

Understanding Malaysian Food Retailers' Perception of and
Attitude Towards Organic Certification

A thesis submitted in partial fulfilment of the requirements for the

Degree of

Doctor of Philosophy of Marketing

in the University of Canterbury

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University of Canterbury

2016

ABSTRACT

This research focuses on Malaysian retailers' perception of and attitude towards organic certification. Organic certification is one type of food certification that is used to demonstrate product attributes in order to obtain consumer trust and also to differentiate between organic and non-organic products. The primary purpose of food and organic certification is to provide greater information and certainty to consumers as to the origins and nature of food as well as to differentiate the product from those that do not fulfill certification requirements. Certification also provides opportunities for retailers to develop operational and product differentiation strategies that focusing on other qualities instead of pricing such as convenience, providing variety, consistency, quality and safety. In addition, food and organic certification may be important for retailers in strengthening their structural power in food retail and as a retail sustainability strategy that influences consumer behavior related to organic and related food products. The overwhelming majority of studies on food and organic certification focus on consumer and producer perception rather than the retailer, yet retailers contribute to consumer knowledge of, preferences for, as well as trust/mistrust in organic products, as well as the overall availability of organic foods in the food supply chain. In addition, previous research that has been conducted on the importance of food and organic certification in food retail was mainly undertaken in developed countries, with organic food retailing in developing countries and Malaysia specifically, little understood. Therefore, the purpose of this research retailers' perception is to understand Malaysian food retailers' perception of and attitude towards organic certification.

This research took a two-stage mixed method approach to collect data in order to fulfill the research objectives. Research was undertaken by the use of a semi-structured interview with public and private stakeholders in Malaysian food retailing as well as a survey of 102 Malaysian retailers. This research found that organic certification attributes are related to trust, credibility, food safety and quality, environment and traceability. Participants perceived that organic certification is important to ensure the safety and quality of organic food products. Participants also noted that other food certifications have their importance in determining the safety and quality of food products. In Malaysia, where the majority of the population is Muslim, halal certification is perceived to be the most important assurance. However, this research also suggested that organic certification is significant in its own right for some markets while there are potential overlaps between different certifications. However, respondents felt that consumers required greater education on the concept in order to not only

encourage consumption of organic products but also to help give consumers greater confidence in their purchasing. In addition, potential needs for improvements in the certification and regulation framework were also identified.

Keywords: Food certification, alternative food networks, food retailing, organic certification, retailer, Malaysia.

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ACKNOWLEDGMENT

First and foremost, I would like to express my gratitude to Allah s.w.t the Most Gracious and the Most Merciful for giving me the strength and opportunity to complete my PhD study. With His continuous blessings, I was able to endure all the challenges during the tenure of my study.

I would also like to extend my special appreciation to my supervisors Professor Dr. Colin Michael Hall and Professor Dr. Paul Ballantine for their continuous precious support, guidance and encouragement. In addition, both of them have been supportive supervisors by giving ideas and constructive comments to ensure that I improved my research. Their endless effort has given me the opportunity to become a reviewer for ANZMAC Conference 2016 and AMS World Marketing Congress 2017.

Special thanks to Irene Joseph, the departmental administrator, for an excellent administrative support; to University of Canterbury's Library for conducting workshops and seminar; and to Malaysia's Ministry of Higher Education and Universiti Teknologi MARA (UiTM) for the scholarship. Not to forget to all participants who were willing to participate in my study. Thank you very much to each and every one of them who had given full cooperation during the interviews and survey.

Most importantly, my deepest appreciation to my parent and family especially my mother Nor Muzammah for her endless love and support. Your prayers, faith, hope and sacrifices have been my motivation to complete my PhD journey. My sincere gratitude goes to my best friend Rafiatul Adlin who had been a good listener and assisted me when I needed help. Thank you for your kindness and I always pray for your future success. Finally, many thanks to all my good friends in UiTM Lendu, Melaka and also from the Department of Management, Marketing and Entrepreneurship for invaluable information and opinions that I found very useful to my study.

ACRONYMS

AVE	Average Variance Extracted
BRС	British Retail Consortium
BSE	Bovine Spongiform Encephalopathy
B2B	Business to Business Standards
CETDEM	Centre for Environment, Technology & Development Malaysia
COO	Country of Origin
EC	European Council Regulation
EFTA	European Fair Trade Association
EU	European Union
EUREGAP	Euro-Retailer Produce Working Group Good Agricultural Practices
ETI	Ethical Trading Initiative Foreign Direct Investment
FLO	Fair Trade Labelling Organization
FQSD	Food Safety and Quality Division
GDP	Gross Domestic Product
GI	Geographical Indication
GLOBALGAP	Global Partnership for Good Agricultural Practice
GMO	Genetically Modified Organism
HACCP	Hazard Analysis and Critical Control Point
HEC	Human Ethic Committee
IFOAM	International Federation of Organic Agriculture
IFS	International Food Standard
ISO	International Organization for Standardization
JAKIM	Jabatan Kemajuan Islam Malaysia
JAS	Japanese Agricultural Standard
MRL	Maximum Residue Level
MOH	Ministry of Health
MSC	Marine Stewardship Council
NGO	Non-Governmental Organization
US	United State

NOP	National Organic Program
NPCB	National Pharmaceutical Control Bureau
PCA	Principal Component Analysis
PDO	Protected Designations of Origin
PGI	Protected Geographical Origin
PLS	Partial Least Square
OAM	Organic Alliance Malaysia
SAC	Soil Association Certification
SARS	Severe Acute Respiratory Syndrome
SEM	Structural Equation Modelling
SME	Small and Medium Enterprise
SOM	Skim Organik Malaysia
SPSS	Statistical Analysis Package for Social Science
TPC	Third Party Certification
TOPC	Typical Organic Product Consumer
UK	United Kingdom
WTP	Willingness To Pay
WWF	World Wildlife Fund

CHAPTER ONE

INTRODUCTION

1 Introduction

This thesis sought to understand Malaysian retailers' perceptions of and attitude towards organic certification. Although consumers perceived food certification as important in order to determine the quality and safety of the product, there is relatively little academic research on organic certification in relation to food retail, and especially in a developing country context (Hamzaoui-Essoussi, Sirieix, & Zahaf, 2013).

This chapter outlines the initial context of the thesis and presents the research questions that will be addressed. The first section of this chapter explains the concept of food certification. The purpose of food certification in food retail is a process to verify a product or process that meets food standard requirements (Anders, Souza-Monteiro, & Rouviere, 2010). Due to food safety and quality issues, food certification provides products information to the consumers before they make purchasing decision (Havinga, 2013). Additionally, this section also discusses the importance of food certification in the food supply chain.

The second section of this chapter briefly highlights that organic certification focuses on four principles, namely, principle of health, principles of ecology, principle of fairness and principle of care. Indeed, the term "organic" is often used to describe different kinds of food products.

The third section examines Malaysian food retail in relation to organic products and certification. The development of Malaysian food retail is noted in this section. The research questions are presented in the final section of the chapter and are followed by commentary on the significance of the research, thesis outline and the chapter summary.

1.1 Food Certification Concept

Certification is considered as a voluntary assurance quality scheme that is approved by a recognized accredited body (Albersmeier, Schulze, & Spiller, 2009). The purpose of standards and certification of food products is to demonstrate quality and obtain the trust of consumers with whom producers do not have a direct relationship (Higgins, Dibden, & Cocklin, 2008). Aspects of the quality of food products or commodities that are sometimes regulated and

referred to in certification schemes including attributes such as safety, nutritional contents, label, production processes, and/or branding (Busch & Bain, 2004; Doherty & Campbell, 2014; Watts & Goodman, 1997). However, academic literature on organic and food certification in food retail is somehow limited. Studies have examined the perception of producers and consumers on food certification, in particular determinants such as socio-demographic characteristics and willingness to pay (WTP) for food safety and quality (Probst, Houedjofonon, Ayerakwa, & Haas, 2012; Uggioni & Salay, 2014), consumers awareness, trust, purchasing decision and WTP (Essoussi & Zahaf, 2009; Gerrard, Janssen, Smith, Hamm, & Padel, 2013) and environmental and animal welfare (Nasir & Chiew, 2010).

According to Anders et al. (2010), information asymmetries and uncertainty of product safety and quality are increasing in the global food retail sector. Information asymmetries occur when the processing of food products cannot be verified by the retailers or consumers of, for example, organic products. Such products are considered as credence products (Darby & Karni, 1973; Roe & Sheldon, 2007; Voon, Sing, & Agrawal, 2011). The credibility of food certification is important to reduce food product uncertainties and the overall cost of information asymmetries between producers and retailers in the food supply chain (Anders et al., 2010; Caswell, 1998; Deaton, 2004; Manning & Baines, 2004). The credibility of food certification is related to consumers' trust and coordination in the food supply chain that has become such a crucial element of modern food markets (Albersmeier, Schulze, & Spiller, 2009).

Food certification is important in gaining consumers trust because by building trust and reputation food standard system will become more credible to consumers (Spencer Henson & Reardon, 2005). Midmore, Francois, and Ness (2011) explained that lack of understanding and knowledge of organic and food certification is a barrier to gaining consumers trust. Gerrard et al. (2013) noted that consumers in the United Kingdom have a lack of trust on the authenticity of organic food products and certification because they do not understand the certification and inspection processes. In the food retail context, Rampl, Eberhardt, Schutte and Kenning (2012) suggested that retailers can increase consumers trust by obtaining recognized food certification in order to ensure food products quality as well to reduce consumers' perceived risk.

The traceability of food certification is important for food products. According to Hatanaka et al. (2005), the concept of traceability means that it is possible to track back the product's

origin and/or producers as well as the various elements of the supply chain given any issues with the food products safety and quality. For agricultural products, traceability of food certification could be a benefit to producers by adding value to their food products and justifying a premium price for them (Botonaki, Polymeros, Tsakiridou, & Mattas, 2006).

Certification assists retailers in developing product differentiation standards (Spencer Henson & Humphrey, 2010). As food retailing becomes more oligopolistic, retailers are trying to compete with other competitors not just with respect to pricing but also in relation to other qualities such as variety, convenience, quality, consistency and food safety (Busch & Bain, 2004; Hatanaka, Bain, & Busch, 2005). In order for retailers to compete more effectively on quality, new institutional and organizational structures such as direct contracts with suppliers, centralized procurement centers, branding and private standards and certification systems may need to be established to facilitate the process (Busch & Bain, 2004; Hatanaka et al., 2005). Thus, third-party certification (TPC) has emerged from public and private standards. These involve accreditation groups from international or national organizations and have become a prominent and influential regulatory mechanism as food retailers encourage their suppliers to provide TPC (Anders et al., 2010; Hatanaka et al., 2005).

Accreditation groups such as the International Federation of Organic Agricultural Movement (IFOAM), the Euro-Retailer Produce Working Group Good Agricultural Practices (EUREGAP), and the International Accreditation Forum (IAF) have been developed by well-established retailers and supermarkets for their own food safety schemes and food quality assurance (Hatanaka et al., 2005). The main roles of these groups are to establish quality differentiation, increase trust of consumers, and to minimize the risk of food safety issues (Anders et al., 2010; Hatanaka et al., 2005).

Previous research on the importance of food certification and standards have mainly been conducted in developed countries such as the United Kingdom, Germany, and France (Albersmeier, Schulze, & Spiller, 2009; Busch & Bain, 2004; Clapp & Fuchs, 2009; Hatanaka et al., 2005; Spencer Henson & Reardon, 2005; Jahn, Schramm, & Spiller, 2005). Clapp and Fuchs (2009) argued that retailers from developed countries inaugurate food certification and standards in order to strengthen their structural power and induce supplier participation. However, there is little research on the importance of food certification and standards in food retail especially in developing countries, including Malaysia. Generally, the food system in developing countries is not well organized because of a fragmented supply chain, lack of

technical and human investment and a weak communications infrastructure (García Martínez & Poole, 2004).

Prabhakar, Sano and Srivastava, (2010) noted that food products in food retail markets in the Asia-Pacific is sold in bigger portions with neither the appropriate packaging nor certifications to implement good labelling practices that list the ingredients and information of food product safety. However, in recent years, the development of private standards has been taking place in developing countries such as Kenya and Thailand. These countries have been required by European retailers to provide certified food products from GlobalGap (Havinga, 2013). Havinga (2013) emphasized that the revolution of food retail in developing countries has contributed to the growing importance of food certification and private food standards with the domestic market starting to request certification or compliance with such standards. Therefore, this research focused on the Malaysian food retail context to examine retailers' perception of the importance of food certification.

1.2 Organic Principles

Food certification and labelling have become an important attribute in convincing consumers that the food they purchase is of good quality and safe to consume. This is particularly important for organic foods (Janssen & Hamm, 2012b). Depending on national food regulations and standards, organic foods can be labelled as organic products if they comply with the standards for organic production, processing, labelling and control (Janssen & Hamm, 2012b).

Organic agriculture is a production system that sustains the health of soils, ecosystems and people. The system is often further described by standards which govern labeling and claims for organic products (IFOAM, 2012). The word “organic” has been used in many different types of agricultural food products (Aarset et al., 2004). It has also led to the application of comprehensive principles that include the way people tend soils, water, plants and animals in order to produce, prepare and distribute food and other goods. The Principles of Organic Agriculture become a fundamental guideline to organic farmers and practices (Partap, 2011). In addition, according to IFOAM (2012), organic agriculture production is based on several principles that are related to health, environmental, animal concern and the preparation and distribution of organic and other food products (Table 1.1).

Table 1.1: Organic Principles

Principles	
Health	<p>Organic Agriculture should be responsible for the well-being of soil, plants, animals, human and planet. Health is related to integrity of living systems. It is also for the maintenance of physical, mental, social and ecological welfare. Hence, the key characteristics of health are immunity, resilience and regeneration.</p> <p>The role of organic agriculture is to improve and maintain the ecosystems health including the soil to people. Generally, organic agriculture is proposed to contribute preventive health care and well-being by producing food that is high quality and nutritious. In other words, it should not utilize fertilizers, pesticides, animal drugs and food additives that may have adverse health effects.</p>
Ecology	<p>Organic agriculture needs to work, emulate and help sustain the living ecological systems and cycles. The cycles and ecological balance in nature should be fit for organic farming, countryside and wild harvest systems. The adaptions of local conditions, ecology, culture and scale are important in organic management. Thus, it is crucial to maintain and improve environmental quality and conserve resource by reusing, recycling and managing materials and energy efficiently.</p> <p>Moreover, ecological balance can be achieved through the design of farming systems, establishment of habitats and maintenance of genetic and agricultural diversity. Indeed, those that produce, process, trade or consume organic products need to protect and benefit the common environment such as landscapes, climate habitats, biodiversity, air and water.</p>
Fairness	<p>The relationship of organic agriculture among the common environments should be built in order to ensure fairness. This is particularly important for all levels all parties such as farmers, workers, processors, distributors, traders and consumers that need to be treated in a manner way by peoples that involved in organic agriculture. It should also provide a better life quality to people as well as contributing to food sovereignty and reduction of poverty. Therefore, the main objectives are to produce an adequate supply of food products that have high quality.</p> <p>Furthermore, animals should be provided with the conditions and opportunities of life that accord with their physiology, natural</p>

behavior and well-being. Natural and environmental resources that are used for production and consumption need to be managed in a proper way, socially and ecologically. To meet the principles of fairness, it requires systems of production, distribution and trade that are open and equitable and account for real environmental and social costs.

Care	<p>To protect the health and safety of the environment, organic agriculture needs to take a precautionary and responsible manner. The efficiency and increase in productivity can be enhanced by the practitioners of organic agriculture without jeopardizing the health aspects and well-being of the environment. Consequently, new technologies need to be assessed and existing methods should also be reviewed.</p> <p>In addition, precaution and responsibility are considered the key concerns in management, choices of development and technology in organic agriculture. Thus, science is necessary to ensure that organic agriculture is healthy, safe and ecologically sound.</p>
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Source: Adapted from (IFOAM, 2012).

