Healy, M. & Perry, C. (2000) Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research: An International Journal*, .
- Heckert, J. B. & Miner, R. B. (1953) *Distribution costs* Ronald Press Company.
- Hegnsholt, E., Unnikrishnan, S., Pollmann-Larsen, M., Askelsdottir, B. & Gerard, M. (2018) Tackling the 1.6-billion-ton food loss and waste crisis. *The Boston Consulting Group: Geneva, Switzerland*, .
- Higgins-Desbiolles, F., Moskwa, E. & Wijesinghe, G. (2019) How sustainable is sustainable hospitality research? A review of sustainable restaurant literature from 1991 to 2015. *Current Issues in Tourism*, 22 (13), 1551-1580.
- Hingley, M. K. (2005) Power imbalanced relationships: Cases from UK fresh food supply. *International Journal of Retail & Distribution Management*,.
- Hofmann, H., Busse, C., Bode, C. & Henke, M. (2014) Sustainability-related supply chain risks: Conceptualization and management. *Business Strategy and the Environment*, 23 (3), 160-172.
- Hogarth-Scott, S. (1999) Retailer-supplier partnerships: Hostages to fortune or the way forward for the millennium? *British Food Journal*,.
- Holden, M. T. & Lynch, P. (2004) Choosing the appropriate methodology: Understanding research philosophy. *The Marketing Review*, 4 (4), 397-409.
- Holmes Jr, R. M., Miller, T., Hitt, M. A. & Salmador, M. P. (2013) The interrelationships among informal institutions, formal institutions, and inward foreign direct investment. *Journal of Management*, 39 (2), 531-566.
- Hornig, J., Liu, C. S., Chou, S., Tsai, C. & Hu, D. (2018) Developing a sustainable service innovation framework for the hospitality industry. *International Journal of Contemporary Hospitality Management*.
- Horvath, L. (2001) Collaboration: The key to value creation in supply chain management. *Supply Chain Management: An International Journal*,.
- Hospital Caterers Association (2016) Sustainable Restaurant Association Available online: <http://www.hospitalcaterers.org/service-excellence/sustainable-restaurant-association/> [Accessed: 14 May 2016]
- Hove-Sibanda, P. & Pooe, R. D. (2018) Enhancing supply chain performance through supply chain practices. *Journal of Transport and Supply Chain Management*, 12 (1), 1-13.

- Hu, H., Parsa, H. G. & Self, J. (2010) The dynamics of green restaurant patronage. *Cornell Hospitality Quarterly*, 51 (3), 344-362.
- Hu, M. M., Horng, J. & Sun, Y. C. (2009) Hospitality teams: Knowledge sharing and service innovation performance. *Tourism Management*, 30 (1), 41-50.
- Hutchinson, D., Singh, J. & Walker, K. (2012) An assessment of the early stages of a sustainable business model in the Canadian fast-food industry. *European Business Review*,.
- IISD, D. & Touche, W. (1992) Business strategy for sustainable development. Available online: [https://www. Bsdglobal.Com/Pdf/Business_str Ategy.Pdf](https://www.Bsdglobal.Com/Pdf/Business_strAtegy.Pdf). (Accessed: 12 August 2014).
- Innvaer, S., Vist, G., Trommald, M. & Oxman, A. (2002) Health policy-makers' perceptions of their use of evidence: A systematic review. *Journal of Health Services Research & Policy*, 7 (4), 239-244.
- Iraldo, F., Testa, F., Lanzini, P. & Battaglia, M. (2017) Greening competitiveness for hotels and restaurants. *Journal of Small Business and Enterprise Development*,.
- Ireland, R. D., Tihanyi, L. & Webb, J. W. (2008) A tale of two politico-economic systems: Implications for entrepreneurship in central and eastern europe. *Entrepreneurship Theory and Practice*, 32 (1), 107-130.
- Isarangkun, C. & Pootrakool, K. (2001) Sustainable economic development through the sufficiency economy philosophy. *National Economic and Social Development Board of Thailand*, 1-14.
- Jang, Y. J. (2016) Environmental sustainability management in the foodservice industry: Understanding the antecedents and consequences. *Journal of Foodservice Business Research*, 19 (5), 441-453.
- Jang, Y. J., Kim, W. G. & Bonn, M. A. (2011) Generation Y consumers' selection attributes and behavioral intentions concerning green restaurants. *International Journal of Hospitality Management*, 30 (4), 803-811.
- Jang, Y. J., Zheng, T. & Bosselman, R. (2017) Top managers' environmental values, leadership, and stakeholder engagement in promoting environmental sustainability in the restaurant industry. *International Journal of Hospitality Management*, 63 101-111.
- Jay Polonsky, M. & Ottman, J. (1998) Stakeholders' contribution to the green new product development process. *Journal of Marketing Management*, 14 (6), 533-557.
- Jeong, E., Jang, S. S., Day, J. & Ha, S. (2014) The impact of eco-friendly practices on green image and customer attitudes: An investigation in a café setting. *International Journal of Hospitality Management*, 41 10-20.
- Johnson, P. F. & Klassen, R. D. (2022) New directions for research in green public procurement: The challenge of inter-stakeholder tensions. *Cleaner Logistics and Supply Chain*, 3 100017.
- Jones, P., Hillier, D. & Comfort, D. (2016) Sustainability in the hospitality industry: Some personal reflections on corporate challenges and research agendas. *International Journal of Contemporary Hospitality Management*,.

- Jung, H. S. & Yoon, H. H. (2016) Why is employees' emotional intelligence important? the effects of EI on stress-coping styles and job satisfaction in the hospitality industry. *International Journal of Contemporary Hospitality Management*,.
- Kaipia, R., Dukovska-Popovska, I. & Loikkanen, L. (2013) Creating sustainable fresh food supply chains through waste reduction. *International Journal of Physical Distribution & Logistics Management*,.
- Kanter, R. M. (1984) *Change masters* Simon and Schuster.
- Karagiannis, D. & Andrinou, M. (2021) The role of sustainable restaurant practices in city branding: The case of Athens. *Sustainability*, 13 (4), 2271.
- Kasem, S. & Thapa, G. B. (2012a) Sustainable development policies and achievements in the context of the agriculture sector in Thailand. *Sustainable Development*, 20 (2), 98-114.
- Kasem, S. & Thapa, G. B. (2012b) Sustainable development policies and achievements in the context of the agriculture sector in Thailand. *Sustainable Development*, 20 (2), 98-114.
- Kasikorn Research Centre (2021) *Restaurant Industry in 2021 is Still Risky*. Available online: <https://www.kasikornresearch.com/en/analysis/k-social-media/Pages/Restaurant-FB-15-01-21.aspx> [Accessed: 24/11/2021].
- Kasim, A. & Ismail, A. (2012) Environmentally friendly practices among restaurants: Drivers and barriers to change. *Journal of Sustainable Tourism*, 20 (4), 551-570.
- Khalil, M., Khalil, R. & Khan, S. (2019) A study on the effect of supply chain management practices on organizational performance with the mediating role of innovation in SMEs. *Uncertain Supply Chain Management*, 7 (2), 179-190.
- Kim, J., Lee, M., Kwon, W., Park, H. & Back, K. (2022) Why am I satisfied? see my reviews—Price and location matter in the restaurant industry. *International Journal of Hospitality Management*, 101 103111.
- Kim, T. T. & Lee, G. (2013) Hospitality employee knowledge-sharing behaviors in the relationship between goal orientations and service innovative behavior. *International Journal of Hospitality Management*, 34 324-337.
- Kittipanya-ngam, P., Shi, Y. & Gregory, M. J. (2011) Exploring geographical dispersion in thailand-based food supply chain (FSC). *Benchmarking: An International Journal*,.
- Klassen, R. D. (2000) Exploring the linkage between investment in manufacturing and environmental technologies. *International Journal of Operations & Production Management*,.
- Koçoğlu, İ, İmamoğlu, S. Z., İnce, H. & Keskin, H. (2011) The effect of supply chain integration on information sharing: Enhancing the supply chain performance. *Procedia-Social and Behavioral Sciences*, 24 1630-1649.
- Koehn, D. (1999) What can eastern philosophy teach us about business ethics? *Journal of Business Ethics*, 19 (1), 71-79.