1.3 Malaysian Organic and Food Retailing

Safety and the characteristics of food product processes are becoming increasingly important in the operation of food systems (Caswell, 1998; Havinga, 2013). Quality assurance schemes are useful in food retailing as an important product and marketing attribute that offers a great opportunity to differentiate food retailers in the market and add value to their products (Botonaki et al., 2006; Jervell & Borgen, 2004). Hence, implementation of food certification by retailers influences consumer behaviors related to food quality control and the safety of food products (Hatanaka et al., 2005; Havinga, 2013).

Food retailing in Malaysia has developed rapidly with new retail concepts emerging and competing with traditional retail formats (Chamhuri & Batt, 2013; Hassan, Sade, & Rahman, 2013; Mohd Roslin & Melewar, 2008). Chamhuri and Batt (2013) found that the development of the food retail industry has changed together with Malaysian consumer behavior because of several factors such as personal disposable income, convenience need, high awareness of food safety and food quality, and changes in dietary habits. Roslin and Melewar (2008) agreed that

retailers have to reconsider operational strategies in order to influence changes in consumer behavior patterns and increase consumption.

In marketing strategy, product attributes has become a good mechanism for retailers to communicate to their consumers. The product is evaluated by consumers on its attributes and they seek benefits from these attributes when purchasing (Aziz & Chok, 2013; Canavari, Castellini, & Spadoni, 2010; Mohayidin & Kamarulzaman, 2014). Product attributes usually refer to the physical dimensions of food product quality such as taste, appearance and other attributes (Aziz & Chok, 2013), such as safety. These attributes are used by consumers when evaluating alternative products and in the formation of quality expectations that contribute to determining purchasing decisions (Grunert, 2005; Verbeke, 2005). For example, Chamhuri (2015) found that the safety and the quality of fresh vegetables, fruits and meats are important for Malaysian consumers when purchasing in food retail stores.

The retail landscape in Malaysia has been changing with the development of modern retail formats. Malaysian consumers, especially in urban areas, have a high acceptance modern retailing formats as a main channel to purchase household products (Terano, Yahya, Mohamed, & Saimin, 2014). Business Monitor (2014) noted that modern food retail formats are an attraction for middle to upper income consumers that prefer a variety of food products as well as additional services. Small retail outlets remain popular because of their proximity to residential areas and their food products are at affordable prices. This situation reinforces the findings of Hampl and Loock (2013), who found that price, assortment and store location are major determinants of retail patronage, with assortment and store location being the most important for store choice.

According to Lang and Hunt (2014), food retailers that provide a wide product assortment tend to attract consumers and gives them more choices in purchasing decisions. They highlighted that large product assortments give consumers flexibility in purchasing because consumers that have tendency for variety seeking can be satisfied with a large product assortment. Attributes such as price, product assortment range, convenience location, perceived product quality, and customer service are widely identified as the main reasons for consumer patronage at retail outlets (Amine & Cadenat, 2003; Carpenter & Moore, 2006; Olsen & Skallerud, 2011).

1.3.1 The Development of Organic Food Retailing

The Malaysian government is responsible for regulations on all foods, drinks, and ingredients that are locally manufactured or imported into Malaysia under the *Food Act 1983* and the *Food Regulations Act 1985*. These regulations are to ensure food and drink are protected from any illegal ingredients that can harm people's health or safety. These regulations are implemented by the Food Safety and Quality Division (FQSD) of the Ministry of Health. Organic products must have obtained organic certification in order to carry the government-approved logo *Skim Organik Malaysia* (SOM) and display it on the packaging (Department of Agriculture Malaysia, 2007; Stanton, Emms, & Sia, 2011).

Malaysian consumers appear increasingly aware and educated about the benefits and the importance of organic foods particularly in the context of potential contributions to health and wellness (Euromonitor, 2013). The presence of more organic specialist retail stores as well as more space allocation to organic food products in leading hypermarkets and supermarkets has increased consumers' awareness of organic food products (Euromonitor, 2013). According to Terano et al. (2014), the development of modern retail formats in Malaysia, such as hypermarkets and supermarkets is becoming increasingly sophisticated in providing a better services and products including introducing of organic food products. Although Malaysian consumers are increasingly aware of organic products, previous studies found that price is a major barrier in purchasing intention towards organic products (Azam, Othman, Musa, AbdulFatah, & Awal, 2012; Kai et al., 2013). Other studies noted that consumers with high incomes and preferences towards the perceived benefits of organic products are likely to have the highest intention to purchase (Teng, Rezai, Mohamed, & Shamsudin, 2011; Voon et al., 2011).

There are a growing number of quality guarantee schemes at national and international levels that offer higher food welfare and food quality, for example, the Soil Association Certification which is the biggest umbrella organisation for organic farming in the United Kingdom and provides the most common logo that can be found on British organic products (Baker, Thompson, and, & Huntley, 2004; Gerrard et al., 2013; Janssen & Hamm, 2012b). However, in the global context, the increasing number of organic brands, certification labels, and organic stores, among other features, does not appear to have increased consumers' trust in organic product (Hamzaoui-Essoussi et al., 2013). Several studies found that international consumers are not convinced to purchase more organic food because of the scepticism and

uncertainty towards organic logos and certification schemes (Aarset et al., 2004; Aertsen, Verbeke, Mondelaers, & Huylenbroeck, 2009; Hughner, McDonagh, Prothero, Shultz, & Stanton, 2007; Janssen & Hamm, 2012b; Lea & Worsley, 2005; Padel, Röcklinsberg, & Schmid, 2009).

These views are consistent with those of the Organic Monitor (2006) with respect to consumer knowledge of organic labelling in Asia which indicates that the number of organic products imported from around the world and the accompanying plethora of organic logos is leading to confusion among Asian consumers. Dardak et al. (2009) revealed that more than 40% of the respondents in their survey did not recognize the Malaysian Organic Certification and more than 60% had never heard about it especially those who were from outside Kuala Lumpur. In fact, Stanton et al. (2011) found that most of Malaysian consumers tend to be confused between the certified and the non-certified organic food products.

However, despite research on consumer perceptions and behaviour in relation to organic and food certification, the literature with respect to retailers' perception is extremely limited, especially in Malaysia. Essoussi and Zahaf (2008) emphasized that distribution, certification and labelling are all somehow related to consumers' confidence and level of trust when consuming organic food products because consumers are more concerned on trusting the certification process. In addition, it is inadequate to focus on the wariness of consumers over guarantees of product quality/knowledge, labelling, certification or pricing and communication strategies. Instead, organic certification should also be observed from the supply side and undeniably, retailers contribute at various scales and with diverse approaches to consumers' level of knowledge of, preferences for, as well as the level of trust in organic products (Hamzaoui-Essoussi et al., 2013). Therefore, the absence of research on retailers and organic products appears to be a significant gap in knowledge of organic certification in the food system.

1.4 Research Objectives

The purpose of this study is to better understand Malaysian retailers' perception of organic certification. By doing so, it hopes to answer several questions:

1. How important is organic certification in Malaysian food retailing?
2. What are the relationships between organic certification attributes and the importance of organic certification in Malaysian food retailing?

3. What are the effects of organic certification issues on organic certification attributes and the importance of organic certification in Malaysian food retailing?

1.5 Significance of the Research

There is limited research of the importance of organic and food certification with respect to retailers' perceptions. Therefore, this study investigates the relationship of organic certification attributes to the importance of organic certification in food retailing in Malaysia (Hamzaoui et al., 2013). This is also significant as there are extremely limited studies of certification in food retailing not just in Malaysia but in a wider developing country context, despite the growth of Western style food retailing (García Martinez & Poole, 2004; Havinga 2013).

1.6 Thesis Outline

This thesis is structured around nine chapters. Chapter One provides a brief introduction to this research and outlines the aims of the thesis. Chapter Two discusses the development of food certification by explaining the importance of food certification practices at a global level, including the role of third party certification (TPC) in the food industry. The concept of organic is also discussed in Chapter Two with a focus on the food supply chain. The final section highlights the characteristics of each type of food certification including the role of sustainability and religious food certification, the latter being extremely significant in the Malaysian context.

The development and the impact of the retail power in food industry are discussed in Chapter Three. The literature on retailers' perception towards food certification is discussed and this chapter explains the advantages of food certification to retailers in food industry. Chapter Four reviews the retail industry and food certification in South-East Asia and Malaysia. The organic food industry in South-East Asia is discussed with specific reference to the organic market and certification processes in Malaysia. A conceptual framework of this research is also provided to illustrate Malaysian retailers' perception towards organic certification.

The methods used in this research are explained and discussed in Chapter Five with respect to data collection and analysis and the use of a sequentially mixed method approach. Findings of the first stage that involve semi-structured interviews are discussed in Chapter Six while

findings from the survey of retailers are discussed in Chapter Seven. Chapter Eight provides an in-depth discussion of the findings. The final chapter of this thesis concludes and summarises the main findings and further explains the contributions of this thesis. The limitations of this study and implications for future research are also highlighted.

1.7 Chapter Summary

This chapter has identified food certification as a tool used to determine the quality and safety of the product. Information asymmetries of food products have increased in food retailing and food certification is very important to reduce the uncertainties of food products particular for credence products such as organic food products. Hence, the credibility of food certification is very important to gain consumers' trust and build confidence levels when purchasing the food products.

All organic food products for sale in Malaysia have to carry Malaysia Organic Certification which is issued by the Department of Agriculture. Although all organic products need to provide organic certification, both international and Malaysian consumers may be sceptical of the veracity of organic logos and certification. In addition, and very significantly with respect to both the focus and the contribution of the present work, previous studies have focused much more on consumer and producer perceptions of organic certification than those of the retailer. Therefore, this research aims to understand Malaysia retailers' perception towards organic certification.

CHAPTER TWO

FOOD CERTIFICATION AND STANDARDS

2 Introduction

There is growing evidence that consumers are becoming increasingly concerned about food health, nutrition and safety (Ahmad & Juhdi, 2010; Teixeira & Sampaio, 2013). The perceptions of food safety and risk typically relate to concerns about food production (Fagotto, 2014). In the United States, concern is the highest over pesticides and hormones, followed by antibiotics, genetic modification, and irradiation (Hwang, Roe, & Teisl, 2005). Food safety is important in food supply chain because the food market has rapidly internationalized, and the demand for food products is now not limited to local or regional supply with manufacturers and retailers now sourcing their products from all over the globe (Chen, Flint, Perry, & Lau, 2015; Trienekens & Zuurbier, 2008). In addition, less developed countries face difficulties when trying either to lower their domestic food risk or to update their goods to the safety standards of importer countries (Sodano, Hingley, & Lindgreen, 2008).

Food safety issues are related to how food is produced, processed, stored, marketed and consumed. The factors that affect food safety are usually related to issues such as pesticides, hormones, additives and preservatives used in food production and processing and the improper handling of food during storage and consumption (Prabhakar, Sano, & Srivastava, 2010). In the Asia-Pacific region, these issues also have contributed to an increase in the price of food, and lack of a proper guidelines and unethical practices using chemicals in the food production process have led to an excess of chemical traces in food sources (Prabhakar et al., 2010; Wahlqvist, McKay, Chang, & Chiu, 2012).

In Malaysia, the Ministry of Health (MOH) has taken actions to strengthen the food safety control process due to increasing demands for food safety in local consumptions. In 2010, the Food Safety and Quality Division (FQSD) of the MOH was upgraded to a new programme led by a Senior Director. This programme is responsible to ensure food safety in the food supply chain by protecting the public against health hazards and fraud in food products through the *Food Act 1983* (Ministry of Health, 2011).

This chapter commences with an introduction to the development of private standards. Food certification and labelling are then explained with respect to the development of food certification. This section highlights why food certification is important at the international level of the food industry and also the purpose of each type of food certification and labelling in order to protect consumer safety. Third party certification (TPC) is also examined in this section. The organic concept is then discussed in detail by focusing on food supply chain perspectives. The final section of this chapter provides an overview of the different types of food certification in order to show the characteristics of each types including sustainability and religious food certification such as Halal and Kosher.

2.1 Food Safety and Private Standards

Food safety and quality have become important concerns in the food retail market. Due to these concerns, standards and certifications are implemented in the food market in order to determine the safety and quality of the food products especially for producers that do not have direct relationships with consumers (Denny, Worosz, & Wilson, 2016; Grunert, 2005; Higgins et al., 2008). According to Sodano et al. (2008), as of the beginning of the new millennium, there were a range of tools used to protect people from eating unsafe foods, including the implementation of guidelines and information to improve hygiene during the process of production, distribution, and home handling of food; the setting of standards limiting the content of chemical, biological, and physical contamination of food; and, a tort liability legislation and other laws to enforce food standards. However, with the emergence of wealthier and more conscious consumers, private firms have gradually improved their involvement in food safety activities along with the use of different tools such as certification and quality assurance programs, quality disclosures, and investments in reputation (Rampl, Eberhardt, Schütte, & Kenning, 2012).

Sodano et al. (2008) suggested that higher environmental, health, social risks and advancement of technologies has led to a growth of new social movements asking for better and effective control in food chain. Accompanying such societal change has been a shift from public to private food safety standards and among these from first-party certification to third-party certification. The major influence of this process has been the retail sector (Sodano et al., 2008). Hatanaka, Bain and Busch (2005) argued that the globalization of the agri-food system has also increased the quantity of food on supermarket shelves and the rapid pace of

product differentiation has given rise to government regulations which have been unable to keep pace with new developments and changing production practices.

Moreover, private standards have also become significant for product differentiation within markets that have been driven by quality-based competition and that require a consistent food safety standard and quality attributes supported by branding and certification. Many private standards are now turning into global standards as the food system becomes interlinked across the world (Fulponi, 2006; Spencer Henson, 2008; Rampl et al., 2012). In fact, private standard, labels and certification serve not only to differentiate products but they have also provided crucial information of products attributes such as animal welfare, environmental sustainability and labour welfare (Hatanaka et al., 2005; Ponte & Cheyns, 2013).

Paralleling the development of private standards is the increasing use of third-party certification (TPC) that encourages states, retailers and NGOs to use TPC in order to enforce the effectiveness of standards. Private standards are ineffective without an enforcement mechanism. Therefore, TPC is emerging as a key institution for enforcing private and public standards that is independent from both producers and governments (Callon, Méadel, & Rabeharisoa, 2002; Denny et al., 2016; Hatanaka & Busch, 2008; Munteanu, 2015).

2.1.1 Functions of private standards

According to Henson and Humphrey (2010), the terms ‘private standards’ and ‘voluntary standards’ are interchangeable and have been developed by coalitions of private sector actors. Private standards in the food sector have been developed for private, voluntary quality and safety management including processes related to product characteristics; emergence of global coalitions for setting standards and increase use global business to business (B2B) standards (Spencer Henson & Humphrey, 2010). Private standards are usually enforced by third party certification (Fulponi, 2006; Hatanaka et al., 2005).

The operation of private standard certifications requires five functions to be performed (Table 2.1). First, with respect to function, there is no legal compulsion for compliance. The entities involved in the setting of private standards have no formal regulatory power to compel implementation. Rather, the compulsion for compliance is wielded by private adopters (for example, supermarket chains) that see value in other private entities (for example, food processors and agricultural producers from whom they source) implementing these standards. Second, private entities undertake the system of standards that are associated with the major

functions. Thus, the standard is set by a commercial (for example a firm) or non-commercial (for example a non-government organization (NGO) or industry organisation) private body and is adopted by a (usually commercial) private firm or organisation. Conformity is assessed by a private auditor and the standard is enforced by a private certification body (Henson & Humphrey, 2010).