- Konezny, G. P. & Beskow, M. J. (1999) *Third-party logistics: Improving global supply chain performance* Peter Jaffray, Incorporated.
- Kongkachuichai, R., Charoensiri, R., Yakoh, K., Kringkasemsee, A. & Insung, P. (2015) Nutrients value and antioxidant content of indigenous vegetables from southern thailand. *Food Chemistry*, 173 838-846.
- Kotler, P. (2000) *Marketing management: The millennium edition* Prentice Hall Upper Saddle River, NJ.
- Kramer, M. R. & Porter, M. (2011) *Creating shared value* FSG Boston, MA, USA.
- Ku, E. C., Hsu, S. & Wu, W. (2020) Connecting supplier–supplier relationships to achieve supply chain performance of restaurant companies. *Journal of Hospitality and Tourism Insights*,.
- Kunasegaran, M., Rasoolimanesh, S. M. & Khan, S. K. (2019) Experiences of international tourists with healthy signature foods: A case study in malacca. *British Food Journal*,.
- Kuruvilla, S., Mays, N. & Walt, G. (2007) Describing the impact of health services and policy research. *Journal of Health Services Research & Policy*, 12 (1_suppl), 23-31
- Lambert, D. M. & Cooper, M. C. (2000) Issues in supply chain management. *Industrial Marketing Management*, 29 (1), 65-83.
- Laosirihongthong, T., Adebajo, D. & Tan, K. C. (2013) Green supply chain management practices and performance. *Industrial Management & Data Systems*,.
- LeCompte, M. D. & Goetz, J. P. (1982) Problems of reliability and validity in ethnographic research. *Review of Educational Research*, 52 (1), 31-60.
- Lee, H. L., Padmanabhan, V. & Whang, S. (1997) Information distortion in a supply chain: The bullwhip effect. *Management Science*, 43 (4), 546-558.
- Leech, B. L. (2002) Asking questions: Techniques for semi structured interviews. *PS: Political Science & Politics*, 35 (4), 665-668.
- Leech, N. L. & Onwuegbuzie, A. J. (2011) Beyond constant comparison qualitative data analysis: Using NVivo. *School Psychology Quarterly*, 26 (1), 70.
- Legrand, W., Sloan, P., Simons-Kaufmann, C. & Fleischer, S. (2010) A review of restaurant sustainable indicators. *Advances in Hospitality and Leisure*,.
- Lehtonen, M. (2004) The environmental–social interface of sustainable development: Capabilities, social capital, institutions. *Ecological Economics*, 49 (2), 199-214.
- Leip, A., Bodirsky, B. L. & Kugelberg, S. (2021) The role of nitrogen in achieving sustainable food systems for healthy diets. *Global Food Security*, 28 100408.
- Li, S., Ragu-Nathan, B., Ragu-Nathan, T. S. & Rao, S. S. (2006) The impact of supply chain management practices on competitive advantage and organizational performance. *Omega*, 34 (2), 107-124.
- Lien, C., Huang, C. & Chang, H. (2012) The influence of green consumption cognition of consumers on behavioural intention-A case study of the restaurant service industry. *African Journal of Business Management*, 6 (26), 7888-7895.

- Lipinski, B., Hanson, C., Waite, R., Searchinger, T., Lomax, J. & Kitinoja, L. (2013) Reducing food loss and waste.
- Lu, J. & Nepal, S. K. (2009) Sustainable tourism research: An analysis of papers published in the journal of sustainable tourism. *Journal of Sustainable Tourism*, 17 (1), 5-16.
- Ma, A. & Norwich, B. (2007) Triangulation and theoretical understanding. *International Journal of Social Research Methodology*, 10 (3), 211-226.
- Mackenzie, N. & Knipe, S. (2006) Research dilemmas: Paradigms, methods and methodology. *Issues in Educational Research*, 16 (2), 193-205.
- Mangan, J., Lalwani, C. & Gardner, B. (2004) Combining quantitative and qualitative methodologies in logistics research. *International Journal of Physical Distribution & Logistics Management*,.
- Maps of World (2022) *Bangkok Metropolis Map*. Available online: <https://www.mapsofworld.com/thailand/provinces/bangkok-metropolis-map.html> [Accessed: 18/09/2022].
- Markley, M. J. & Davis, L. (2007) Exploring future competitive advantage through sustainable supply chains. *International Journal of Physical Distribution & Logistics Management*.
- Martin, J., Maton, K. A. & Matruglio, E. S. (2010) Historical cosmologies: Epistemology and axiology in Australian secondary school history discourse.
- Martin, P. R. & Patterson, J. W. (2009) On measuring company performance within a supply chain. *International Journal of Production Research*, 47 (9), 2449-2460.
- Martínez-artínez, A., Cegarra-Navarro, J., Garcia-Perez, A. & Wensley, A. (2019) Knowledge agents as drivers of environmental sustainability and business performance in the hospitality sector. *Tourism Management*, 70 381-389.
- Martins, C. L. & Pato, M. V. (2019) Supply chain sustainability: A tertiary literature review. *Journal of Cleaner Production*, 225 995-1016.
- Masudin, I., Ramadhani, A., Restuputri, D. P. & Amallynda, I. (2021) The effect of traceability system and managerial initiative on Indonesian food cold chain performance: A COVID-19 pandemic perspective. *Global Journal of Flexible Systems Management*, 22 (4), 331-356.
- Matopoulos, A., Vlachopoulou, M., Manthou, V. & Manos, B. (2007) A conceptual framework for supply chain collaboration: Empirical evidence from the agri-food industry. *Supply Chain Management: An International Journal*.
- May, K. A. (1991) Interview techniques in qualitative research: Concerns and challenges. *Qualitative Nursing Research: A Contemporary Dialogue*, 188-201.
- Maynard, D. d. C., Zandonadi, R. P., Nakano, E. Y., Raposo, A. & Botelho, R. B. A. (2021) Green restaurants ASSESSment (GRASS): A tool for evaluation and classification of restaurants considering sustainability indicators. *Sustainability*, 13 (19), 10928.

Mbow, C., Rosenzweig, C., Barioni, L. G., Benton, T. G., Herrero, M., Krishnapillai, M., Liwenga, E., Pradhan, P., Rivera-Ferre, M. & Sapkota, T. (2019) Food security. In Anonymous *Climate change and land*. 437-550.

McDermott, C. C. (2009) Corporate agenda 21: A unified global approach to CSR and sustainability. *Corporate Communications: An International Journal*,.

McDonald's (2014) *McDonald's Good Business Report*, 2014. Available online: <https://provisioncoalition.com/Assets/ProvisionCoalition/Documents/CSR%20Reports/McDonalds-2014-Sustainability-Report-Food-Beverage-CSR.pdf> [Accessed: 11/11/2017]

McKinsey. (2020) Food Retail in Thailand During the COVID-19 Pandemic. Available online: <https://www.mckinsey.com/industries/retail/our-insights/survey-food-retail-in-thailand-during-the-covid-19-pandemic> [Accessed: 22/03/2022]

McKinnon, A. C. & Ge, Y. (2006) The potential for reducing empty running by trucks: A retrospective analysis. *International Journal of Physical Distribution & Logistics Management*,.

Mena, C., Adenso-Diaz, B. & Yurt, O. (2011) The causes of food waste in the supplier–retailer interface: Evidences from the UK and Spain. *Resources, Conservation and Recycling*, 55 (6), 648-658.

Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D. & Zacharia, Z. G. (2001) Defining supply chain management. *Journal of Business Logistics*, 22 (2), 1-25.

Mentzer, J. T. & Kahn, K. B. (1995) A framework of logistics research. *Journal of Business Logistics*, 16 (1), 231.

Mentzer, J. T., Min, S. & Zacharia, Z. G. (2000) The nature of interfirm partnering in supply chain management. *Journal of Retailing*, 76 (4), 549-568.

Miles, M. B., Huberman, A. M. & Saldaña, J. (2018) *Qualitative data analysis: A methods sourcebook* Sage publications.

Miller, D. (2019) The resource-based view of the firm. In Anonymous *Oxford research encyclopedia of business and management*.

Miller, R. L. & Brewer, J. D. (2003) *The AZ of social research: A dictionary of key social science research concepts* Sage.

Ministry of Natural Resources and Environment (2019) *Waste is a national agenda* Bangkok: The Ministry of Natural Resources and Environment.

Mitchell, G., May, A. & McDonald, A. (1995) PICABUE: A methodological framework for the development of indicators of sustainable development. *The International Journal of Sustainable Development & World Ecology*, 2 (2), 104-123.

Moeller, T., Dolnicar, S. & Leisch, F. (2011) The sustainability–profitability trade-off in tourism: Can it be overcome? *Journal of Sustainable Tourism*, 19 (2), 155-169.

Mollenkopf, D. A. (2006) Environmental sustainability: Examining the case for environmentally-sustainable supply chains. *CSCMP Explores*, 3 (3), 1-15.

- Morrissey, A. J. & Browne, J. (2004) Waste management models and their application to sustainable waste management. *Waste Management*, 24 (3), 297-308.
- MOT (2020) *Number and income of foreign tourists monthly, 2016-2019R (adjusted number and income 2019)*. Available online: https://www.mots.go.th/more_news_new.php?cid=585 [Accessed: 22/07/2021].
- Muangasame, K. & Park, E. (2019) Food tourism, policy and sustainability: Behind the popularity of thai food. In Anonymous *Food tourism in Asia*. Springer, 123-142.
- Murphy, E. & Dingwall, R. (2007) Informed consent, anticipatory regulation and ethnographic practice. *Social Science & Medicine*, 65 (11), 2223-2234.
- Murphy, P. R., Poist, R. F. & Braunschweig, C. D. (1996) Green logistics: Comparative views of environmental progressives, moderates, and conservatives. *Journal of Business Logistics*, 17 (1), 191.
- Murphy, P. R., Poist, R. F. & Braunschweig, C. D. (1995) Role and relevance of logistics to corporate environmentalism: An empirical assessment. *International Journal of Physical Distribution & Logistics Management*,.
- Murray Li, T. (2007) Practices of assemblage and community forest management. *Economy and Society*, 36 (2), 263-293.
- Najib, M., Abdul Rahman, A. A. & Fahma, F. (2021) Business survival of small and medium-sized restaurants through a crisis: The role of government support and innovation. *Sustainability*, 13 (19), 10535.
- Naor, M., Linderman, K. & Schroeder, R. (2010) The globalization of operations in eastern and western countries: Unpacking the relationship between national and organizational culture and its impact on manufacturing performance. *Journal of Operations Management*, 28 (3), 194-205.
- Näslund, D. (2002) Logistics needs qualitative research—especially action research. *International Journal of Physical Distribution & Logistics Management*,.
- National Research Council. 2012. *Disaster Resilience: A National Imperative*. Washington, D.C.: National Academies Press. doi:10.17226/13457.
- Newbert, S. L. (2007) Empirical research on the resource-based view of the firm: An assessment and suggestions for future research. *Strategic Management Journal*, 28 (2), 121-146.
- Nielsen, A. P. (2006) Understanding dynamic capabilities through knowledge management. *Journal of Knowledge Management*,.
- Nielsen, M. P. & Hoang, L. C. (2019) *Limit analysis and concrete plasticity* CRC press.
- Noble, H. & Smith, J. (2015) Issues of validity and reliability in qualitative research. *Evidence-Based Nursing*, 18 (2), 34-35.
- North, D. C. (1990) Economic performance. *New York*,.
- Nurrel, G. & Morgan, G. (1979) *Sociological paradigms and organisational analysis: Elements of the sociology of corporate life*.

- O’Riordan, T. (2022) COP 26 and sustainability science. *Environment: Science and Policy for Sustainable Development*, 64 (1), 2-3.
- Oliver, J. & Eales, K. (2008) Research ethics: Re-evaluating the consequentialist perspective of using covert participant observation in management research. *Qualitative Market Research: An International Journal*,.
- Olorunniwo, F. O. & Li, X. (2010) Information sharing and collaboration practices in reverse logistics. *Supply Chain Management: An International Journal*,.
- ONESDC (2022) *A draft of the National Economic and Social Development Plan, Vol 13,2023-2027*. Available online: <https://www.nesdc.go.th/download/document/Yearend/2021/plan13.pdf> [Accessed: 5/01/2022].
- Opdenakker, R. (2006) Advantages and disadvantages of four interview techniques in qualitative research. *Forum qualitative sozialforschung/forum: Qualitative social research*.
- Pagell, M., Katz, J. P. & Sheu, C. (2005) The importance of national culture in operations management research. *International Journal of Operations & Production Management*,.
- Pagell, M. & Wu, Z. (2009) Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars. *Journal of Supply Chain Management*, 45 (2), 37-56.
- Parfitt, J., Barthel, M. & Macnaughton, S. (2010) Food waste within food supply chains: Quantification and potential for change to 2050. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365 (1554), 3065-3081.
- Park, E. O., Kim, W. & Kwon, J. (2020) Understanding the relationship between green restaurant certification programs and a green restaurant image: The case of TripAdvisor reviews. *Kybernetes*, .
- Parmar, B. L., Freeman, R. E., Harrison, J. S., Wicks, A. C., Purnell, L. & De Colle, S. (2010) Stakeholder theory: The state of the art. *Academy of Management Annals*, 4 (1), 403-445.
- Penrose, E. (1959) 1959 the theory of the growth of the firm oxford: Blackwell. *Vol., no., Hlm.,*.
- Perego, P. & Kolk, A. (2012) Multinationals’ accountability on sustainability: The evolution of third-party assurance of sustainability reports. *Journal of Business Ethics*, 110 (2), 173-190.
- Perry, C. (1998) Processes of a case study methodology for postgraduate research in marketing. *European Journal of Marketing*.
- Piyya, M.R. (2015) *Exploring supply chain sustainability risk in the UK fashion industry: a multiple case study* Hull: University of Hull.
- Ploetner, O. & Ehret, M. (2006) From relationships to partnerships—new forms of cooperation between buyer and seller. *Industrial Marketing Management*, 35 (1), 4-9.

- Popp, J., Lakner, Z., Harangi-Rakos, M. & Fari, M. (2014) The effect of bioenergy expansion: Food, energy, and environment. *Renewable and Sustainable Energy Reviews*, 32 559-578.
- Porter, M. & Kramer, M. (2002) The competitive advantage of corporate philanthropy. *Harvard business review*, 1-14. recuperado de file. C:/Users/Diana/Downloads/the-Competitive-Advantage-of-Corporate-Philanthropy (1). Pdf.
- Porter, M. E. & Kramer, M. R. (2006) The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 84 (12), 78-92.
- Prasetyo, P., Setyadharma, A. & Kistanti, N. (2022) The role of institutional potential and social entrepreneurship as the main drivers of business opportunity and competitiveness. *Uncertain Supply Chain Management*, 10 (1), 101-108.
- Premanandh, J. (2011) Factors affecting food security and contribution of modern technologies in food sustainability. *Journal of the Science of Food and Agriculture*, 91 (15), 2707-2714.
- Pumhiran, N. (2015) Integration of organic foods into Thailand's hotel industry as opportunities. *All Correspondence should be Addressed To*, 99.
- Raab, C., Baloglu, S. & Chen, Y. (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.
- Rachapaettayakom, P., Wiriyaipinit, M., Cooharajanone, N. & Tanthanongsakkun, S. (2018) An exploratory study on the knowledge management process, tools, and technologies in the context of small restaurant businesses in Thailand. *2018 7th International Conference on Industrial Technology and Management (ICITM)*. IEEE.
- Ralahallo, F. N. (2021) The effect of just in time (JIT) and supply chain management on company performance at seafood restaurants in ambon city. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12 (7), 1528-1537.
- Ramanathan, U. & Gunasekaran, A. (2014) Supply chain collaboration: Impact of success in long-term partnerships. *International Journal of Production Economics*, 147 252-259.
- Rebs, T., Brandenburg, M. & Seuring, S. (2019) System dynamics modelling for sustainable supply chain management: A literature review and systems thinking approach. *Journal of Cleaner Production*, 208 1265-1280.
- Reuter, C., Foerstl, K., Hartmann, E. & Blome, C. (2010) Sustainable global supplier management: The role of dynamic capabilities in achieving competitive advantage. *Journal of Supply Chain Management*, 46 (2), 45-63.
- Riege, A. M. (2003) Validity and reliability tests in case study research: A literature review with "hands-on" applications for each research phase. *Qualitative Market Research: An International Journal*, .