Table 2.1: Functions associated with private standards

Function	Voluntary Private Standards
Standard setting	Commercial or non-commercial private body
Adoption	Private firms or organisations
Implementation	Private firms
Conformity assessment	Private auditor
Enforcement	Private certification body

Sources: Modified from Henson & Humphrey (2010).

According to Henson and Humphrey (2010), private standards have proliferated and evolved and could be said to have ‘gone beyond’ public regulations in two obvious ways. First, some private standards address issues beyond the limit of public regulations. This can take the form of a more rigid standard; for example, laying down stricter limits on pesticide residues than legal maximum residue levels (MRLs). On the other hand, private standards may implement controls on issues that are not subjected to public regulations (Henson & Humphrey, 2010). For example, private standards such as those of The International Federation of Organic Agriculture Movement (IFOAM), have embedded within them principles in the broadest sense, including the way people tend soils, water, plants and animals in order to produce, prepare and distribute food and other goods including the way people interact with living landscapes, and relate to one another (IFOAM, 2012). In addition, the Marine Stewardship Council (MSC) does not only determine whether a fishery is “sustainable” but also intends to influence seafood consumers toward fisheries’ products that are generated through sustainable practices (Christian et al., 2013; Pérez-Ramírez, Lluch-Cota, & Lasta, 2012).

Furthermore, the role for private standards is not just to ‘go beyond’ public regulation, but the distinction between private standards and public regulations concerns not only *what* outcomes are to be achieved, but *how* such outcomes are to be achieved. Therefore, typical public regulations are not specific compared to certain private standards in terms of how to achieve particular goals and/or how to operationalise process-based requirements. Private

organizations such as GlobalGAP, the International Food Standard (IFS) or British Retail Consortium (BRC) are examples of certification schemes that conduct inspections and also provide protection against food safety failures beyond that inherent in public regulations (Albersmeier, Schulze, & Spiller, 2009; Spencer Henson & Humphrey, 2010; Rossignoli & Moruzzo, 2014).

Many agribusinesses were certified according to a variety schemes especially in Europe (Albersmeier, Schulze, Jahn, & Spiller, 2009). As of 2013, more than 12,000 companies worldwide have been certified according to IFS and in 2014, more than 127,000 certifications have been issued by GlobalGAP in the fruit and vegetable sector in more than 110 countries. In addition, these schemes were introduced mainly by food retailers and only focused on the respective product and its processing, however in the case of certification such as organic, this covers the whole supply chain with agricultural operations as well as processors and traders being inspected (Albersmeier, Schulze, & Spiller, 2009).

Food safety standards are considered public food products that are set and enforced by governments (Fernando, Ng, & Yusoff, 2014). Nevertheless, developing countries may establish food safety regulations but often do not have the capacity to monitor and enforce these (Spencer Henson & Reardon, 2005). For example, in Malaysia, Halal certifications issued by JAKIM face problems due to insufficient number of enforcement officers and the lack of enforcement in monitoring the usage of certified Halal food has caused the public to question the validity of some products that are claimed to be Halal (Marzuki, 2012; Rezai, Mohamed, & Shamsudin, 2012).

Consumers normally focus on food product attributes when assessing product quality (Aziz & Chok, 2013; Canavari, Castellini, & Spadoni, 2010; Mohayidin & Kamarulzaman, 2014). However, there are attributes that cannot be assessed by the consumers due to the food products that have credence characteristics (Darby & Karni, 1973; Janssen & Hamm, 2012a). These quality attributes comprise of how products have been produced (for example, organic production and animal welfare concerns) and the process of products (for example pesticide residues) as well as the wider implications of the agri-food chain on issues, such as the environment and global poverty. Hence, agri-food products can be categorised as a complex collection of quality attributes that cannot be observed from the products being processed until the products are used by consumers (Henson & Reardon, 2005). The implications of credence attributes of food products have made food certification to become more important

in the prevention of fraud or unethical opportunistic behaviour in the food supply chain (Janssen & Hamm, 2012a). In fact, Giannakas (2001) suggests that food certification is always required by consumers when evaluating food product quality.

2.2 The Development of Food Certification

Consumers have increasingly sought greater assurance in food safety as a result of the outbreaks of food related diseases such as bovine spongiform encephalopathy (BSE), severe acute respiratory syndrome (SARS) and avian influenza (Fagotto, 2014; Havinga, 2010; Sodano et al., 2008). As a result, a lot of efforts have been made in promoting and coordinating food safety at the national and international level. Thus, in order to minimize new health risks associated with the growing dimension and complexity of global of agri-food systems, many tools of intervention such as HACCP, traceability and certification have been developed that are less rigid than the classical mandatory minimum standards (Sodano et al., 2008).

Food safety and quality attributes have been the main focus of global agri-food systems by highlighting the role of food products and process standards (Spencer Henson, 2008). These attributes provide information for consumers to consider when making their purchasing decisions, while companies and governments are choosing labelling options. Producers, processors and retailers may have an option whether to choose to label the safety and process attributes for their products or they may be required to do so by government regulation (Caswell, 1998).

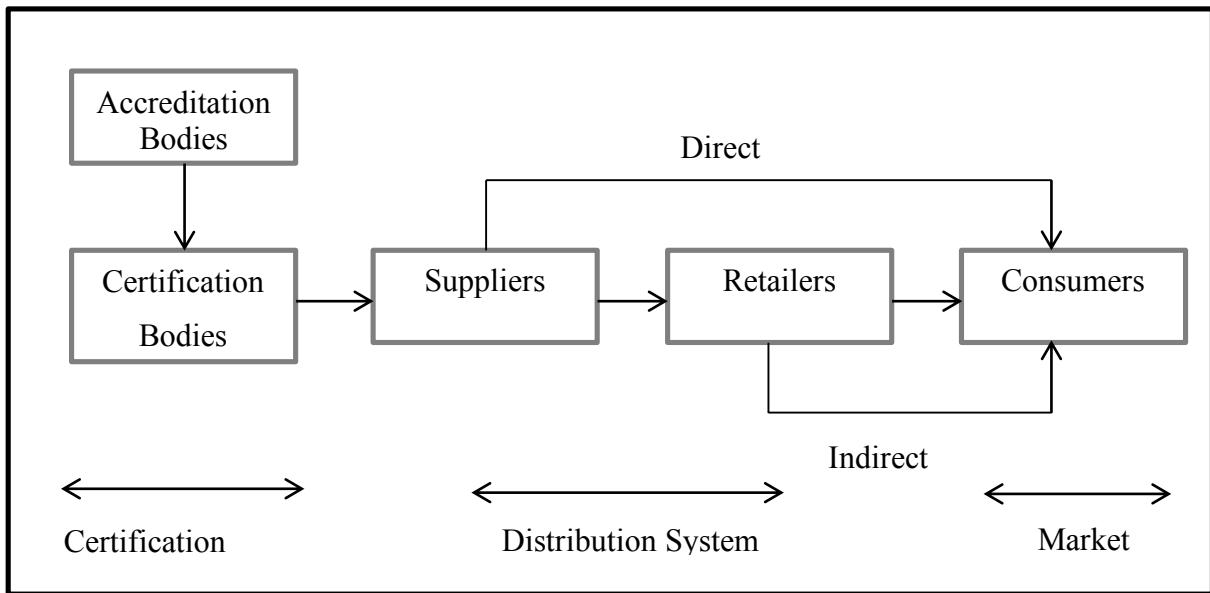
In the past, food safety standard and food quality attributes had been regularly monitored by government agencies. However, as the food retail industry becomes increasingly integrated with the globalization of the agri-food system, the rise of private retailer standards has led to a change in responsibility for this task to include third-party certifiers (Barrett, Browne, Harris, & Cadoret, 2002; Hatanaka et al., 2005; Spencer Henson & Northern, 1998). Hence, third-party certification (TPC) becomes a prominent and influential regulatory mechanism in both the public and private dimensions of the contemporary agri-food system. In addition, TPC is not just an objective or impartial technical tool or institution desirable for the efficient organization and regulation of market and trade but it also restructures the nature of the supply chain with different social and economic implications for various participants (Hatanaka et al., 2005).

2.2.1 Roles of third party certification

Third-party certifier responsibility is to assess, evaluate and certify safety and quality claims by referring to a particular set of standards and compliance methods (Deaton, 2004; Hatanaka et al., 2005). By providing information about the commodity and product production processes, certification provides assurances regarding a product to stakeholders. TPC is also claimed to be independent from other participants that are involved in food or agriculture such as retailers and suppliers. In order to increase trust and legitimacy among consumers and to limit liability, third-party certifiers also appeal to technical-scientific values such as independence, objectivity and transparency (Almeida, Pessali, & de Paula, 2010; Hatanaka et al., 2005; Sodano et al., 2008).

According to Hatanaka (2008), two general organisational forms of TPC apply. The first form is where the certification bodies are not accredited. In this case, certification bodies issue a certificate and permit after compliance is verified in order to use its certification labels on and/or off their products. The second organisational form that TPC takes is where certification bodies are accredited. This form is different from the first whereby certification bodies must gain approval from accreditation bodies as to when to provide certain TPC standards (figure 2.1). From the reports made by certification bodies, accreditation bodies have the authority to decide whether or not to issue certification. After the certification has been issued, a supplier is allowed to label its products as certified (Hatanaka et al., 2005; Hatanaka & Busch, 2008). Accreditation bodies such as the British Retail Consortium (BRC), GLOBALGAP, the International Federation of Organic Agriculture Movements (IFOAM), and the Marine Stewardship Council (MSC) are examples of prominent second form accreditation bodies in the global agrifood system (Hatanaka & Busch, 2008).

Figure 2.1: Third Party Certification Process in Distribution Channel



In order to provide higher food safety and food quality at an international level, food safety specifications and a considerably grown number of quality assurance schemes such as GlobalGap and BRC have become stricter (Rossignoli & Moruzzo, 2014). Beside the usefulness of these quality assurance schemes to consumers, producers accept them as an important ingredient of marketing that offers a great opportunity to differentiate them in the marketplace and add value to their products (Botonaki et al., 2006; Jervell & Borgen, 2004). A quality certification is viewed by agricultural producers as a tool that not only protects them from distrust but also as a promotional strategy that will add value to their products and justify higher prices for them (Botonaki et al., 2006). Nevertheless, effective communication of certified status must be made in order to achieve successful value-added marketing. In other words, valued-added markets may be unsuccessful if the consumers are not aware of the existence and meaning of these commodities and also do not have a favourable attitude towards them. In fact, to have such products consumers in some cases must be willing to pay extra money (Botonaki et al., 2006; Brunso, Fjord Ahle, & Grunert, 2002).

2.2.2 Third party certification in food markets

Food safety standard and certification are applicable to a wide range of general food types (Prabhakar et al., 2010). There are many group certifications operating in global food systems around the world covering all aspects of food production, processing, transportation and

retailing. Examples of the types of food certification (Table 2.2) that act as third-party certification are organic, Fair Trade, HACCP, MSC, GAP and halal. The purpose of organic certification is to focus on agriculture food products by ensuring the food products are produced organically without using any illegal chemical substance as well as to prevent fraud (Munteanu, 2015). Naylor (2014) explained fair trade certification in terms of addressing issues of inequality in the global market through groups in food supply chain that provide assistance for market accessibility and creating opportunities for producers to sell their commodity product at premium price. HACCP is important in determining the safety of food products through analysis and biological, chemical and physical hazards control from raw material production through to consumption of the end food product (Halaseh & Sundarakani, 2012). GAP certification was developed to improve manufacturing practices in relation to environmental, economic and social sustainability through process monitoring as well using appropriate inputs (Tey et al., 2015). As for fisheries, MSC certification was developed to encourage fisheries producers to meet the requirements of sustainability standards and the European Union (EU) and USA as the main markets for MSC products (Pérez-Ramírez et al., 2012). In addition, Halal certification is also a food certification that is widely used in the Islamic market which follows Islamic compliance (Sodano et al., 2008; Tieman, 2011). These certifications are not mutually exclusive, as organic products may also have GAP certification for example.

Table 2.2: Examples of Food Certification

Types of Food Certification	
Organic	Fair trade
MSC	HACPP
Halal	GAP

These food safety standards, certification and labelling are developed with a different focus but share similar purposes with respect to protect consumers safety and for the food supply chain to promote and communicate certain qualities of their food products (Festila, Chrysochou, & Krystallis, 2014). MSC is an example of food certification labelling that parallels the emergence of a global market for fish including a focus on the sustainable fish market (Gulbrandsen, 2009; Ponte, 2012). The number of fisheries and consumer markets for MSC has grown substantially since the scheme was first introduced. As of 2014, there were

more than 250 fisheries certified by MSC in 36 countries and over 17,000 products that carry MSC label in just under 100 countries including over 34,000 business locations that have MSC Chain of Custody which can be used for traceability (Marine Stewardship Council, 2014). By managing supply, demand and public concerns, MSC has succeeded in bringing sustainable fish into the mainstream. Meaning that, in order to address supply concerns, the MSC has secured the certification of a large number of fisheries. According to Ponte (2012), as for market demand, large retailers, distributors, restaurant chains and food service, companies carry MSC certified labels to address consumer concerns over fish sourcing. MSC also addresses public concerns by portraying itself as promoting 'strict and serious' forms of fishery and ecosystem management (Ponte, 2012).

Organic and Fair Trade certification are also considered as forms of sustainability certification (Getz & Shreck, 2006), with organic certification labelling being developed to make sure organic products are following the standards of organic agriculture and allowing consumers to differentiate between organic and conventional products. The International Federation of Organic Agriculture Movements (IFOAM) developed this international standard by meeting requirements for specific growth conditions in each place (Sodano et al., 2008). Meanwhile, Fair Trade certification labelling is intended not only to promote sustainable development but also to improve the position of poor and disadvantaged food producers in the developing countries by helping them to become more advantageously involved in the food sector (Fair Trade International, 2011; Loureiro & Lotade, 2005).

Religion also plays an important role in influencing food consumption. It can have an impact to food consumption based on the religion itself and on the extent to which individuals interpret and follow the teachings of their religion (Bonne, Vermeir, Bergeaud-Blackler, & Verbeke, 2007). Halal and kosher certification are examples that follow religious dietary laws as each of these food certifications are required to follow the principle guideline in order to meet the requirement of halal and kosher standards (Havinga, 2010). However, there is no international standard hence certifications are the responsibility of national and regional organisations. All types of food certification, as mentioned above, will be discussed further in this chapter.

2.3 The Organic Concept and Types of Certification

The notion of 'organic' can be interpreted in a variety of ways and contexts. According to Aarset et al. (2004), the term is usually associated with concepts such as natural, sustainable

and environmental. The term ‘organic’ has been used to describe diverse products ranging from fruit and vegetables to dairy and animal produce, as well as cereals, pulses and grains (Aarset et al., 2004). These products carry organic labels and logos based on schemes operated by various certification bodies such as The Soil Association (UK), Naturland (Germany), and the Japan Organic and Natural Food Association (Japan) (Aarset et al., 2004; Xie, Tingyou, & Yi, 2011). There is a considerable variation in organic standards within each certifying jurisdiction, for example in the US, the EU and Malaysia (Table 2.3). In the US and the EU, the certification processes are similar but there are differences in terms of standards and their interpretation. According to Sawyer et al. (2008), US organic policies tend to be supplier driven instead of the EU policies that driven by consumer demands. While Malaysian organic policies are a government initiative to ensure that farmers follow the requirements that have been set by the Department of Agriculture with the standard applying to farms of unprocessed plants and plant products.

Table 2.3: Organic Standards in US, the EU and Malaysia

	US	EU	Malaysia
Name of Standards	The United States' National Organic Program (NOP)	The European Union's (EU) organic standards	Skim Organik Malaysia (SOM)
Production Standards	Organic and non-organic crops are allowed to growth on the same production unit.	Organic and non-organic crops are prohibited to growth on the same production unit.	Organic and non-organic crops are prohibited to growth on the same production unit unless it can be easily differentiate for example form, shape, colour and so forth.

In 2013, globally there were approximately 43.1 million hectares of organic agricultural land. The Oceania region is the largest area of organic agricultural land with 40 per cent of the world’s organic agricultural land while Europe has 27 per cent. Latin America has 15 per cent followed by Asia 8 per cent, North America 7 per cent and Africa 3 per cent (Table 2.4). The three countries with the most organic agricultural land which are Australia (17.2 million hectares), Argentina (3.2 million hectares), and the United States (2.2 million hectares) (Willer & Lernoud, 2015).

Table 2.4: Distribution of Organic Agricultural Land by Region 2013

Region	Percentage
Oceania	40%
Europe	27%
Latin America	15%
Asia	8%
Northern America	7%
Africa	3%

Sources: Adapted from Willer and Lernoud, 2015 p. 36.

In 2013, there are almost 2 million producers with (36 per cent) of the world's organic producers in Asia, followed by Africa (29 per cent), Europe (17 per cent), Latin America (16 per cent), North America (1 per cent) and Oceania (1 per cent). The countries that have most producers are India (650,000), Uganda (189,610), and Mexico (169,703) (Willer, Helga, Lernoud, & Kilcher (Eds.), 2013).

2.3.1 The Development of Organic Certification

According to Willer et al. (2013), the total number of certifications for organic products in 2012 was 576 compared to 549 in 2011. These certification bodies are mostly located in the European Union, South Korea, Japan, The United States, China, India, and Canada (Table 2.5).

Table 2.5: Countries with the Organic Certification Bodies 2011 – 2012

Country	2012	2011
Europe		
France	10	7
Italy	13	13
Romania	17	17
Germany	32	31
Spain	27	28

Poland	11	11
Bulgaria	10	10
North America		
United States of America	49	51
Canada	23	23
Asia		
South Korea	76	33
Japan	61	61
China	24	28
India	24	22

Source: Adapted from Willer and Lernoud, 2013 p. 149.

The process of organic certification is quite expensive for small farmers especially when they want to export their products (Barrett et al., 2002). The cost of obtaining organic certification has meant some small producers to have developed an alternative strategy to reduce the cost by forming a producer group or co-operative then applying the certification as a group rather than as individual (Barrett et al., 2002; Barrett, Browne, Harris, & Cadoret, 2001). According to Xie et al. (2011), the majority of organic imports are certified by international certification bodies from Europe, the US and Japan. Many importers in the Europe have suggested producers to use international certifiers in order to ensure an export market (Barrett et al., 2002).

Furthermore, the variations of standards in organics have created complications for certification bodies in order to familiarize and accept organic products certified in other systems or programs. The European Council Regulation (EC) No. 834/2007, US government's National Organic Program (NOP) and Japan's Japanese Agricultural Standard (JAS) are the three major sets of organic standards by size of market. Unfortunately, these standards are quite separate and non-equivalent (Xie et al., 2011). In addition, there is a global issue of producers from other countries, especially in the developing world, who can have their exports meet the certification requirements of the importing country. For example, small producers in Chile found that the number of import authorizations issued for Chilean organic

products compared to other countries in the region is very low given Chile's potential as an agricultural exporter (Garcia Martinez & Bañados, 2004; Xie et al., 2011).

In exporting organic products to other countries, the producers can decide to either use local certifiers that meet international standards requirement or international certifiers such as Soil Association Certification (SAC). The costs of local certifiers are likely to be cheaper than an international certifier. Using local certifiers is one way to reduce cost and it has several advantages, for example, better knowledge of local conditions and languages; better information flow between certification and producer; developing trust between producers and certifier, and keeping money in the local economy (Barrett et al., 2002). Although using local certifiers can be advantageous to producers it can also lead to difficulties in obtaining and maintaining international recognition (Barrett et al., 2002). In China, organic products are exported to developed countries such as North America, Europe and Japan. However, different organic certification legislation in different countries has given China problems to access the international market (Xie et al., 2011).

2.3.2 Organic food as credence product

Although consumers generally believe that organic products are better than conventional products, several studies indicate that they are unable to assess the quality of organic products from its physical characteristics (Midmore et al., 2011). The reason for this is that organic products can be identified as credence goods (Darby & Karni, 1973; Giannakas, 2001; Nelson, 1970; Voon et al., 2011). Therefore, in order to support the perception of 'extrinsic' quality and also organic food safety, a credible industry standard is needed such as a valid certification. This certification is designed not only to reassure the quality and safety of organic products but as a symbol of sustainable agriculture and healthy living, together with process related quality and the use of safe or natural raw materials (Midmore et al., 2011).

Consumers attitude towards organic food products has been related to socio-demographic factors such as level of education and income (Sangkumchaliang & Huang, 2012). Hence, people that have high educational and income level are more likely to form positive attitudes and purchase organic food products (Aertsens, Verbeke, et al., 2009; Gracia & de Magistris, 2008; Hughner et al., 2007; Lee & Yun, 2015; Pugliese, Zanasi, Atallah, & Cosimo, 2013; Wier, O'Doherty, Jensen, Andersen, & Millock, 2008).

Important factors have been identified as influencing the purchase of organic food products including health, food safety, animal welfare, environmental concerns and a better taste (Aarset et al., 2004; Hempel & Hamm, 2016; Schleenbecker & Hamm, 2013). Baker (2004) found that German consumers believe organic products are much better than conventional as the organic products contain more nutrients, fewer residues, and have a better taste. In contrast, in Taiwan, the main determinant influencing consumers in purchasing organic food is health consciousness (Chen, 2009). In addition, consumers perceive health as more beneficial to the individual or their family as compared to the environment and animal welfare that gives benefit to society as a whole rather than the individual (Magnusson, Arvola, Hursti, Åberg, & Sjödén, 2003; Zakowska-Biemans, 2011a).

The issues of information asymmetries and uncertainty regarding product quality and food safety in the global food market are increasing (Anders et al., 2010). Asymmetric information situations exist when consumers have a lack of information about the organic process. Hence, it is difficult for them to assess organic food product attributes. This could negatively influence the development of demand for organic food products (Gracia & de Magistris, 2008). Lohr (1998) suggested that in order to reduce asymmetric information of organic products, it is vital to provide certification to provide quality assurances to consumers as well to ensure conventional producers will not be able to make false claims with respect to organic production.

With consumers being increasingly concerned what they purchase and what they eat (Chamhuri & Peter, 2015), food labelling and certification has become one of the most important attributes in order to convince consumers that the foods they purchase are of good quality and safe to consume. As for organic foods, they can be labelled as organic products if they comply with the standards for organic production, processing, labelling and control (Janssen & Hamm, 2012b). The products that comply with the standard will have the consumers' confidence as well as the producers and sellers who adopt the production and business ethic of organically labelled products (Dardak, Zairy, Abidin, & Ali, 2009).

Organic certification and labelling are the main mechanisms of quality assurance to overcome information asymmetry issues (Liang, 2016). For example Atkinson and Rosenthal (2014, p. 34) observed how certification or labelling can help ensure the credibility of the organic food products as well as improve consumers' attitudes towards the food products:

Consumers face an information deficit in which they must assess products and services based on incomplete, misleading, or otherwise imperfect information. In this asymmetric information environment, in which one side holds more or better information than the other, consumers rely on cues or signals as a means of evaluating product quality.

Specifically, organic food labels help transform the credence characteristics of such products into search attributes, thereby allowing the consumer to better evaluate quality before deciding to buy the product (Caswell, 1998). However, in some circumstances where certification or food labeling requirements and regulations are unclear, it is difficult for consumers to identify the authenticity of the organic products, thus it is necessary to develop a control system that can define the production process and certification of organic foods (Wier & Calverley, 2002). In addition, consumers are less likely to purchase organic or eco-labelling food products when they have suspicions or do not trust the content of the marketing (Atkinson & Rosenthal, 2014).

2.3.3 Consumers trust on organic food products and certification

Trust can be a strong determinant of purchase intention towards organic food due to the credence attributes of organic food. As consumers usually cannot directly evaluate the processes behind organic food production, they have to rely on certification, product labelling and advertising that become a signal of the trustworthiness of product claims (Voon et al., 2011). Liang (2016) agreed that trust is very important in reducing the perceived risk of food products when the product's information is insufficient and a high level of uncertainty exists. Perrini et al. (2009) found that consumers in Italy believed that if the retailer of an organic product is committed to respecting their rights and the environment, they are more likely to trust retailers.

Janssen and Hamm (2012) noted that many consumers still do not have confidence in production standards and inspection systems of organic products. In addition, consumers cannot verify whether organic producers comply with the organic standards (Perrini, Castaldo, Misani, & Tencati, 2010; Wang & Tsai, 2014). Atkinson and Rosenthal (2014) found that the greater the level of consumer trust with labelling, the more positive the attitude that exists toward ecological labelling, especially labels issued by a government authority.

According to Loo (2010), it is important to define rules of production methods and the labelling of organic foods especially for consumers to trust organic labels and guarantees. To

gain consumer' trust, there should be a clear organic standard and certification in order to avoid misleading organic labels. Essoussi and Zahaf (2008) also highlighted the importance of trust with respect to labels, including the certification process that products have to go through, who is defining and controlling this process, and the use of standards. Regular organic consumers may feel more assured and confident when they see certification and labelling on organic food products. However, consumers generally consider organic products based on who certifies it and what was the process of certification the product went through (Essoussi & Zahaf, 2008).

Lack of knowledge and awareness on organic food products somehow decreases the purchasing intention towards those products (Liang, 2016). Several studies showed that consumers also demonstrate scepticism and lack of confidence towards organic logos and certification schemes (Hutchins, Greenhalgh, & Tyne, 1997; Janssen & Hamm, 2012b). This suggests that consumers are not aware, and/or do not fully understand organic certification and perhaps potentially perceive products with low input characteristics as organic products. In addition, Midmore et al. (2011) also found that consumers from six different countries such as France, Germany, Greece, Italy and Switzerland did not necessarily trust the certification process and demonstrated higher preference for a product being 'natural' than certified organic. This could be a result of a lack of understanding of certification requirements and the meaning of organic. Still, it may also arise from marketing strategies that focus on specific characteristics of food products rather than a basket of characteristics under a single label. Therefore, organic certification and labeling are important because consumers normally lack detailed knowledge of organic concepts which they need to be familiar with and understand the certification and labelling of organic foods. By understanding it, the consumers' will have confidence and trust in organic foods.

According to Sangkumchaliang and Huang (2012), consumer knowledge is affected by the type and quality of information. Advertisements, certification and labels play important roles in knowledge enrichment. The certification and labelling of organic food can serve as a indication of the nature of the contribution and, indeed, labelling based on third party certification is the only practicable alternate to avoiding supply-side let-downs of markets for organic food since, organic food suppliers are not proficient to signal the nature of their product (Giannakas, 2001). Having appropriate presentation and packaging can distinguish organic food more clearly from conventional products. For example, in Germany as in some

other countries, there are some supermarkets that have shop-in-shop systems, where organic food is displayed separately (Latacz-Lohmann & Foster, 1997).

As mentioned above, labelling acts as a quality signal in order to help consumers differentiate when choosing organic products than conventional products. According to Giannakas (2001), conventional food suppliers should be prohibited in using the organic label if the label content is to be a credible signal of product quality. In addition, food suppliers might misuse the organic label by taking the benefits of the price premium remunerated for organic food while relishing the cost savings related to the production of conventional foods.

Previous studies (Fotopoulos, Krystallis, & Anastasios, 2011; Wier et al., 2008) showed regular organic product consumers are more knowledgeable than non-regular organic product consumers, whereby the regular organic product consumers know the organic label and the ones available on the market including the difference that exists between organically grown and organically processed. However, non-regular organic product consumers just tend to trust the labels and do not pay attention to ingredients as they are not knowledgeable about it (Essoussi & Zahaf, 2009). In fact, most consumers do not know the exact process farmers have to go through to get their products certified as organic (Eden, 2011). This can be very significant where they do. For example, the nature of the labelling and certification processes, and the regulations that control the European organic food industry have also been cited as an extremely positive influence on organic purchase intention by regular organic product consumers (Essoussi & Zahaf, 2009).

Malaysia is one South East Asian country that offers significant market potential for organic food. However, consumers tend to be less informed about organic food classifications, even though consumers in emerging markets are becoming more affluent and more conscious about their consumption patterns. Consumer' judgement on evaluating products is based generally on product labels and the mainstream media and not on formal organic certifications (Voon et al., 2011). In other studies in the Asian context, Sangkumchaliang and Huang (2012) found that more than 30% of the respondents in Thailand recognized the "Food Safety", Hygienic Fresh and Vegetable", and "Organic Thailand (DOA)" from seven labels on food products.

Organic labelling and certification also have implications for consumers' preferences in the future. Consumers of organically certified foods are increasingly interested in additional ethical values of organic products, such as stricter animal welfare standards, regional production and fair prices for farmers (Zander & Hamm, 2010). Potential consumers might be

attracted to organic foods by reading the organic labelling on some of the single benefits incorporated in organic production, such as the rejection of the use of pesticides and artificial additives (Janssen, Heid, & Hamm, 2009; Ness et al., 2010).

2.4 Other Types of Food Certification

The growing number of quality assurance schemes in food supply chain indicates the increasing of importance of food products' safety and quality. The purpose of quality assurance schemes is not only to provide safety to consumers but to also assist manufacturers and retailers to position themselves in the food market as well to capture the attention of consumers. Therefore, it is necessary for producers or manufacturers to comply with the food standards set by certification bodies in order to ensure the safety and quality of the food products.

2.4.1 Sustainability certification

Sustainability is defined as meeting “the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987). Nowadays, consumers’ interest towards the environmental and social sustainability of food products has increased and led to demands for more sustainable production systems that attract companies to start environmentally-friendly practices in food production. Food producers and retailers also carry out low environmental impact projects and practices as the attention to environmental and social issues increases (Banterle, Cereda, & Fritz, 2013). Moreover, sustainability is also an important aspect in retail strategies that particularly focus on products or assortments, for examples, organic, eco or fair trade products (Hampl & Loock, 2013).

The credibility of the products that are claimed to be environmentally-friendly is very important to consumers in order for them to make sustainable and ethical choices (Chkanikova & Lehner, 2014; Prakash, 2002). This credibility involves examining how trust in sustainably produced products can be created through the establishment of independent monitoring and verification procedures that penalize irresponsible practices (Sønderskov & Daugbjerg, 2010). Moreover, in some jurisdictions, many consumers are able to track green products back to the farm and gain the assurance that a product has been grown and processed given that third party certification is often incorporated in various elements of the supply

chain (Chkanikova & Lehner, 2014). Thereby, the need of sustainable certification practices is rising (Banterle et al., 2013).

In many situations, sustainable food products may have the credence attributes that consumers do not know the process and the outcome of the product until they use or purchase it. Consumers can even have difficulties knowing the reliability of labelled information after using the product (Banterle et al., 2013; Caswell, 1998). Thus, consumer trust towards producers is very important in a food product market that is characterized by credence attributes. Sustainability attributes may be therefore difficult in gaining consumer trust and willingness to pay premium price of the product. As a result, these difficulties may lead to consumers ignoring environmental and social sustainability information (Banterle et al., 2013), even though consumers may be disposed to pay higher amounts for eco-labelled products (Loureiro and Lotade. 2005).

However, consumer trust toward food products that emphasise their sustainable attributes can be gained through voluntary certification (Banterle et al., 2013). In order to differentiate the product, some features or attributes can be promoted through voluntary certification. In other words, a trustworthy labelling system is needed for products with credence attributes with respect to social and environmental practices and the value of the product to consumers.