- Robertson, J. L. & Barling, J. (2013) Greening organizations through leaders' influence on employees' pro-environmental behaviors. *Journal of Organizational Behaviour*, 34 (2), 176-194.
- Robson, C. (2002) *Real world research: A resource for social scientists and practitioner-researchers* Wiley-Blackwell.
- Rowley, J. (2002) Using case studies in research. *Management Research News*.
- Sangkumchaliang, P. & Huang, W. (2012) Consumers' perceptions and attitudes of organic food products in northern Thailand. *International Food and Agribusiness Management Review*, 15 (1030-2016-82915), 87-102.
- Sari, K. (2008) On the benefits of CPFR and VMI: A comparative simulation study. *International Journal of Production Economics*, 113 (2), 575-586.
- Sarkis, J., Cohen, M. J., Dewick, P. & Schröder, P. (2020) A brave new world: Lessons from the COVID-19 pandemic for transitioning to sustainable supply and production. *Resources, Conservation, and Recycling*, 159 104894.
- Sarkis, J., Gonzalez-Torre, P. & Adenso-Diaz, B. (2010) Stakeholder pressure and the adoption of environmental practices: The mediating effect of training. *Journal of Operations Management*, 28 (2), 163-176.
- Sarkis, J., Zhu, Q. & Lai, K. (2011) An organizational theoretic review of green supply chain management literature. *International Journal of Production Economics*, 130 (1), 1-15.
- Sathirathai, S. & Piboolsravut, P. (2004) Sufficiency economy and a healthy community. *3rd IUCN World Conservation Congress, Bangkok, Thailand*.
- Saunders, M., Lewis, P. & Thornhill, A. (2009) *Research methods for business students* Pearson education.
- Saunders, M., Lewis, P. & Thornhill, A. (2007) *Research methods. Business Students 4th Edition Pearson Education Limited, England*.
- Saunders, M., Lewis, P. & Thornhill, A. (2012) *Research methods for business students (6th ended.) harlow. England: Pearson Education*.
- Savage, G. T., Nix, T. W., Whitehead, C. J. & Blair, J. D. (1991) Strategies for assessing and managing organizational stakeholders. *Academy of Management Perspectives*, 5 (2), 61-75.
- Scapens, R. W. (1990) Researching management accounting practice: The role of case study methods. *The British Accounting Review*, 22 (3), 259-281.
- Schubert, F. (2008) No title. *Exploring and Predicting Consumers' Attitudes and Behaviors Towards Green Restaurants*.
- Schubert, F., Kandampully, J., Solnet, D. & Kralj, A. (2010) Exploring consumer perceptions of green restaurants in the US. *Tourism and Hospitality Research*, 10 (4), 286-300.
- Scott, W. R. (2005) Institutional theory: Contributing to a theoretical research program. *Great Minds in Management: The Process of Theory Development*, 37 (2), 460-484.

- Seadon, J. K. (2010) Sustainable waste management systems. *Journal of Cleaner Production*, 18 (16-17), 1639-1651.
- Sekaran, U. & Bougie, R. (2011) Business research methods: A skill-building approach. Chichester: John Wiley & Sons Ltd.,
- Seuring, S. (2005) Case study research in supply chains—An outline and three examples. In Anonymous *Research methodologies in supply chain management*. Springer, 235-250.
- Seuring, S. & Müller, M. (2008) From a literature review to a conceptual framework for sustainable supply chain management. *Journal of Cleaner Production*, 16 (15), 1699-1710.
- Shane, S. (1993) Cultural influences on national rates of innovation. *Journal of Business Venturing*, 8 (1), 59-73.
- Shaw, S., Grant, D. B. & Mangan, J. (2021) A supply chain practice-based view of enablers, inhibitors and benefits for environmental supply chain performance measurement. *Production Planning & Control*, 32 (5), 382-396.
- Shaw, S., Grant, D. B. & Mangan, J. (2010) Developing environmental supply chain performance measures. *Benchmarking: An International Journal*.
- Shaw, S.L. (2013) *Developing and testing green performance measures for the supply chain* Hull: University of Hull.
- Shekdar, A. V. (2009) Sustainable solid waste management: An integrated approach for asian countries. *Waste Management*, 29 (4), 1438-1448.
- Shokri, A., Oglethorpe, D. & Nabhani, F. (2014) Evaluating sustainability in the UK fast food supply chain: Review of dimensions, awareness and practice. *Journal of Manufacturing Technology Management*.
- Shrivastava, P. (1995) The role of corporations in achieving ecological sustainability. *Academy of Management Review*, 20 (4), 936-960.
- Shukla, A. C., Deshmukh, S. G. & Kanda, A. (2009) Environmentally responsive supply chains: Learnings from the Indian auto sector. *Journal of Advances in Management Research*, .
- Silverman, D. (2013) *Doing qualitative research: A practical handbook* Sage.
- Simatupang, T. M. & Sridharan, R. (2002) The collaborative supply chain. *The International Journal of Logistics Management*, 13 (1), 15-30.
- Sinclair, M. (2011) Developing a model for effective stakeholder engagement management. *Asia Pacific Public Relations Journal*, 12 (2).
- Singh, S., Kumar, S., Dagar, V., Saxena, M. & Rashid, S. (2021) India's agricultural food processing and industry specific trade pattern with EU and ASEAN. *Int.J.Agricult.Stat.Sci.Vol*, 17 (1), 39-51.
- Sirimongkol, T. (2021) The effects of restaurant service quality on revisit intention in pandemic conditions: An empirical study from khonkaen, thailand. *Journal of Foodservice Business Research*, 1-19.

- Sobh, R. & Perry, C. (2006) Research design and data analysis in realism research. *European Journal of Marketing*,.
- Sornsaruht, P. & Sawmong, S. (2018) Thai select” restaurant brand equity: A london analysis. *Asia-Pacific Social Science Review*, 18 (3), 110-119.
- Spekman, R. E., Kamauff, J. W. & Myhr, N. (1998) An empirical investigation into supply chain management: A perspective on partnerships. *Supply Chain Management: An International Journal*,.
- Srivastava, S. K. (2007) Green supply-chain management: A state-of-the-art literature review. *International Journal of Management Reviews*, 9 (1), 53-80.
- Stake, R.E. (1995) *The art of case study research* Sage.
- Steg, L., Bolderdijk, J. W., Keizer, K. & Perlaviciute, G. (2014) An integrated framework for encouraging pro-environmental behaviour: The role of values, situational factors and goals. *Journal of Environmental Psychology*, 38 104-115.
- Stock, J. R. & Lambert, D. M. (2001) *Strategic logistics management* McGraw-Hill/Irwin Boston, MA.
- Stocker, T. F., Qin, D., Plattner, G., Tignor, M., Allen, S. K., Boschung, J., Nauels, A., Xia, Y., Bex, V. & Midgley, P. M. (2013) Climate change 2013: The physical science basis. intergovernmental panel on climate change, working group I contribution to the IPCC fifth assessment report (AR5). *New York*.
- Stöckli, S., Dorn, M. & Liechti, S. (2018) Normative prompts reduce consumer food waste in restaurants. *Waste Management*, 77 532-536.
- Suddaby, R. (2010) Challenges for institutional theory. *Journal of Management Inquiry*, 19 (1), 14-20.
- Sultan, F. & Simpson, M. C. (2000) International service variants: Airline passenger expectations and perceptions of service quality. *Journal of Services Marketing*,.
- Sutthichaimethee, P. & Sawangdee, Y. (2016) Model of environmental problems priority arising from the use of environmental and natural resources in machinery sectors of thailand. *Environmental and Climate Technologies*, 17 (1), 18-29.
- Suwanraks, R. (2000) Summary of discussion: The 1999 TDRI year-end conference. *TDRI Quarterly Review*, 15 (1), 6-17.
- Svensson, G. & Wagner, B. (2011) Transformative business sustainability: Multi-layer model and network of e-footprint sources. *European Business Review*.
- Szuchnicki, A. L. (2009) Examining the influence of restaurant green practices on customer return intention.
- Tan, C. L., Zailani, S. H. M., Tan, S. C. & Shaharudin, M. R. (2016) The impact of green supply chain management practices on firm competitiveness. *International Journal of Business Innovation and Research*, 11 (4), 539-558.
- Tate, W. L. & Bals, L. (2018) Achieving shared triple bottom line (TBL) value creation: Toward a social resource-based view (SRBV) of the firm. *Journal of Business Ethics*, 152 (3), 803-826.