There have been issues in communicating the social and environmental sustainability attributes of food products to consumers (Banterle et al., 2013). Although sustainability attribute labelling and certification can increase consumer awareness, the growth in certification and labelling of food products has led to confusion among consumers and to the risk of information loading (Banterle et al., 2013). Previous findings from D'Souza's et al. (2006) showed that there seems to be a significant proportion of consumers that find product labels difficult to comprehend and there are consumers who will buy 'green' products even if they are of lower quality in comparison to conventional products.

According to Chkanikova and Lehner (2014), the proliferation of third party standards, labels and logos may lead to either the minimization or expansion of sustainability requirements. Although proliferation of third party standards can affect corporate efforts to mainstream sustainability in global product chains, the concern in establishing own product sustainability requirements has reinforced the proliferation of corporate efforts that can erode attempted at greater standardization by lowering the level of sustainability ambition (Chkanikova & Lehner, 2014; Fransen, 2011; Rosen & Beckman, 2003). Previous findings showed firms are

motivated to push product sustainability improvements upstream in the supply chain (Marchi, Maria, & Micelli, 2013).

Chkanikova and Lehner (2014) argued that even the trust of product sustainability can be built with the effectiveness of private eco-brands but still it remains unclear. However, by combining logo and corporate brand, it is possible to address the issue of confusion among the consumers due to the proliferation of the certification schemes in the food retail market (Koos, 2011). In addition, corporate brand equity is determined by the efficacy of organic eco-labelling in communicating product sustainability qualities (Larceneux, Benoit-Moreau, & Renaudin, 2011). The findings showed that the mechanism of co-branding (combining logo and corporate brand) is likely to influence the level of consumer trust in product sustainability (Larceneux et al., 2011).

2.4.1.1 Fair trade

In the late 1980s, European alternative trade organizations began labelling fair trade products to enable their entry into conventional markets. Trans Fair, Max Havelaar, and Fair Trade Mark were the three labels which had been successfully introduced in different parts of Europe. In 1997, these labelling efforts were merged under NGO protection, Fair Trade Labelling Organizations International (FLO), which was charged with harmonizing the somewhat different fair trade standards and creating a single fair trade market (Raynolds, 2000). The world's largest market for fair trade certified goods is the United Kingdom, with annual sales of US\$ 1.79 billion, followed by the United States, with sales worth US\$ 1.25 billion per year. Despite the similarity in fair trade market size, the penetration of certified goods in UK markets is far greater than in the United States (Raynolds, 2012).

According to Hall (2008), there is no specific definition for fair trade. The term of "fair trade" is more related to social and economic movement in the context of commodities trading between the developed and developing countries (Hall, 2008). While the "Fair Trade" term is defined by four major international groups associated with fair trade networks or FINE as "a trading partnership, based on dialogue, transparency and respect, which seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers, especially in the South" (FINE, 2001). This includes Fair Trade Labelling Organizations International (FLO), International Federation for Alternative Trade, the Network of European Shops and European Fair Trade Association (EFTA).

The fair trade concept has been developing in Western nations since the 1980s, in response to a growing recognition of the inequalities existing in trade relationships between developed and developing nations (European Commission, 1997). Fair trade was a concept for developing countries to indicate a guarantee of minimum social criteria and active participation in the sustainable future of marketing products that have been produced (Jones, Comfort, & Hillier, 2003). In more recent years, the concept of fair trade has been expanded to include concerns over the environment as well as general principles of sustainable development (Giovannucci & Ponte, 2005; Grankvist, Lekedal, & Marmendal, 2007; Hall, 2008; Jones et al., 2003).

The increasing of imported products from developing countries has become important part in global market especially in the food sector (Raynolds, 2012). The objective of fair trade is to ensure all producers received an acceptable price on their input such as skill, labour and resources (European Commission, 1997; Jones et al., 2003; Loureiro & Lotade, 2005; Smith, 2013). The production systems that meet the requirement of social and environmental standards get recognised in fair trade. In fact, fair trade provides a financial return to the producer which helps cover the cost of these improved standards (European Commission, 1997).

As consumers' interest in purchasing alternative foods has grown, organic and fair trade products have moved beyond specialty outlets and are sold increasingly in regular supermarkets (Raynolds, 2000). Furthermore, fair trade distinguishes itself from other developing country trade initiatives via its breadth in incorporating social and environmental conditions and its depth in regulating both production and trade relations. Fair trade engages a variety of broadly-based social values, mechanisms of social coordination, and social actors in novel and potentially powerful ways (Raynolds, 2012).

Products that meet fair trade standards and requirements carry the Fair Trade mark (label) that is awarded to goods (mainly food products) imported from developing countries, which have been produced according to social and environmental agreements such as the International Labor Organization Conventions and the United Nations' Agenda 21 recommendation (European Commission, 1997). In addition, the fair trade label promotes the idea that in the marketing process producers have earned at least the cost of production. Farmers in developing countries potentially benefit from fair trade practices since the two parties (buyer and seller of the product) negotiate directly without middlemen (Loureiro & Lotade, 2005).

Currently there are a variety of products that have a Fair Trade label coming from different developed countries, for example, tea, fruits, cotton, spice herbs, sport balls, wine and the most popular products under the fair trade label are coffee and chocolate. Products such as shade grown coffee is widely used in fair trade labelling program and its label promotes environmentally sound practices that are used in the harvesting of this particular crop. Shade grown coffee is grown under the trees and in rainforest, conserving the natural habitat of birds and wildlife (Loureiro & Lotade, 2005). Third party certifications have perhaps proliferated the most in the coffee industry where there is a great diversity of certifications with the most well-known being Fair Trade and organic (Giovannucci & Ponte, 2005).

The fair trade certification has been established through the creation of a promptly expanding system of certification for products which may be sold by mainstream retailers. The certification and labelling of fair trade tries to inform and assure consumers regarding the social situations embodied in their purchases, much as organic or origin labelling speaks to ecological and place-based attributes (Barham, Callenes, Gitter, Lewis, & Weber, 2011).

Jones et al. (2003) stated that economic, ethical, social and environment issues associated with food production and retailing have become increasingly important among consumers. There is a wide range of factors that influence consumer food purchasing behavior, particularly factors such as price, quality and safety. There is an evidence that a number of “ethical” factors are increasingly important in influencing buying behaviour (Jones et al., 2003). However, in relation to Fair Trade, the plethora of organisations and labelling schemes has raised significant questions as to the mixed messages that may be promoted with respect to ethical consumption and sustainable development (Hall, 2008). By pushing for more people to consume more fair trade products, there is a conflict with the idea of consuming less in order to be more sustainable (Hall, 2008; Nicholls, 2002). In addition, current public messages that are being promoted are also potentially in conflict with messages of ethical and healthy consumption. The messages include limiting the number of cups of coffee that people drink and the amount of chocolate consumers are supposed to eat. Moore et al. (2006) and Hall (2008) both argued whether consumers are misconceptualised or misunderstood by the point of fair trade products and question if they are purchasing the product for the sake of lifestyle image rather than to help make the world more equal.

2.4.1.2 Marine Stewardship Council (MSC)

With the issue of marine species depletion, market-based efforts are designed to make consumers more aware and shift consumer demand toward sustainable seafood and to improve marine fisheries management. The London-based Marine Stewardship Council (MSC) seeks to achieve this goal by labelling ‘sustainable’ seafood (Christian et al., 2013).

In 1996, the World Wildlife Fund for Nature (WWF) and Unilever joined together to create the Marine Stewardship Council (MSC) designed to certify fish products caught from all major fisheries as either “sustainable” or “not-sustainable.” The MSC is a non-profit organization (NGO) which implements the sustainable fishing principles whereby the purpose of the MSC is to link the market incentives to consumer preferences through a sustainable fisheries certification and eco-labelling program (Constance & Bonanno, 2000). In addition, today, the MSC label is the most widely discussed fisheries certification, viewed by many as trustworthy (Roheim, 2003): as of April 2014, a reported 221 marine fisheries were certified by the MSC, accounting for just under 10 million tonnes of seafood per year (Christian et al., 2013; Council, 2014).

There are three major MSC principles determining whether a fishery is “sustainable” and might use the MSC label: sustainability of the target fish stock; low impacts on the ecosystem; and effective management (Christian et al., 2013). In June 1998, the MSC launched its Fisheries Certifiers Accreditation Scheme (MSC, 1998d). This initiative enables the MSC to verify the competencies of independent certifiers who assess fisheries specific practices against the MSC criteria. Products from fisheries certified by MSC accredited certifiers are eligible for the MSC logo (Constance & Bonanno, 2000).

The MSC allowed its logo to be used on a fishery for the first time in March 2000. Major retailers such as Wal-Mart has pledged to purchase all of its fish from MSC certified fisheries by 2011 with the MSC had been pressured to certify large fisheries more quickly. The Wal-Mart website stated that 73% of its seafood was certified in January 2011 which included farmed fish certified by a different institution (Ponte, 2012). Other retailers such as US retailer Kroger and Australian retailer Woolworths have made similar MSC related pledges (Christian et al., 2013).

According to Constance and Bonanno (2000), an international consulting firm was hired by WWF and Unilever to develop implementation plans. The responsibilities of this international

firm was interviewing fisheries stakeholders as well conducting studies in relation to certifying organizations. In order to develop the MSC, initial funding was obtained from several private organizations. Then a set of sustainable fishing principles were prepared and circulated to a broad spectrum of stakeholders in the fisheries field. All the workshops or seminars were sponsored by the MSC team in order to ensure the principles are maintained and to develop a process of implementation (Constance & Bonanno, 2000).

The MSC may aspire to create an incentive for more sustainable practices, but the more certified products available, the smaller the distinction between them will become, as well as any associated price premium. Moreover, many small scale of fisheries business do not fit into the MSC certification process and they might be left out from the eco labelling program (Constance & Bonanno, 2000). Fishers and retailers are then likely to look for new ways to create further added value. The following argued that this is already creating a new round of differentiation (or re-differentiation) of the MSC label that, if ignored, risks undermining the credibility the certification scheme (Bush, Toonen, Oosterveer, & Mol, 2013).

However, unlike the organic food label, which also receives a price premium, the MSC label does not directly relate to human health concerns (e.g., through the absence of pesticides). Any price premium generated by the MSC label, therefore, results from the desire of consumers to do the right thing and their willingness to pay for a product marketed as “the best environmental choice in seafood. In fact, MSC standards focus only on “avoiding serious or irreversible harm” to officially recognized endangered or threatened species. This amorphous definition potentially sets a much lower level of protection for by catch species than for commercial target species. In practice, this means that a fishery can be certified as long as it is not the only one impacting a threatened species and that other fisheries contribute to the decline (Christian et al., 2013).

2.4.1.3 Geographical Origin

Geographical origin is one label category that has received broad attention among regulators and trade representatives. There are two types of geographical origin label which are country origin (COO) and geographical indications (GIs). As well, two types of GIs, protected designations of origin (PDOs) and protected geographical origin (PGIs) (Menapace, Colson, Grebitus, & Facendola, 2011).

COO is a signal of product quality, for example the aggregation of many intrinsic and extrinsic product attributes linked to origin. Quality can be different from other countries and is determined in the context of natural environmental and climatic conditions. Also, national quality standards, production and processing technologies, and quality audit systems has led to the reference of COO as ‘country brands’ (Menapace et al., 2011). Meanwhile, GI is different with COO which considerably affects their informational contents and potential value to both consumers and producers. GIs usually indicate a much smaller geographical area of origin like a town or region (e.g. Champagne, France, or Ardennes, Belgium) (Menapace et al., 2011).

Furthermore, GI is not only considered as a form of origin label but also a distinct form of Intellectual Property Rights recognised in 1994. There are two types of GIs under the European GI system which are protected designation of origin (PDO) and protected GI (PGI) (Menapace et al., 2011). The purpose of this system is to encourage diversity in agricultural production, protect product names from misuse and imitation and to help consumers by giving them information concerning the specific character of products (Fotopoulos & Krystallis, 2003).

According to Fotopoulos et al. (2003), a PDO label is not likely to provide food products that have similar values with the brand value of some other food products, for example McDonald’s. Yet, a product normally made by small producers can develop a competitive advantage similar to that of a brand name. PDO label is a protected product under regulation (EEC) 2081/92 with has an extrinsic product cue. In other words, the label is triggered automatically when consumers encounter a PDO label. Having the PDO label on food products helps consumers to determine the quality of regional products (Lans, Ittersum, Cicco, Loseby, & Tuscia, 2001).

Furthermore, the development of PDO for food products is an interesting area in terms of extent and implications for the agro sector. Hence, the PDO label is related to a social role that focuses on job creation and higher regional income potential and not necessarily to create functional and emotional product value (Espejel, Fandos, & Flavián, 2008; Fotopoulos & Krystallis, 2003). Strict regulations in the PDO/PGI scheme has given better result in enhancing product value that make a product more easily accepted by consumers. In fact, both of these types differ depending on how closely a product’s quality is linked to geography.

Additionally, the level of quality differentiation among GI labelled food has been added too while keeping the PDO status for greater quality-geography linkages (Menapace et al., 2011).

Previous research indicates that consumers in Canada who use extra virgin olive oil value PDOs more than PGIs, although the results were not as strong as that found for GIs versus non-GIs (Menapace et al., 2011). In other studies, consumers in Italy were divided into two groups by looking at those who appreciate the region of origin of the olive oil and those who do not. The findings showed consumers in the second group seemed to focus more on other product cues such as colour, appearance and colour (Lans et al., 2001).

2.4.2 Religious food certification

Religions can be an influential role for many societies in shaping food choice. The influence of religions in shaping food choice depends on the religion itself and how adherents follow the religion teachings (Bonne, Vermeir, & Verbeke, 2009; Ratten, Ramadani, Dana, & Gërguri-Rashiti, 2017). In general, there are evidences showing that religion can influence behaviour and attitude of consumers (Delener & Nejdet, 1994; Hasnah Hassan & Hamdan, 2013; Kanekar & Merchant, 2001; Mashitoh, Rafida, & Alina, 2013; Nasir & Chiew, 2010; Pettinger, Holdsworth, & Gerber, 2004; Rezai, Mohamed, Shamsudin, & Chiew, 2009) including food purchase intention (Aziz & Chok, 2013; Bonne et al., 2007; Lada, Tanakinjal, & Amin, 2009). Many religions forbid certain foods and have specific requirements related to food that need to be followed such as Islamic, Hindu, Buddhism and Jewish. These religions have always been the subject of food taboos and obligations (Bonne et al., 2009; Havinga, 2010).

According to Havinga (2010), consumers' food preferences and consumption are different based on their live and faith they adhere to. As for Muslim and Jewish population, religious dietary laws are important in order for them to comply with the teaching of their religions (Table 2.5). The dietary requirements for Muslim are based on the Koran and the Sunna (Bergeaud-Blackler, 2007), meanwhile for Jews they are based on the Torah (Campbell, Murcott, & MacKenzie, 2010).

Table 2.6: Muslim and Jewish Dietary laws

Halal Dietary Laws (Muslims)	Kosher Dietary Laws (Jewish)
Prohibited animals	Allowed animals
Prohibition of blood	Prohibition of blood
Method of slaughtering/blessing	Prohibition of mixing milk and meat
Prohibition of carrion	
Prohibition of intoxicants	

Sources: Regenstein et al. (2003)

‘Halal’ is the term used in Islamic dietary laws in order to describe foods permitted or “permissible” for Muslims. While ‘Haram’ is the term used to describe foods that are considered forbidden or unlawful for Muslims to consume such as pork, alcohol and meat of animals that are not slaughtered according to Islamic teachings (Bonne et al., 2009; Campbell et al., 2010; Havinga, 2010; Marzuki, Hall, & Ballantine, 2012b; Rajagopal, Ramanan, Visvanathan, & Satapathy, 2011; Regenstein, Chaudry, & Regenstein, 2003). According to Marzuki et al. (2010), wholesomeness, pure, and clean is known as “Halallan Toyyiban” which surrounds the food supply chain with respect to the Halal concept. If all the aspects do not meet to the Halal standard, it will fall under the categories of Haram and Syubha (doubtful or suspect, lies between the two extremes, Halal and Haram).