- Tate, W. L., Ellram, L. M. & Dooley, K. J. (2012) Environmental purchasing and supplier management (EPSM): Theory and practice. *Journal of Purchasing and Supply Management*, 18 (3), 173-188.
- Tate, W. L., Ellram, L. M. & Kirchoff, J. F. (2010) Corporate social responsibility reports: A thematic analysis related to supply chain management. *Journal of Supply Chain Management*, 46 (1), 19-44.
- Taticchi, P., Tonelli, F. & Pasqualino, R. (2013) Performance measurement of sustainable supply chains: A literature review and a research agenda. *International Journal of Productivity and Performance Management*,.
- Technology and Informatics Institute for Sustainability (TIIS) (2018) Available online: <https://www.nstda-tiis.or.th/en/about-us/> [Accessed: 18/12/2019].
- Thai Select. (2014). *What is Thai Select? Retrieved from*. Available online: <http://tinyurl.com/mh3dv36>[Accessed: 7/07/2019].
- Thaipublica (2022) *Thailand's waste situation: 26 million tonnes of waste crisis, only 7.2 million tonnes can be properly disposed*. Available online: <https://thaipublica.org/2014/09/thailands-garbage-crisis> [Accessed: 11/01/2022].
- Thomas, D. R. (2006) A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27 (2), 237-246.
- Thongpakde, N. (2005) Thailand's economic development and the philosophy of sufficiency economy. *Unpublished. Cited in Prasopchoke Mongsawad (2010), "The Philosophy of the Sufficiency Economy: A Contribution to the Theory of Development", Ibid,*
- TM, A., Kaur, P., Ferraris, A. & Dhir, A. (2021) What motivates the adoption of green restaurant products and services? A systematic review and future research agenda. *Business Strategy and the Environment*, 30 (4), 2224-2240.
- Touboulic, A., Chicksand, D. & Walker, H. (2014) Managing imbalanced supply chain relationships for sustainability: A power perspective. *Decision Sciences*, 45 (4), 577-619.
- Touboulic, A. & Walker, H. (2015) Love me, love me not: A nuanced view on collaboration in sustainable supply chains. *Journal of Purchasing and Supply Management*, 21 (3), 178-191.
- Trienekens, J. & Zuurbier, P. (2008) Quality and safety standards in the food industry, developments and challenges. *International Journal of Production Economics*, 113 (1), 107-122.
- Tse, D. K., Lee, K., Vertinsky, I. & Wehrung, D. A. (1988) Does culture matter? A cross-cultural study of executives' choice, decisiveness, and risk adjustment in international marketing. *Journal of Marketing*, 52 (4), 81-95.
- Turner III, D. W. (2010) Qualitative interview design: A practical guide for novice investigators. *The Qualitative Report*, 15 (3), 754.
- Un, C. A. & Asakawa, K. (2015) Types of R&D collaborations and process innovation: The benefit of collaborating upstream in the knowledge chain. *Journal of Product Innovation Management*, 32 (1), 138-153.

United Nations (1987) *Our common future. Report of the World Commission on Environment and Development. United Nations published as Annex to General Assembly document, A/42/427.*

United Nations, Department of Economic and Social Affairs, Population Division (2019) *World Population Prospects 2019, Volume II: Demographic Profiles (ST/ESA/SER.A/427).*

Vachon, S. & Klassen, R. D. (2006) Extending green practices across the supply chain: The impact of upstream and downstream integration. *International Journal of Operations & Production Management.*

Van Echtelt, F. E., Wynstra, F., Van Weele, A. J. & Duysters, G. (2008) Managing supplier involvement in new product development: A multiple-case study. *Journal of Product Innovation Management*, 25 (2), 180-201.

Van Hoek, R. I., Cammandeur, H. R. & Vos, B. (1998) Reconfiguring logistics systems through postponement strategies. *Journal of Business Logistics*, 19 (1.1998), 33.

Vaqué, L. G. (2015) Food loss and waste in the european union: A new challenge for the food law? *European Food and Feed Law Review*, 10 (1), 20-33.

Vasileiou, K. & Morris, J. (2006) The sustainability of the supply chain for fresh potatoes in britain. *Supply Chain Management: An International Journal*,.

Vaziri, H. K. (1992) Using competitive benchmarking to set goals. *Quality Progress*, 25 (10), 81-85.

Vos, F. & Schiele, H. (2014) Evaluating theories in purchasing & SCM literature. *Paper presented at the 23RD Annual IPSERA Conference, South Africa.*

Voss, C., Tsikriktsis, N. & Frohlich, M. (2002) Case research in operations management. *International Journal of Operations & Production Management*,.

Walker, H. & Jones, N. (2012) Sustainable supply chain management across the UK private sector. *Supply Chain Management: An International Journal*,.

Walton, S. V., Handfield, R. B. & Melnyk, S. A. (1998) The green supply chain: Integrating suppliers into environmental management processes. *International Journal of Purchasing and Materials Management*, 34 (1), 2-11.

Wang, Y. (2016) Modeling predictors of restaurant employees' green behavior: Comparison of six attitude-behavior models. *International Journal of Hospitality Management*, 58 66-81.

Wang, Y., Chen, S., Lee, Y. & Tsai, C. S. (2013a) Developing green management standards for restaurants: An application of green supply chain management. *International Journal of Hospitality Management*, 34 263-273.

Varayanond, W. (2013) Fostering food culture with innovation: OTOP and thai kitchen to the world. *Bangkok: Institute of Food Research and Product Development, Kasetsart University. Retrieved March, 9 2016.*

WCED (World Commission on Environment and Development) (1987) *Our Common Future*. Oxford: Oxford University Press.

- Welsh, E. (2002) Dealing with data: Using NVivo in the qualitative data analysis process. *Forum qualitative sozialforschung/Forum: qualitative social research*.
- Wibulswasdi, C., Piboolsravut, P. & Pootrakool, K. (2011) *Sufficiency economy philosophy and development* Sufficiency Economy Research Project, Bureau of the Crown Property Bangkok
- Winter, M. & Knemeyer, A. M. (2013) Exploring the integration of sustainability and supply chain management: Current state and opportunities for future inquiry. *International Journal of Physical Distribution & Logistics Management*.
- Wohner, B., Gabriel, V. H., Krenn, B., Krauter, V. & Tacker, M. (2020) Environmental and economic assessment of food-packaging systems with a focus on food waste. case study on tomato ketchup. *Science of the Total Environment*, 738 139846.
- Wohner, B., Pauer, E., Heinrich, V. & Tacker, M. (2019) Packaging-related food losses and waste: An overview of drivers and issues. *Sustainability*, 11 (1), 264.
- Wolf, C. & Seuring, S. (2010) Environmental impacts as buying criteria for third party logistical services. *International Journal of Physical Distribution & Logistics Management*,.
- World Bank (2022) *Population total Thailand* Available online: <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=TH> [Accessed: 25/02/2022].
- Wouters, M. (2009) A developmental approach to performance measures—Results from a longitudinal case study. *European Management Journal*, 27 (1), 64-78.
- Yaskun, M. (2021) The role of entrepreneurship orientation and market orientation on product innovation and business performance at SMEs restaurants in lamongan. *Enrichment: Journal of Management*, 11 (2), 360-365.
- Yin, R. K. (2014) Case study research: Design and methods 5th ed. *Thousand Oaks*,.
- Yucedag, C., Kaya, L. G. & Cetin, M. (2018) Identifying and assessing environmental awareness of hotel and restaurant employees' attitudes in the amasra district of bartin. *Environmental Monitoring and Assessment*, 190 (2), 1-8.
- Yusuf, Y. Y., Gunasekaran, A., Musa, A., El-Berishy, N. M., Abubakar, T. & Ambursa, H. M. (2013) The UK oil and gas supply chains: An empirical analysis of adoption of sustainable measures and performance outcomes. *International Journal of Production Economics*, 146 (2), 501-514.
- Zailani, S., Jeyaraman, K., Vengadasan, G. & Premkumar, R. (2012) Sustainable supply chain management (SSCM) in malaysia: A survey. *International Journal of Production Economics*, 140 (1), 330-340.
- Zhang, J., Beatty, S. E. & Walsh, G. (2008) Review and future directions of cross-cultural consumer services research. *Journal of Business Research*, 61 (3), 211-224.
- Zhu, Q., Sarkis, J. & Geng, Y. (2005) Green supply chain management in china: Pressures, practices and performance. *International Journal of Operations & Production Management*,.