For Islam, Muslim consumers need to follow a dietary prescription that is Halal. Dietary laws that define foods that are “lawful” or permitted can be found in Quran and in the Sunna. They prohibit the consumption of alcohol, pork, blood, dead meat and animals that are not slaughtered according to Islamic rulings (Bonne et al., 2007; Manzouri, 2013; Marzuki et al., 2012b).

The population of Muslim in the world is around 1.57 billion (Manzouri, 2013) and expected to increase to 2.2 billion by 2030 (Halaseh & Sundarakani, 2012) with Halal products becoming major opportunities in the global business market. Halal producers attempt to introduce their products as a symbol of quality and excellence. As a result, they can potentially market their products not only to Muslims but to other markets as well. In addition, Halal is not only about slaughtering; cleanliness and health are also an important part in Halal foods. Therefore, the preparation of Halal food needs to follow standards and regulations which started from producing/processing until to the consumers (Manzouri, 2013).

All types of plants and plant products and their derivatives are Halal except those that are poisonous, intoxicating or hazardous to health. Similarly, all kinds of water and beverages are Halal as drinks except those that are poisonous, intoxicating or hazardous to health. All Halal

foods that are stored, transported, displayed, sold and/or served shall be categorized and labelled Halal and segregated at every stage in the supply chain (Manzouri, 2013). Thus, it is important for companies that have Halal certification to monitor their production and processing with Islamic compliance and meet the requirements of Muslim market (Tieman, 2011).

As for Jewish dietary laws, Kosher determines foods that are suitable for consumption by Jewish consumers (Havinga, 2010; Regenstein et al., 2003). There are several detailed prescriptions regarding Kosher such as production, preparation and consumption of food which, it is a complex and extensive system. The prescriptions are according to Jewish biblical and rabbinical sources. There are three main issues that Kosher law deals with: prohibited foods (example pork, shellfish and rabbit), prescriptions for religious slaughter and the prohibition on preparing and consuming dairy products and meat together (Havinga, 2010).

According to Regenstein et al. (2003), Halal and Kosher are important components of the food retail business. Most consumers and food industry are not aware of the range of foods that are under religious supervision. Food products cannot be visibly determined as to whether they are Halal or Kosher as these are related to credence attribute products. Consumers determine whether food products are Halal or Kosher by buying from someone of known reputation, for example a Muslim butcher, seeking answer from a religious leader or organization which food products are permitted or buying foods with a Halal and Kosher label (Havinga, 2010; Marzuki et al., 2012b).

Reliance on local supplier and religious leaders is insufficient given the growth in the manufactured foods industry and the geographical distance between production and consumption (internationalization of the food retail market). Consumers who currently seek halal and kosher food products are dependent on a certification or label that identifies a product as halal or kosher. Certification or label of food products are a source and a message of communication for consumers to trust (Havinga, 2010). As a result, there are a growing number of Halal and Kosher labelled or certified food products in supermarkets around the world (Havinga, 2010; Ratten et al., 2017; Wilson & Liu, 2010).

Halal and Kosher certifications are usually third-party certifications that give benefits to retailers and producers in terms of quality assurance to consumers and lead to worldwide acceptance of their products and services. Thus, Halal and Kosher certification is needed in

order to increase consumers' awareness and educating retailers in utilizing these tools (Havinga, 2010; Rajagopal et al., 2011). In addition, food certification such as Halal is becoming increasingly important in order to enhance competitiveness of retailers in the Islamic food market. Food products that have Halal certification can create opportunities for export markets as it is not only acceptable domestically but are marketable to Halal consumers worldwide (Hasnah Hassan & Hamdan, 2013). Meanwhile, by having kosher certification, retailers can also expand their market by opening up new markets.

Consumers can view Halal marks as a form of third-party endorsement by government and other key Islamic accreditation agencies. This certification provides a factual dimension assurance, quality warranty or guarantee of the endorsed products and an evaluative opinion of the approval of the safety of the food for consumption (Hasnah Hassan & Hamdan, 2013).

In relation to Halal certification, major issues exist regarding third-party responsibility and authority for quality assessment and auditing. Internationally institutionalized quality reassurance systems are lacking and very few private and independent certification organizations are active in most of European countries (Bonne & Verbeke, 2008). Bonne and Verbeke (2008) stressed that trust in Halal products is mainly based on personal confidence compared to institutional confidence. For example, the Belgian Muslim Executive (EMB) in Belgium is a representative institution for resident Muslims has been charged with the introduction and execution of Halal certification (Bonne & Verbeke, 2008). Yet, all Islamic requirements with Halal certification in Belgium remain unclear, from breeding to retailing, are inspected and included in the certification process. Similar findings by Campbell et al. (2010) also found that consumers in France relied on their personal confidence with shopkeepers when buying Halal meat. Wan-Hassan (2008) also found that there is no legal definition of what constitutes halal food in New Zealand.

Major retailers in France such as Carrefour or Albert Heijin are now including Halal products in their product range. Previous attempts in food retailing were not well accepted because of the perceptions of Muslim consumers (Bonne et al., 2009). The different definitions of halal products and the different quality certifications are fundamental problems (Bonne et al., 2009). As a result, many European countries considered these issues as important food policy issues (Bergeaud-Blackler, 2007). Thus, consumption of Halal products need better insights from marketers, certifying organizations and policymakers (Bonne et al., 2009).

2.5 Chapter Summary

Addressing the concerns of consumers over the foods that they purchase has become a growing priority for retailers. Food certification and standards are increasingly important in the food industry. The products that carry food certification certainly can assist consumers to making their purchasing decision based on the information from the products (Caswell, 1998). However, there are many types of food certification been applied to wide of food types including food that relates to religious restrictions and have been developed by third party certifiers.

To issue food certification, the product needs to be assessed, evaluated and certified for safety and quality by a third party certifier through a particular set of standards and compliance method (Deaton, 2004; Hatanaka et al., 2005). Clearly, the objective of third party certification is to assist the supply chain to be more organized and disciplined in order to differentiate products from other competitors, especially for the retailers.

Food certification is useful for the product that has credence attributes, such as organic, fair trade, Halal and Kosher and MSC products. These products are considered as credence attributes due to the asymmetric information of the product. In other words, the attributes of the product cannot be detected until the product is purchased or used. Thus, food certification determines the attributes of each product in order to justify the product's safety and quality as it gives confidence and trust to retailers and consumers.

CHAPTER THREE

FOOD RETAILING: ORGANIC AND FOOD CERTIFICATION

3 Introduction

The food products market has gradually developed from local to international sourcing over time (Busch & Bain, 2004; Feldmann & Hamm, 2014). This process has become even more marked in over the past 30 years as a result of globalisation processes. This development has enabled further food product differentiation that has also led to increases in information asymmetries in food retailing. Due to the increasing of information asymmetries, credible governance systems are needed to minimize these asymmetries, for example through quality assurance schemes.

Henson and Reardon (2005) emphasized the emergence of food standards as an important driving force of agri-food systems. Moreover, private standards act as a form of regulatory development that address consumer concerns as well as market positioning in agriculture food products. Mainville et al. (2005) highlighted that standards are also responsible for standardizing, differentiating and reducing risk. In fact, they act to regulate both intrinsic and extrinsic dimensions quality attributes (Chamhuri & Peter, 2015; Grunert, 2005). The British Retail Consortium (BRC), GlobalGAP and the International Food Standard (IFS) are examples of private standards that have been developed by food retailers that particularly focus on agricultural production and post-production requirements (Albersmeier, Schulze, & Spiller, 2009; Spencer Henson & Humphrey, 2010; Rossignoli & Moruzzo, 2014). These standards can be communicated to end consumers through certification and labelling, a strategy mainly used for diversification purposes (Mondelaers & Huylenbroeck, 2008).

In recent decades, interest in organic food products from consumers has grown substantially (Ellison, Duff, Wang, & White, 2016; Hempel & Hamm, 2016). The demand of organic food products has developed, at least in part, due to consumer response to globalised food chains and food scandals (Hempel & Hamm, 2016). In addition, organic food products are generally perceived to have a higher nutritional content (Lea & Worsley, 2005).

Organic products have become more recognised in food retailing (Essoussi & Zahaf, 2008), which have been considered an emerging market for organic products (Aertsens, Verbeke, et al., 2009; Shih-Tse Wang & Tsai, 2014). The involvement of food retailers in the marketing

of organic products is increasing as a result of growing consumer demand for, and awareness of, certified and uncertified organic products (Jonas & Roosen, 2005). Certified organic food products are usually labelled with an organic label to assist consumers when purchasing such products (Thogersen, 2010). Non-certified products that have been grown using organic principles may be labelled spray-free or similar.

This chapter highlights the emergence of retail power in the food industry. It begins by explaining the trends that drive the power of food retailers. In order to provide variety product assortments for consumers, the importance of organic and food retailing strategy are also reviewed. In addition, growth in organic products as well as the barriers to organic food products in retailing are also examined. Finally, the importance and the advantages of organic and food certification in food retailing are discussed.

3.1 Emergence of Retail Power in Food Industry

There is a fundamental ongoing change in global food governance accompanied by the increasing power of retail corporations (Clapp & Fuchs, 2009; Davey & Richards, 2013). According to Rossignoli and Moruzzo (2014), the development of private standards has become important in the global agri-food system as it has significant implications and effects on the environmental, social, governance and economic dimensions of sustainability. The power of food retailers has been the result of three trends (Clapp & Fuchs, 2009): growing oligopoly, changing consumer preferences, and competition on the basis of quality.

3.1.1 Oligopoly

The first trend identified is the development of an oligopoly in most food retail markets in developed countries, and increasingly in transition and developing countries as well (Busch & Bain, 2004; Clapp & Fuchs, 2009; Hatanaka et al., 2005). For most of the post Second World War period, the retail food sector did not display as much corporate concentration as compared to other parts of the supply chain. According to Busch and Bain (2004), the food industry was dominated by corporate food manufacturers that allowed them to set the terms of contract with the retailers, offering a range of branded products advertised directly to final consumers. In such a context, food manufacturers determined the content, shapes and sizes of food products. However, retailers were able to apply market power over upstream actors as they began to expand in scale during the 1990s.

Over time, market power in food industry has shifted from manufacturing to retailing. As a result, food retailers have become increasingly oriented to global markets. In other words, market demand is no longer focused on local or regional supply and, instead, food retailers are now able to take advantages of the availability of food products from around the globe (Rossignoli & Moruzzo, 2014). Even the largest food manufacturers have had to agree to retailers demands. Proctor and Gamble is an example of one of the largest food manufacturers that has to respond to retail pressure, as illustrated by the publication of a special supplement to their annual report dedicated to the relationship with Wal-Mart (Busch & Bain, 2004).

3.1.2 Consumer preferences

The second trend of power retail development is changes in consumer preferences caused by several lifestyle and demographic shifts that have provided benefits for food retailing. Due to prominent food scares, consumers have become more knowledgeable and aware of the importance of food safety and quality. In response to consumer concerns, private food standards started to exert more control over the safety of the food products that food retailers sell as well as signal quality food products attributes to consumers (Busch & Bain, 2004; Fagotto, 2014). Generally, consumers demands and expectations of food products have changed with respect to the food products safety and quality, including the process as well as the ingredients used in food production (Rossignoli & Moruzzo, 2014). As a result, consumers have shifted some of their purchase decisions from packaged products to fresh and fresh cut products, fresh meat and seafood and fresh prepared foods. These products are often not branded, and have a better mark-up compared to packaged products offered by the food processing industry (Busch & Bain, 2004; Reardon & Berdegué, 2002).

3.1.3 Quality

Lastly, food retailers are not only competing on price but increasingly also on quality (Clapp & Fuchs, 2009; Hatanaka et al., 2005; Rossignoli & Moruzzo, 2014). The emergence of new markets has been led by food scandals and increased health awareness (Feldmann & Hamm, 2014; Hemmerling, Hamm, & Spiller, 2015; Psomas & Kafetzopoulos, 2015; Pugliese et al., 2013). As a result, food segments such as ‘health’, ‘organic’ and ‘luxury’ have given the retail sector substantial revenue increases and could be the most high-earning in the near future even though they can be considered as niche markets (Clapp & Fuchs, 2009). Food

retail chains have quickly responded to the changing competitive environment, with some opting for provision of expensive, high quality foods and some others for cheaper, lower quality bulk foods (Clapp & Fuchs, 2009). In keeping up with such strategies, food retailers have also increasingly been involved in the development of private standards.

3.1.4 Private standards

The development of retail power is also reflected in the development of private standards related to food safety. The purpose of private standards for retailers is to ensure quality and safety of food products at the top of the food chain including extending their requirements to include social responsibility and environmental concerns (Clapp & Fuchs, 2009). In addition, food safety and quality standards are established to meet both consumer demand and improve product differentiation in contemporary food markets (Spencer Henson & Reardon, 2005). Food safety can be defined as food attributes that have potential effects on human health. Food safety attributes are often considered a subset of food quality attributes and indeed there may be an increasing blurred distinction between the two (Chamhuri & Peter, 2015; Spencer Henson, 2008; Peri, 2005).

Significantly, private standards do not only cover food safety attributes but can also incorporate non-food safety attributes (Falguera, Aliguier, & Falguera, 2012; Spencer Henson & Humphrey, 2010). Henson and Reardon (2005) stated that due to the ease of due diligence defence in the UK legal system, private standards have predominantly emerged as a response to regulatory requirements and/or to manage regulatory compliance costs; or conversely to ‘plug’ gaps in regulatory controls. Hence, a variety of sources can arise that threaten brand image. Thus, ‘risk control’ standards have extended to non-food safety attributes. For example, under GlobalGAP standards, shrimp standards are not referred as food safety but also environmental impact, mangrove preservation and impacts on local communities including land rights (Spencer Henson & Humphrey, 2010).

Private standards can be an alternative mechanism for retailers and food service chains and major food processors to reduce costs and risks in their supply chains. Process standards are a major source of cost reduction in the coordination of procurement chains and systems (Mainville, Zylbersztajn, Farina, & Reardon, 2005). Caswell et al. (1998) pointed out that private standards are combined with other elements of “quality management metasystems” to complement branding and system governance structures. Henson and Northen (1998) also noted that the process of making standards systems credible to consumers also helped to build

trust and reputation around the visible symbol of a brand name and label. In order to build consumer confidence, it is important that there is consistency in standards implementation and good vertical coordination is needed especially in the case of process standards (Fagotto, 2014; Spencer Henson & Reardon, 2005; Psomas & Kafetzopoulos, 2015).

Examples of supermarket chains that have developed their own safety schemes and quality assurance mechanisms include Tesco and Sainsbury in United Kingdom, Albert Heijn in the Netherlands and Carrefour in France (Bush et al., 2013; Havinga, 2006, 2013). Together, retailers develop standards with the purpose of strengthening their structural power and inducing supplier participation (Clapp & Fuchs, 2009; Fagotto, 2014). Development of the standards ensure a certain quality of retail food products by committing suppliers to a specified set of standards (Fagotto, 2014; Fuchs, Kalfagianni, & Havinga, 2009). Examples of standards that have been cooperatively developed by retailers are the British Retail Consortium (BRC), the Global Food Safety Initiative (GSFI), GlobalGAP, the International Food Standard (IFS) and the Ethical Trading Initiative (ETI) (Table 3.1). Under these standards, any food company or producer that participates in the agrifood system and comply with these standards is certified by an independent auditor (Clapp & Fuchs, 2009).