Zhu, Q., Sarkis, J. & Lai, K. (2008) Confirmation of a measurement model for green supply chain management practices implementation. *International Journal of Production Economics*, 111 (2), 261-273.

APPENDIX

APPENDIX ONE: Invitation/ Information Form

To whom it may concern

You are invited to participate in Developing Sustainable Supply Chain Performance in Thai Restaurant Industry research project that exploring the extent and potential of the sustainable restaurant construction supply chain integration, undertaken by Wachiraporn Khunjan a PhD researcher in Hull University, Faculty of Business, Law and Politics. This invitation sheet provides more information on the aims of this research and your involvement in it.

The aim of the project:

The primary aim of the study is to understand and potential of sustainable restaurant as well as find framework or model to develop and used to encourage best practice in term of restaurant sustainability. Restaurant development and construction supply chain can help to understand current levels of supply chain integration and reveal potential areas for improvement, in order to facilitate the performance of the whole supply chain. This research will be focusing on the factors that facilitate, as well as constrain integration.

Why have you been chosen?

By means of interviewing, this study aims to bring together perspectives of restaurant insider and stakeholders of services involved in restaurant in Thailand and the UK. Your views as an industry provider and stakeholders in developing sustainable restaurant will help to build a picture about the current situation on supply chain integration and will help to articulate potential ways to find best practices and suitable framework in terms of sustainability.

Participation:

Participation in this study is voluntary. It will involve an interview that is expected to last approximately 30 to 45 min. You are free to decline to answer any of the interview questions if you so wish. Furthermore, you can withdraw from this study at any time without any negative consequences.

With your permission, the interview will be audio recorded to facilitate collection of information, and later transcribed for analysis. A copy of the transcript will be available to you should you wish to confirm the accuracy of our conversation.

All information you provide will be treated as confidential. Your name and the name of your organisation will not appear in thesis resulting from this study, however, with your permission anonymous quotations may be used.

Data collected during this study will be managed by me only and retained in a private computer for the duration of this research.

There are no known or anticipated risks to you as a participant in this study.

Should you have any concerns about the conduct of this research project, please contact the Secretary, Faculty of Business, Law and Politics Research Ethics Committee, University of Hull, Cottingham Road, Hull, HU6 7RX; Tel No (+44) (0)1482 463536.

I hope that the results of my research will be of benefit to all organisations directly involved in this study by bringing greater understanding of sustainability supply chain integration potential, as well as to the restaurant industry community.

I am very much look forward to speaking with you and thank you in advance for your assistance in this research.

Yours Sincerely,

Wachiraporn Khunjan

W.Khunjan@2014.hull.ac.uk

PhD researcher in Logistics & Supply Chain Management

Project Supervisors:

Dr. Sarah Shaw and Dr.Sushma Kumari

APPENDIX TWO: Inform Consent Form

I, Name of participant _____ of Company _____

Hereby agree to participate in this study to be undertaken

By Wachiraporn Khunjan

and I understand that the aims and purpose of the research is to understand and potential of sustainable restaurant as well as find framework or model to develop and used to encourage best practice in term of restaurant sustainability. Restaurant development and construction supply chain can help to understand current levels of supply chain integration and reveal potential areas for improvement, in order to facilitate the performance of the whole supply chain. This research will be focusing on the factors that facilitate, as well as constrain integration.

By signing this consent form are agreeing to your participation in this research process and to the collation of the material. Participants have the right to withdraw from participation in the research process at any point and materials collated from them up to that point will be removed.

I understand that

1. The transcript of our conversation will be coded and my name and address kept separately from it.
2. Any information that I provide will not be made public in any form that could reveal my identity to an outside party i.e. that I will remain fully anonymous.
3. Aggregated results will be used for research purposes and may be reported in scientific and academic journals (including online publications).
4. Individual results **will not** be released to any person except at my request and on my authorisation.
5. That I am free to withdraw my consent at any time during the study in which event my participation in the research study will immediately cease and any information obtained from me will not be used.

Participant's Signature: _____ Date: _____

The email contact details of the Researcher are: _____

Wachiraporn Khunjan

University of Hull

Faculty of Business, Law and Politics

W.Khunjan@2014.hull.ac.uk

The email contact details of the Supervisors are:

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APPENDIX THREE: The Semi-structured Interview Protocol
– Thai Case Restaurants

Interview Questions and Instrument

Interviewee: _____

Date and time: _____

Interview Location: _____

Interviewee Demographics (Role, duration, age, gender):

- Introduce interviewer and thank interviewee for agreeing to take part in this 30-40-minute interview and gain their verbal consent
- Remind interviewee that he/she can withdraw at any time
- Assure interviewee about confidentiality and anonymity about interview information
- Remind about freedom to decline answers to any questions
- Prepare audio recording and ask again for permission to record
- Would they like to have access to a summary of results afterwards?
- Provide brief of research purpose and inform them for researcher looking specifically at Environmental Sustainability

Initial question to interview respondents:

- How would you define environmental sustainability and what is your understanding of this?
- Then clarify that you are focusing on environmental sustainability, which is one of three key components of sustainability

RQ1: What is the current state (for e.g. issues, challenges, gaps and benefits) regarding environmental sustainability of restaurants in Thailand?

- What are the current issues you face in implementing environmental sustainability in your restaurant?
- What are the key challenges you face in implementing sustainability in your restaurants?
- How do you prioritise sustainability in your restaurants?
- What benefits do you believe you receive from implementing sustainability?

RQ2: How sustainable are restaurants in Thailand?

- On a scale of 1-10, how sustainable, from an environmental perspective, do you believe your restaurant is? (10 being very sustainable and 1 being not sustainable)
- Please explain ‘why’? (Problem, where and how could they improve?)
- Approximately what percentage of your products are sourced locally or organic?
- When receiving ingredients from suppliers, what are the methods of delivery used?
- How are you managing waste in your restaurant especially in food waste?
- How do you manage 7 “R’s” of sustainability: rethink, refuse, reduce, repurpose, reuse, recycle and rot in relation to water, waste and energy use?
- What types of things do you do to conserve water and how to improving water efficiency in your restaurant?
- What types of things do you do to conserve energy (e.g. gas, electricity) and how to improving energy efficiency in your restaurant?
- Which parts of the restaurant are more or less sustainable than others?

Show them the scope diagram as an indication to guide this (inputs, processing and outputs)

RQ3: What is ‘best practice’ in terms of the restaurant sustainability in Thailand?

- Which key activities are important or essential, in your view, in implementing sustainability in your restaurants, as well as your wider supply chain?

- What do you think 'good' looks like?
- What are the best ways to implement sustainability in your restaurants?
- How could you improve and incorporate sustainability into your current daily/weekly/monthly role/routine?
- How do you think Thai restaurants can succeed in preventing negative environmental impact throughout supply chain processes?

RQ4: What framework or model could be developed and used to encourage best practice in terms of restaurant sustainability in Thailand?

- What are the three key focus areas, in Thai restaurants and their supply chains that must be addressed to improve environmental sustainability in Thailand?
- What are the key enablers and drivers needed to achieve environmental sustainability 'best practice' in Thailand?
- What barriers need removing to make this happen and by whom?
- What are the quick wins and then the longer-term wins to achieving environmental sustainability in your restaurant?
- Is there anything else you would like to add that I have missed?