Table 3.1: Examples of Private Retail Food Standards

Name	The British Retail Consortium (BRC)	The International Food Standard (IFS)	Safe Quality Food (SQF)	The Global Food Initiative (GFSI)	The Global Partnership for Good Agricultural practice (GlobalGap)	The Marine Stewardship Council (MSC)	The Ethical Trading Initiative (ETI)
Year Founded	1998	2002	1994	2000	1997	1997	1998
Members	UK and Scandinavian retailers	Germany, France, Italy, Austria, Poland, Spain and Switzerland	Three quarters of all retail food stores in US and 200 companies from over 50 countries	A group of international retailers	A group of European Retailers	Unilever and the World Wildlife Fund (WWF)	UK supermarkets
Purpose	To evaluate the manufacturing of retailers' own brand products. It delineates more than 250 requirements including comprehensive norms for food safety and quality schemes, products and process management as well as personal hygiene of personnel.	To ensure the safety of own-brand products. It covers common internationally accepted audit standards with the aim to improve safety for the consumers.	SQF is designed as a food safety program and incorporates product quality.	The initiative sets baseline requirements for food safety standards and aims to improve efficiency costs throughout the food chain. Its central aim is to strengthen consumer confidence in food bought in retail outlets.	Initially only applied to fruits and vegetables, it now covers meat products and fish from aquaculture as well.	To address world-wide decline in fish stocks by awarding sustainably managed fisheries with a certification and a label that could be affixed to retail products	To develop a baseline code of conduct covering employment conditions among companies, unions and NGOs and examine how monitoring and verification systems can be established on the basis of ILO core conventions and UN human rights' standards.

3.2 Organic and Food Retailing Strategy

In recent years, global food retail industry has experienced strong growth and is expected to expand further to the end of the forecast period. In 2014, the global food retail market recorded total revenue of \$ 5,848.6 billion, representing a compound annual growth rate (CAGR) of 5.6 per cent between 2010 and 2014 (MarketLine, 2015).

As power shifts to retailers from manufacturers, retailers have become more involved in deciding the assortment of food products (Lang & Hunt, 2014). Product assortment can be defined as the number of different items in a product category (Broniarczyk, Hoyer, & Mcalister, 1998) and in retailing strategy, it is considered as one of the most important elements in sales (Briesch, Chintagunta, & Fox, 2009; Lang & Hunt, 2014; Sloot & Verhoef, 2008). Product assortment is also significant in the context of the present study as it will frame the decisions of retailers not only with respect to the purchase of organic foods but also the assortment of choices provided within different product categories.

Food retailers that have a wide assortment of product categories tend to attract consumers as it gives them a greater product choices. Large product assortments provide consumers with the flexibility to find and buy what they need, especially because consumers have tendency towards variety seeking that can be satisfied by a large product assortment (Hoch, Bradlow, & Wansink, 1999; Lang & Hunt, 2014). Thus, better product assortment provides consumers with the opportunities for them to select a different items or combinations between different items based on their preferences (Lang & Hunt, 2014; Simonson, 1999; Sloot & Verhoef, 2008). Broniarczyk (2006) also noted that large product assortments can have impacts on consumers and maximize the search for single or multiple product items even given uncertain preferences.

In food retailing, positioning can be referred to as the creation of an image of the retailer in consumer's mind compared to its competitor via the design and implementation of a retail mix (Devlin, Birtwistle, & Macedo, 2003). There are several variables that affect the positioning strategy in food retailing such as the store (location, interior); the assortment (size, wide range of products, style, brand, and packaging); pricing (pricing policy, price levels, price range); and services (business hours, parking, and personnel, after sales service). Nevertheless, the weighting of these attributes will vary in different contexts and situations (Amine & Cadenat, 2003; Devlin et al., 2003). For example, consumer time budgets have an important effect on shopping behaviour. Van Kenhove, De Wulf, and Van Waterschoot

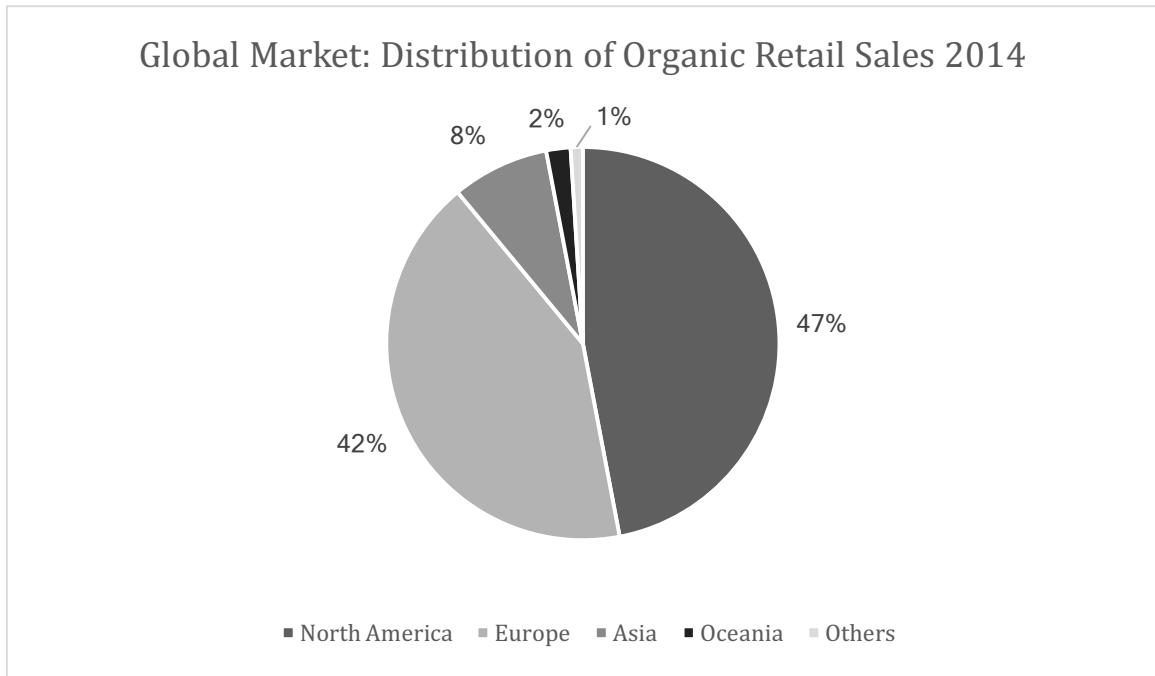
(1999) found that consumers tend to look for the nearest store, quick service, the availability of the product instead price, assortment range and quality of the product when consumers require an urgent purchase.

According to Amine and Cadenat (2003), the available surface area in a store determines the assortment size. Therefore, retailers need to make several decisions regarding whether to provide a broad offering, the different types of customer needs they seek to fulfil and the different assortments of choices within each type of needs. This situation provides retailers the framework within which to make decisions because the smaller the outlet area, the more the retailer needs to be selective with the choices provided to consumers. This is also significant as many studies indicated that product assortment ranks first or second in influence on consumer outcomes with respect to store choice, store loyalty and satisfaction (Briesch et al., 2009; Lang & Hunt, 2014; Sloot & Verhoef, 2008). Moreover, in comparing retail prices in store choices, assortments are considered more important than retail prices and also have greater impacts on consumers (Briesch et al., 2009; Lang & Hunt, 2014).

3.2.1 Organic Retailing

In 2014, global sales of organic food and drink has increased to 80 billion US dollars (Willer & Lernoud, 2015). The value indicates organic product sales have shown a good increased rate over the last decade. According to Willer and Lernoud (2016), some countries' markets growth were slow due to the financial crisis in 2008. Although some countries' markets were affected by financial crisis, the international market still indicates growth. Figure 3.1 shows the region with the highest distribution of organic retail sales which is North America (47%), while Africa and South America (others) have the lowest percentages (1%) in 2014.

Figure 3.1: Global Market: Distribution of Organic Retail Sales



Source: Adapted from Willer and Lernoud, 2016 p. 65.

Many food retailers have adopted organic food products and marketing as a result of consumer concerns on food safety and to meet consumer needs for what they perceive to be safe food (Hemmerling et al., 2015; Jones & Clarke-Hill, 2001). In addition, marketing strategies also focus on wider themes such as quality, taste, the environment and animal welfare (Jones & Clarke-Hill, 2001). In the context of positioning, Aertsen et al. (2009) suggested retailers need to develop food products based on consumer preferences in the targeted market segment but their product mix should be different when they have different target consumers segments. However, retailers are also required to ensure that the promotion of organic food products does not negatively affect their image stores and sales (Jones & Clarke-Hill, 2001).

As food retailing becomes more oligopolistic, retailers are trying to compete with other competitors not just with respect to price but also in relation to other qualities such as variety, convenience, quality, consistency and food safety (Busch & Bain, 2004; Hampl & Loock, 2013; Hatanaka et al., 2005). In order for retailers to compete effectively on quality, new institutions such as direct contracts with suppliers, centralized procurement centres, branding and private standards and certification systems may need to be established to facilitate the process (Busch & Bain, 2004; Hatanaka et al., 2005). According to Essoussi and Zahaf (2008), consumer confidence and level of trust is also related to certification, distribution and

labelling. Their research findings showed that consumers in Canada perceived organic certification standards as important, although some of them did not know the certification process they were keen to know more about it.

Consumers use different indicators when making purchasing decisions that reflect their expectations on food products (Sans, Fontguyon, & Briz, 2005). Grunert, Bredahl and Brunsø (2004) emphasized that the intrinsic characteristics are parallel to the physical characteristics of the food products, while so-called extrinsic characteristics are more related to brand, price and the retail store environment. Based on the intrinsic and extrinsic characteristics, the difference between expected and perceived quality will determine the level of consumers' satisfaction including their willingness to repeat purchase food products (Sans et al., 2005). Bredahl (2004) suggested that private brands can exploit food product roles in order to reduce uncertainties among consumers towards food products and encourage them to pay extra for a guarantee of the perceived quality. Moreover, in relation to product information concerns in the food market, quality assurance schemes are also applied to food product attributes, for example via third party certification. As discussed in the previous chapter, third party certification aims to ensure that food production and processing comply with food standards as well as to the final product and certification is displayed on the brand's logo on the label. Thus, third party certification also strengthens the relationship between retailers and producers when adjusting the supply to consumer demand (Sans et al., 2005).

Previous studies showed that consumers are concerned with quality indicators of organic food, such as trust in the certification label, trust in the product's country origin, and also trust in the type of channels of distribution (Anisimova, 2016; Pandey & Khare, 2015; Zanoli, Naspetti, Janssen, & Hamm, 2015). This highlights the importance of uncovering the trust factors consumers rely on when buying organic food that can, for example, vary with the distribution channel used. Indeed, different distributors also have different perceptions of the industry, the distribution systems, and the distribution structure. For example, in Canada, distributors noted mentioned an increasing diversification of products and distribution channels (Hamzaoui-Essoussi et al., 2013). This is also an issue which will be examined further in the present study via interviews with distributors and other actors in the organic food retail system and their perception of the market for organic products.

3.2.2 Organic Food Products Barriers in Food Retailing

Premium price, limited availability, satisfaction with conventional food products, and lack of trust factors have been associated with consumer barriers to purchasing organic food products (Aertsens, Verbeke, et al., 2009; Fotopoulos, Krystallis, & Ness, 2003; Hemmerling et al., 2015; Hughner et al., 2007). The marketplace of organic food retail is a particularly varied one and many different retailers are looking to meet growing consumers' demands. However, although retailers have their own marketing and management challenges, there are a number general issues that can be identified, for example, the issue of price is frequently noted in the literature (Hemmerling et al., 2015; Jones & Clarke-Hill, 2001). The price of organic food products is an important issue because generally it higher or more expensive in comparison to equivalent non-organic food products.

Jones and Clarke-Hill (2001) argued that organic food is a premium product due to the fact that the cost of producing, handling, distribution and marketing is more expensive and it does not enjoy the economies of scale in comparison with conventional high volume food lines. From the perspective of retail pricing, organic food products are still considered as a niche market and while there is increasing consumer demand for organic food products, the price of organic food products may need to be broadly kept in line with those of non-organic food products for some potential consumer markets. Bezawada and Pauwels (2013) found that lower prices of organic food products have increased organic sales, even for consumers that have high intrinsic value for purchasing organic foods. Therefore, food retailers may need to consider the review the pricing policies in an ongoing fashion while present organic market settings are maintained (Jones & Clarke-Hill, 2001). This is especially as higher demand for and increased availability of organic products can help gain economic scale and/or market share that gives benefits to organic producers (Ellison et al., 2016). Organic products may be considered as premium products and luxury food products for some consumers (Kniazeva & Venkatesh, 2008; Van der Veen, 2003). However, interestingly Ellison et al. (2016) argued that the increased availability of organic products could be even adverse to the broader brand of "organic" as a label given to its previous positioning.

With demand for organic increasing, its availability via retailers is important to consumers when they want to purchase organic products and lack of the availability may lead to consumer resentment. According to Paul and Rana (2012), the availability of organic foods in locations such as malls makes it easier for consumers to undertake comparisons of organic

food between supermarkets and neighbourhood stores which are normally utilised for the purchase of non-organic food. Indeed, they go on to suggest that the perceived lack of availability in some retail outlets was the major reason for not purchasing organic foods.

At the same time, the limited number of types of organic food can also be considered a reason as to why consumers are not purchasing organic food. In the US, organic food is mostly available in US supermarkets but in 2008, there were 2,200 different organic food products being sold by retailers compared to 18,000 non-organic food products. Thus, potentially there are not many types of organic food being sold in the average supermarkets which may lead to a limitation on consumer purchase (Dimitri & Dettmann, 2012).

Although supermarkets are currently providing only a limited range of organic products, Hamzaoui-Essoussi et al. (2013) suggested that supermarkets and food store chains could diversify in terms of offering organic food, especially organic products from the country in which such stores are based, in this case, Canada, for instance. The main driver of the market growth for supermarkets and retail chain managers is the diversification of the organic food offers at more competitive price while specialty stores differentiate themselves with the quality and the origin of their products. Previous findings by Essoussi and Zahaf (2009) who interviewed consumers with respect to their decision making on organic food suggested that regular organic food product consumers prefer not to purchase it at supermarkets because the stores do not assign staff to provide for information on organic foods for their customers. In addition, they reported that consumers did not like the packaging of organic products in plastic bags which is regarded as not environmental-friendly and not in keeping with the ethics of organic foods. This is different from specialty stores whereby the consumers have positive perceived towards the stores in terms of staff knowledge on the organic products. In fact, Sirieix and Schaer (2005) found that regular organic food products consumers preferred more quality, competence, sharing of similar values than for attractive prices.

Some conventional food retailers are using conventional marketing strategies for organic products in order to increase their organic sales. Although there is some argument from supermarkets and retail managers in France regarding the market of organic food as being less speculative than what North American research has suggested. According to Hamzaoui-Essoussi et al. (2013), the organic food industry in France is far more mature than in North America. For example, the distribution structure is far more complex and there are more channels than in Canada. At the same time, consumption of local food is driving organic food

demand because of the greater quality of alternatives being offered in supermarkets and retail chains. Indeed, stores such as specialized organic food stores are more adapted to specific customer demands by offering variety of organic products with different packaging (Hamzaoui-Essoussi et al., 2013).

Hamzaoui-Essoussi et al. (2013) argued that the availability and variety of organic products are important attracting consumers and encouraging them to purchase the products. The level of consumer trust with respect to distribution is also essential given the growing amount of organic products, certification labels, and stores offering organic products which, among other factors, does not seem to have increased consumers' trust in organic food. Instead, consumers seem to have developed an increasing level of mistrust in organic food (Hemmerling et al., 2015; Sackett, Shupp, & Tonsor, 2016; Schleenbecker & Hamm, 2013). In this potential environment of distrust, addressing the mistrust issue from the demand side by ensuring product quality/knowledge, labelling or setting proper pricing and communication strategies is not enough and, instead, trust needs to be constructed in organic food supply. This involves tools such as excellence certification or labelling that have to be reputable and used as a communication approach that can add value to organic food products. The scopes of trust essential to attain market development have to be combined with the organic food products setting and the distribution strategies. Hence, trust dimensions should also be examined from the supply side. For example, trust alignments should be considered in the framework of market actors such as distribution channels or certifying bodies (Hamzaoui-Essoussi et al., 2013).