Thank you, interviewees

APPENDIX FOUR: The Semi-structured Interview Protocol
– UK Case Restaurant

Interview Questions and Instrument

Interviewee: _____

Date and time: _____

Interview Location: _____

Interviewee Demographics (Role, duration, age, gender):

- Introduce interviewer and thank interviewee for agreeing to take part in this 30-40-minute interview and gain their verbal consent
- Remind interviewee that he/she can withdraw at any time
- Assure interviewee about confidentiality and anonymity about interview information
- Remind about freedom to decline answers to any questions
- Prepare audio recording and ask again for permission to record
- Would they like to have access to a summary of results afterwards?
- Provide brief of research purpose and inform them for researcher looking specifically at Environmental Sustainability

Initial question to interview respondents:

- How would you define environmental sustainability and what is your understanding of this?
- Then clarify that researcher are focusing on environmental sustainability, which is one of three key components of sustainability

RQ1: What is the current state (for e.g. issues, challenges, gaps and benefits) regarding environmental sustainability of restaurants in the UK?

- What are the current issues you face in implementing environmental sustainability in your restaurant?
- What are the key challenges you face in implementing sustainability in your restaurants?
- How do you prioritise sustainability in your restaurants?
- What benefits do you believe you receive from implementing sustainability?

RQ2: How sustainable is your restaurant in the UK?

- On a scale of 1-10, how sustainable, from an environmental perspective, do you believe your restaurant is? (10 being very sustainable and 1 being not sustainable)
- Please explain ‘why’? (Problem, where and how could they improve?)
- Approximately what percentage of your products are sourced locally or organic?
- When receiving ingredients from suppliers, what are the methods of delivery used?
- How are you managing waste in your restaurant especially in food waste?
- How do you manage 7 “R’s” of sustainability: rethink, refuse, reduce, repurpose, reuse, recycle and rot in relation to water, waste and energy use?
- What types of things do you do to conserve water and how to improving water efficiency in your restaurant?
- What types of things do you do to conserve energy (e.g. gas, electricity) and how to improving energy efficiency in your restaurant?
- Which parts of the restaurant are more or less sustainable than others?

Show them the scope diagram as an indication to guide this (inputs, processing and outputs)

RQ3: What is ‘best practice’ in terms of your restaurant sustainability in the UK?

- Which key activities are important or essential, in your view, in implementing sustainability in your restaurants, as well as your wider supply chain?

- What do you think 'good' looks like?
- What are the best ways to implement sustainability in your restaurants?
- How could you improve and incorporate sustainability into your current daily/weekly/monthly role/routine?
- How sustainable restaurants in the UK succeed in preventing negative environmental impact throughout supply chain processes?

RQ4: What framework or model could be developed and used to encourage best practice in terms of restaurant sustainability in Thailand?

- What are the three key focus areas, in UK restaurants and their supply chains that must be addressed to improve environmental sustainability in Thailand?
- What are the key enablers and drivers needed to achieve environmental sustainability 'best practice' in your UK restaurant??
- What barriers need removing to make this happen and by whom?
- What are the quick wins and then the longer-term wins to achieving environmental sustainability in your restaurant?
- Do you follow any specific legislation, guidance or regulations in relation to meeting environmental sustainability?
- Is there anything else you would like to add that I have missed?

Thank you, interviewees

APPENDIX FIVE: The Semi-structured Interview Protocol
– Customers

Interview Questions and Instrument

Interviewee: _____

Date and time: _____

Interview Location: _____

Interviewee Demographics (Role, duration, age, gender):

- Introduce interviewer and thank interviewee for agreeing to take part in this 30-40-minute interview and gain their verbal consent
- Remind interviewee that he/she can withdraw at any time
- Assure interviewee about confidentiality and anonymity about interview information
- Remind about freedom to decline answers to any questions
- Prepare audio recording and ask again for permission to record
- Would they like to have access to a summary of results afterwards?
- Provide brief of research purpose and inform them for researcher looking specifically at Environmental Sustainability

Initial question to interview respondents:

- How would you define environmental sustainability and what is your understanding of this? Do you understand the concept? [If not explain].
- Then clarify that researcher are focusing on environmental sustainability, which is one of three key components of sustainability

RQ1: What do you believe is the current state (for e.g. issues, challenges, gaps and benefits) regarding environmental sustainability of restaurants in Thailand, in general?

- What do you believe are the current issues in environmental sustainability in terms of restaurant services?
- What are the key sustainability elements that you expect from the restaurant, as a customer?
- On a scale of 1-10, how do you prioritise food sustainability, as a customer? (10 being very sustainable and 1 being not sustainable).
- What benefits do you believe you receive from the restaurant in terms of sustainability?

RQ2: How sustainable do you believe this restaurant is?

- On a scale of 1-10, how would you rank the sustainability of this restaurant? the restaurant? (10 being very sustainable and 1 being not sustainable)
- Please explain 'why'? (Problem, where and how could they improve?)
- How important is it to you, as a customer, that the restaurant sources locally and/or organically?
- Are you satisfied with the products and ingredients that restaurant provides currently?
- How important is it to you, as a customer, that the restaurant is focused on conserving water and energy? Why?
- Do you think the restaurant manages their food waste effectively? Why?
- Which parts of the restaurant, do you believe, are more or less sustainable than others in your view?

Show them your scope diagram as an indication to guide this (inputs, processing and outputs)

RQ3: What is 'best practice' in terms of the restaurant sustainability in Thailand?

- Which key activities are important or essential, in your view, in improving sustainability in the restaurants, as well as wider supply chain?

- What are the best ways in your view in order to development sustainability in the restaurants?
- How do you think Thai restaurants can succeed in preventing negative environmental impact throughout supply chain processes?
- Crucially, what is important to you in terms of environmental sustainability, as a customer of the restaurant?
- Would this determine where you choose to dine? What are factors that drive your choice of where to dine?

RQ4: What framework or model could be developed and used to encourage best practice in terms of restaurant sustainability in Thailand?

From a customer perspective and citizen of Thailand:

- What are the three key focus areas, in Thai restaurants and their supply chains that must be addressed to improve environmental sustainability in Thailand?
- What are the key enablers and drivers needed to achieve environmental sustainability 'best practice' in Thailand?
- What barriers need removing to make this happen and by whom?
- What are the quick wins and then the longer-term wins to achieving environmental sustainability in Thai restaurants?
- Is there anything else you would like to add that I have missed?

Thank you, interviewees

APPENDIX SIX: The Semi-structured Interview
– Government officials

Interview Questions and Instrument

Interviewee: _____

Date and time: _____

Interview Location: _____

Interviewee Demographics (Role, duration, age, gender): _____

-
- Introduce interviewer and thank interviewee for agreeing to take part in this 30-40-minute interview and gain their verbal consent
 - Remind interviewee that he/she can withdraw at any time
 - Assure interviewee about confidentiality and anonymity about interview information
 - Remind about freedom to decline answers to any questions
 - Prepare audio recording and ask again for permission to record
 - Would they like to have access to a summary of results afterwards?
 - Provide brief of research purpose and inform them for researcher looking specifically at Environmental Sustainability

RQ1: What is the current state (for e.g. issues, challenges, gaps and benefits) regarding environmental sustainability of restaurants in Thailand?

- What are levels of food hygiene and food safety in Thai restaurants?
- What are the challenges for developing sustainable restaurants in the country?
- What are the current issues in supporting environmental sustainability in Thai restaurant?

RQ2: How sustainable are restaurants in Thailand?

- Does your organization have a policy or advocacy for restaurants to conserve natural resources to be sustainable and environmentally friendly? And what is the result?

- What are the major implementation policies to driving restaurant to become more sustainability?
- How does your organization develop and expand Thai restaurants? Especially environmental issues?

RQ3: What is ‘best practice’ in terms of the restaurant sustainability in Thailand?

- Which key activities are important or essential, in your view, in implementing sustainability in Thai restaurants, as well as a wider supply chain?
- What are the best ways to implement sustainability in Thai restaurants?
- How do you think Thai restaurants can succeed in preventing negative environmental impact throughout supply chain processes?

RQ4: What framework or model could be developed and used to encourage best practice in terms of restaurant sustainability in Thailand?

- What are the three key focus areas, in Thai restaurants and their supply chains that must be addressed to improve environmental sustainability in Thailand?
- What key enablers and drivers needed to achieve environmental sustainability ‘best practice’ in Thailand?
- What are the quick wins and then the longer-term wins to achieving environmental sustainability in Thai restaurant?
- Is there anything else you would like to add that I have missed?

Thank you, interviewees

APPENDIX SEVEN: Key sustainability functions

Elements	Differentiating Features					
	CRA	CRB	CRC	CRD	CRE	UKCR
Issues	<ul style="list-style-type: none"> - Lack of supply chain visibility and control - Difficult to find a suitable supplier 	<ul style="list-style-type: none"> - Lack of supply chain visibility and control - Replace biodegradable products instead of plastic 	<ul style="list-style-type: none"> - Perception environmental information - Senior coaching system 	<ul style="list-style-type: none"> - Health awareness - Environment awareness worldwide 	<ul style="list-style-type: none"> - Ingredients quality control - Lack of local mackerel 	<ul style="list-style-type: none"> - Ingredient quality control - Fair trade
Challenges	<ul style="list-style-type: none"> - A fast-paced environment workplace - Rising awareness in sustainability subject 	<ul style="list-style-type: none"> - Teamwork - Sustainability knowledge 	<ul style="list-style-type: none"> - A fast-paced environment workplace - Conserve energy 	<ul style="list-style-type: none"> - A fast-paced environment workplace - Deal with customer needs 	<ul style="list-style-type: none"> - Rising awareness in sustainability subject - Deal with community - Teamwork 	<ul style="list-style-type: none"> - Logistic development - Supply chain process management
Gaps	<ul style="list-style-type: none"> - Knowledge - Collaboration between firms 	<ul style="list-style-type: none"> -Lack of tradability control -Collaboration between firms 	N/A	N/A	N/A	N/A
Benefits	<ul style="list-style-type: none"> - Reduce waste - Save energy - Customer satisfaction 	<ul style="list-style-type: none"> - Awareness of environment issue - Customer satisfaction 	<ul style="list-style-type: none"> - Quality of raw material - Customer satisfaction - Reduce waste 	<ul style="list-style-type: none"> - Quality of raw material - Reduce waste - Save energy 	<ul style="list-style-type: none"> - Quality of raw material - Created value added menus - Save energy 	<ul style="list-style-type: none"> - Efficient ingredient use - Public relations - Customer loyalty

Key sustainability functions (Continue)

Operations management	Elements	Differentiating Features					
		CRA	CRB	CRC	CRD	CRE	UKCR
Process	Waste management	- Three types of waste - Food waste directly to farmer to feed animals	- Three types of waste	- Three types of waste - Lack of food waste and food scraps management system	- Three types of waste - Commercial development site guideline	- Three types of waste - Commercial development site guideline	- Three types of waste - Certify waste management and recycle - Efficient ingredient usage
	Water conversation	- Lack of water saving technology	- Lack of water saving technology	- Lack of water saving technology	- Lack of water saving technology	- Lack of water saving technology	- Lack of water saving technology
	Energy conversation	- Some of renewable energy (LED light bulb technology, Use charcoal instead of gas)	- Produce large portion of foods to conserve energy	- Some of renewable energy (Use charcoal instead of gas)	- Some of renewable energy (Use electrical equipment that has been certified as energy saving)	- Some of renewable energy (Use electrical equipment that has been certified as energy saving) -High electricity consumption	- Efficient gas usage - Electricity improving plan
	7R's management	- Management for some of 7R's components	- Management for some of 7R's components	- Management for some of 7R's components	- Management for some of 7R's components	- Management for some of 7R's components	- Management for some of 7R's components

Key sustainability functions (Continue)

Operations management	Elements	Differentiating Features					
		CRA	CRB	CRC	CRD	CRE	UKCR
Output	Problem	- Lack of full efficiency in waste separation - Plastic usage - Pet control problem	- Lack of knowledge - Supplier system problem - Water and energy saving technology problem	- Lack of knowledge - Operating model and energy saving capabilities - Supplier system problem	- Lack of knowledge - Workforce standards	- Lack of knowledge - No specific plan, team, or sustainability strategy - Supplier system problem	- Plastic usage - Lack of dedicated sustainability department
	Best part	- Process/Waste separation	-Process/ Compostable packaging	-Process/Waste separation	-Input/Raw materials	-Process/Waste management	-Input/Material management
	Less part	- Process/ Conserve water	- Input - Process - Output	-Process/ Water and energy saving	-Process/ Water and energy saving	-Input/Raw materials -Process/ Water and energy saving	-Process/ Conserve water

Key sustainability functions (Continue)

Elements	Key perspectives					
	CRA	CRB	CRC	CRD	CRE	UKCR
Key activity	<ul style="list-style-type: none"> - locally and organic raw material - waste separation - conserve energy 	<ul style="list-style-type: none"> - enhance sustainability knowledge - locally and organic raw material - waste separation 	<ul style="list-style-type: none"> - locally and organic raw material - waste separation - enhance sustainability knowledge 	<ul style="list-style-type: none"> - locally and organic raw material - conserve water - waste separation 	<ul style="list-style-type: none"> - enhance sustainability knowledge - waste separation - stakeholder's sustainability roles 	<ul style="list-style-type: none"> - inhouse training - collaboration to suppliers and partnerships
Best way	<ul style="list-style-type: none"> - created an understanding - coaching - communication between firms 	<ul style="list-style-type: none"> - guideline - coaching 	<ul style="list-style-type: none"> - guideline - coaching 	<ul style="list-style-type: none"> - policy and guideline - teamwork - coaching 	<ul style="list-style-type: none"> - policy - practice - coaching 	<ul style="list-style-type: none"> - policy - communication between firms - teamwork
SSCM	<ul style="list-style-type: none"> - integrating between firms - government - farmer - supplier - restaurant 	<ul style="list-style-type: none"> - promote organic or locally - restaurant policy - government 	<ul style="list-style-type: none"> - farmer - distributor - government 	<ul style="list-style-type: none"> - raw materials - waste management - recycle products - government 	<ul style="list-style-type: none"> - people knowledge and awareness - organic and locally product - stakeholders 	<ul style="list-style-type: none"> - integrating between firms - SSCM management program

Key sustainability functions (Continue)						
Elements	CRA	CRB	CRC	CRD	CRE	UKCR
Key focus areas	<ul style="list-style-type: none"> - farmer - seasonal fishing - community - government regulation - water 	<ul style="list-style-type: none"> - recycling operators - community - food waste management - eco-friendly product - water 	<ul style="list-style-type: none"> - raw material - solve pesticide problems - food waste management - eco-friendly product - energy 	<ul style="list-style-type: none"> - enhance public knowledge - restaurant practice - farmer - food waste management - energy 	<ul style="list-style-type: none"> - restaurant practice - farmer - fisher - community - distributors - government regulations 	<ul style="list-style-type: none"> - tradability - efficiency supplier management program - government regulation
Enabler	<ul style="list-style-type: none"> - government policy - university - pilot programme 	<ul style="list-style-type: none"> - farmer - community 	<ul style="list-style-type: none"> - government policy - private sector 	<ul style="list-style-type: none"> - government policy - external organization - restaurant operators 	<ul style="list-style-type: none"> - expertise - specific knowledge in practice 	<ul style="list-style-type: none"> - government policy - SRA - people awareness
Barrier	<ul style="list-style-type: none"> - farmer attitude to chemicals and pesticides - redundant work problem 	<ul style="list-style-type: none"> - organic product price - farmer attitude to chemicals and pesticides 	<ul style="list-style-type: none"> - people knowledge and awareness - over fishing 	<ul style="list-style-type: none"> - farmer attitude to chemicals and pesticides 	<ul style="list-style-type: none"> - lack of supply chain knowledge - farmer attitude to chemicals and pesticides - off season fisheries 	<ul style="list-style-type: none"> - personal motivation
Quick win and long term win	<ul style="list-style-type: none"> - restaurants policy and guideline - continue to improve 	<ul style="list-style-type: none"> - restaurants policy - government regulations - knowledge - expertise 	<ul style="list-style-type: none"> - restaurant owner - policy and guideline - consistent practice and continuous improvement 	<ul style="list-style-type: none"> - restaurant regulations - continue to improve - sustainability leader model in catering industry 	<ul style="list-style-type: none"> - restaurant guideline - work plan - continue to improve 	<ul style="list-style-type: none"> - specific plan - attending SRA program - continually setting high level goals - Specific legislation and guidance : SRA and government