3.3 Organic and Food Certification in Food Retailing

Recently, food chains have shifted from public to private standards including a move from first-party to third-party certification (Sodano et al., 2008). Developments in third-party certification have encouraged big retailer chains to create initiatives by requiring suppliers to meet a specified set of food standards. This is important in building trust in the certification system and to ensure retail agri-food products are meeting certain quality attributes set by retailers (Fuchs et al., 2009; Munteanu, 2015). Moreover, food certification systems give crucial information to retailers, consumers and food activists, allowing them to differentiate agri-food products by the attributes that concern them, such as animal welfare, environment sustainability, and worker welfare (Hatanaka et al., 2005; Munteanu, 2015). However, there is also a potential for informational overload as a result of too many certifications. In such a

situation some forms of certification may come to be trusted by consumers much more than others.

Procedures of food certification are different depending on the purpose of the certification, i.e. whether it can be used for marketing to consumers or to meet demands of institutional buyers, or a combination of both. For example, the GLOBALGAP standard purpose is to covering agricultural producers and the British Retail Consortium (BRC), which is focused on the creation of private labels (Albersmeier, Schulze, & Spiller, 2009; Jahn et al., 2005). In contrast, International Federation of Organic Agriculture Movement (IFOAM) is utilised for regulation organic production of farmers and manufacturers (Siderer, Maquet, & Anklam, 2005).

Although most of food certification is for retailers to control suppliers (Albersmeier, Schulze, Jahn, et al., 2009), there has been a move towards certification labels directed at the consumers. In Europe, the Dutch Integrated Chain Control or the German Quality and Safety system has become the most important body for the whole value chain in the meat industry (Baines & Soon, 2013; Jahn et al., 2005; Trienekens & Wognum, 2013). Furthermore, membership of organic producers associations such as the British Soil Association can be significant in some markets and industry systems. For fishing the main certification internationally has been that of the Marine Stewardship Council (MSC) label (Albersmeier, Schulze, & Spiller, 2009; Jahn et al., 2005), which has had considerable acceptance in many domestic markets as well.

As noted in the previous chapter, food products such as organic, Fair Trade and halal are considered as credence products. These credence products have led to increasing information asymmetries and uncertainty regarding food product quality and safety in global food retailing (Anders et al., 2010; Caswell, 1998; Darby & Karni, 1973; Jahn et al., 2005; Muller & Gaus, 2015). Similarly, in the production of organic food products, the existence of pesticide residuals cannot be simply observed or judged by retailers or consumers even after physical inspection (Munteanu, 2015). Lack of consumer and retailer knowledge with respect to the process-oriented attributes of foods, might lead to mislabelling of food products. Therefore, a certification system such as the third party certification (TPC) can help ensure on-site inspection throughout the production process (Giannakas, 2001; Ponte & Cheyns, 2013; Spadoni, Lombardi, Canavari, & Hingley, 2014).

3.3.1 Third Party Certification (TPC)

TPC is a regulatory mechanism that provides retailers with the flexibility to differentiate agri-food products by the attributes that concern them, and ensures the consistent implementation of standards regardless of the product's origin, while at the same time minimizing transaction costs and financial ability (Chkanikova & Kogg, 2015; Hatanaka et al., 2005). In the food and agriculture sector, various actors are increasingly using TPC to guarantee the safety and qualities of products. For example, large retailers have begun to require that suppliers have TPC (Falguera et al., 2012; Spencer Henson & Northern, 1998; Spadoni et al., 2014). One of the most prominent examples is the Global Partnership for Good Agricultural Practice (GLOBALGAP), formerly known as the Euro-Retailer Produce Working Group Good Agricultural Practice. A consortium of leading European supermarket chains, including Royal Ahold, Safeway, Tesco, Marks & Spencer and Sainsbury originally established GLOBALGAP. With the maintenance of consumer confidence in food safety and quality as their primary goal, these supermarket chains collaborate in order to establish their own private standards to which suppliers must have TPC. In response to the demand by these supermarket chains, to date more than 132 000 producers in more than 110 countries have gained GLOBALGAP certification (Callebaut, 2014).

Almeida, Pessali and de Paula (2010) pointed out that although TPC has been introduced as an ongoing institutional set which is subject to operating forces, the main role of TPC is to give information on food products to the final consumers. Hatanaka et al. (2005) argued that agents in the food market such as retailers have a particular interest in terms of influencing the certification process based on their own expectations and convenience. In the implementation of TPC, it is possible for retailers to try to influence consumers' behaviour as organic food products, certification and labelling play an important role in stimulating consumers appeal for purchasing organic food products (Bezawada & Pauwels, 2013). Hence, the strategies of TPC that are related to food quality control and the content of food products has become interrelated with consumers' expectations about food safety.

Furthermore, organic food retailing needs to have a crucial element such as credible quality signalling because it helps establish consumer trust and coordination of retail in food chains. Without such elements, information asymmetries can be created and may lead to an opportunistic behaviour that hinders coordination and increases transaction costs along the supply chain (Anders et al., 2010; Janssen & Hamm, 2012a). However, Caswell, (1998)

argued that in order for food retailing to use quality signalling, a reputable certification agent is needed because it is not easy for consumers to verify the truthfulness of claims. Hence, in the case of organic food certification it is important to build trust in certification systems and inspection bodies as they are trying to ensure the organic food products quality and prevent fraud (Munteanu, 2015). In fact, reliable product information is also an important issue for retailers especially when involving quality differentiation strategies that rely on credence attributes such as food safety, organic farming or Fair Trade (Anders et al., 2010).

Almeida et al. (2010) suggested one additional factor in the food market chain brought about by TPC is that may bring about more vertical competitions in the industry and increases dispersal of the control and management of related activities. Both consumers and entrepreneurs can be influenced if TPC becomes established in the institutional set. Meaning that, TPC has the potential to destabilize the current power structure and its consequent market advantages. However, given that the global food retail market is an oligopoly and that its dynamics and evolution reflect the strategies of powerful firms to control the institutional set the likelihood of this occurring do not seem great given the present wide range of third party certifiers.

According to Almeida et al. (2010), in order to promote a collective perspective about the quality of retailers' products, they need to portray some information about their productive processes. By doing so, the image building of consumers can be influenced by retailers and it can help show commitments to standards of quality and safety for organic and food products. The purpose of this attempt is to use standards to establish their power in the food chain and institutional set. In fact, to show that such products not only have intrinsic attributes but also features related to the production process makes them attractive to consumers. In promoting the new production standard, retailers therefore directly or indirectly influencing consumers' images. If the model finds legitimacy among consumers, firms that act accordingly may gain competitive advantages (Almeida et al. 2010).

3.3.2 The Advantages of Organic and Food Certification

Food certification or TPC is a regulatory mechanism that provides retailers with several important criteria such as the flexibility to differentiate agri-food products attributes, to ensure standards implemented are consistent regardless of the product's origin and at the same time, minimizing transaction costs and financial liability (Chkanikova & Kogg, 2015; Hatanaka et al., 2005). As a result, many retailer chains are implementing third-party food certification.

For example, as noted above, GLOBALGAP consists of leading retailer chains including Ahold, Marks & Spencer, Tesco, Safeway and Sainsbury. Suppliers who want to sell fresh products to the European supermarket groups involved in GLOBALGAP must be a third-party certified against the standards established by GLOBALGAP (Hatanaka et al., 2005). There are over 132 000 producers in more than 110 countries that have become GLOBALGAP-certified in order to meet the demand by these supermarket chains (Callebaut, 2014).

Large supermarket chains are capable of applying market power over both upstream and downstream actors within the commodity chain and have required that suppliers implement TPC at the same time as food retailing has become more concentrated. Safeway is one of the large supermarket chains that acquires their suppliers to be certified via one of their approved certifiers in order to do business with them (Hatanaka et al., 2005). Still, not all suppliers especially the European countries are required to get certified by GLOBALGAP, for example Germany, although market pressures may still make this desirable.

Third-party certification in the organic market gives several major advantages to retailers compared to first or second-party certification (Hatanaka et al., 2005). First, according to Bain and Busch (2004), since the monitoring of standards is largely transferred to third-party certifiers, retailers' responsibility for policing the safety and quality of the products has been minimized. Second, retailers' liability is transferred to third-party certifiers (Chkanikova & Lehner, 2014; Hatanaka et al., 2005). For example, by adopting TPC, retailers can claim that they had taken all reasonable precautions and exercised "due diligence" if any product failure happens. Third, when retailers deploy TPC, the costs of monitoring food safety and quality are shifted to suppliers. In other words, retailer chains can allocate financial resources to other areas such as investments in R&D where previously retailers had to allocate financial resources for audit costs (Spencer Henson & Northern, 1998). Fourth, the use of standards via organic labelling and certification as a marketing tool can assist retailers in communicating with consumers in order to convince consumers regarding quality, safety and product differentiation (Farina & Reardon, 2000). Lastly, TPC offers advantages to retailers in assuring higher levels of safety and quality of organic food products while reducing transaction costs (Chkanikova & Kogg, 2015; Spencer Henson & Northern, 1998). In fact, TPC can increase efficiency in supply chain by minimizing the risk of product failure thus reducing waste, while resulting in lower costs for retailers (Chkanikova & Lehner, 2015; Tanner, 2000).

Moreover, as food retailing becomes oligopolistic, retailers can redesignate specific TPCs to be used by suppliers (Almeida et al., 2010). The main reason retailers designate a specific TPC to be used by suppliers is because they prefer to use reputable certifiers in order to protect the retailers from the consequences of poor certification practices. Hence, food retailing becomes an extremely important institutional element in the establishment of TPC. However, this is potentially an opportunity for retailers to use TPC for organic food certification given that they have an impact on consumers regarding safety and quality of food products (Almeida et al., 2010). Arguably, consumers become more aware of the ethical and health dimensions of organic foods as organic food certification, quality labels and seals of approval become a global trend in retail foods. In addition, there are also consumers who look for certification products based on their religion, such as Halal and Kosher, that are produced with certain religious standards and which may also have relevance for organic certification as well (Hasnah Hassan & Hamdan, 2013).

3.4 Chapter Summary

This chapter indicates the development power of food retailers has increased in recent years. The capacity of retailer chains to control the network and resources gives them the advantages to adopt, implement and enforce regulation set up privately (Rossignoli & Moruzzo, 2014). The purpose of private standards is to ensure that food products meet the requirements of retailers. There is also the suggestion that the transactions costs and risks associated with the food products in different markets to be reduced through the private standards (Rossignoli & Moruzzo, 2014). Therefore, the development of private standards has become an important mechanism in the regulation of agricultural food products.

The organic food market has grown dramatically in recent years. Generally, organic food products are sold in small or independent retailers but as consumers are becoming more concerned on food safety and quality, the demand for organic food products has increased, and there is an opportunity in the organic market for greater involvement from conventional retailers and capture of market share (Jones & Clarke-Hill, 2001). The barriers to consumer purchase of and intention towards organic food products is related to the price, availability and lack of trust factors.

Organic and food certification is very important in food retailing in order to prevent or reduce information asymmetries. Due to the fact that organic food products are considered a credence product, certification is an effective means to determine whether or not organic food products

were produced organically. Moreover, organic and food certification does not only help to convince the consumers that the products are safe but it is an important element in enabling retailers to gain trust from consumers and control suppliers in order to provide organic and food products that meet requirements. The next chapter discusses Malaysian organic and food industry.

CHAPTER FOUR

MALAYSIAN RETAIL INDUSTRY AND ORGANIC CERTIFICATION

4 Introduction

Modern food retailing structures are growing rapidly in developing countries (Schipmann & Qaim, 2011). According to Prasad and Aryasri (2011), traditional small scale food retailing is diversifying into modern food retail formats that are focused on the needs and tastes of increasingly discerning consumers. In addition, changes in consumers' psychographic variables have contributed positively to the growth of food retail formats such as convenience stores, discount stores, supermarkets and hypermarkets (Prasad & Aryasri, 2011). Nilsson, Gärling, Marell, and Nordvall (2015) argued that the emergence of a variety of modern food retail formats gives more opportunities and options for consumers to choose their preferable food retail outlets as well as increasing competition in food retailing.

The development of the modern food retail formats has emerged across the globe replacing traditional food retail formats as urban areas have expanded. The expansion of modern food retailing, for example hypermarkets and supermarkets, has become a significant trend as these formats provide a greater variety of product assortments ranging from fresh to processed and packaged food products (Terano et al., 2014). Retailers that provide large product assortments can cater to the heterogeneous tastes of consumer patrons (Olsen & Skallerud, 2011), with this being considered the main reason why consumers patronize their favourite stores (Amine & Cadenat, 2003; Lang & Hunt, 2014).

The retail landscape in Malaysia is no different with other developing countries in South-East Asia and food retail sector is also characterized by the growth of modern retail formats (Roslin & Melewar, 2008; Terano et al., 2014). Malaysian consumers, especially in urban areas, are highly accepting the modern retailing formats as these have now become the main channel to purchase household products in urban centres. Modern retail formats such as supermarkets and hypermarkets are also becoming increasingly sophisticated in providing better services and products in the form of, for example, in-store bakeries, food service areas, providing a range of ready-to-eat meals, and the introduction of organic food (Terano et al., 2014). Roslin and Melewar (2008) explained that one of the reasons Malaysian consumers are attracted with modern food retail format is because of the variety of food products and the convenience in making choices from the selection of food products that are available.

In recent years, big organic retail chains have provided a variety of organic food products to attract consumers with successful marketing strategies, affordable products and good ambience (Mutlu, 2007). According to Capps and Park (2003), the important component of the food marketing channel is food retailing and consumers usually prefer to use organic foods retail channels when purchasing organic food products. Indeed, specialist organic food retailers are considered to be an important driving force of organic food products sales growth as they are trying to encourage consumers to purchase organic food products by focusing on appropriate retail management strategies (Shih-Tse Wang & Tsai, 2014; Yin, Wu, Du, & Chen, 2010).

This chapter begins by examining the development of food retailing in South-East Asia and Malaysia. As the present study focuses on Malaysia, the different types of food retail formats in Malaysia will be discussed along with organic retailing in South-East Asia and Malaysia. In addition, organic certification will also be highlighted in this chapter with respect to Malaysian food retailing. The final part of this chapter indicates the conceptual framework and overview of literature of the present study based on existing literature from previous chapters.

4.1 Retail in the South-East Asia and Malaysia

According to Data Monitor (2012), the supermarket, hypermarket and discounter segment is the leading revenue source for the global retail food industry with total revenue of \$ 2,475.3 billion, equivalent to 46.4 per cent of the market overall value. Meanwhile, convenience stores and gas stations generated revenues of \$ 1 671.5 billion in 2011 which represented 31.3 per cent of the market value share.

European markets have become increasingly unattractive to global retailers as structural development within West European markets has inhibited expansion which has led European retailers to focus increasingly on Asian markets as the region experiences substantial levels of economic growth and the accompanying development of a consumerist middle class. As a result, in the 1990s, the apparent opportunities available in Asia could be set against the narrowing opportunities in Europe (Alexander & Myers, 1999). There are several factors that have driven the supermarket revolution in Asia: on the supply side by the growth of foreign direct investment (FDI); while on the demand side by income growth and urbanization, diversification of format to meet consumer segment needs, competitive domestic investments, and changes in procurement system to drive down costs (Reardon, 2015; Reardon, Timmer, &

Minten, 2012). Nevertheless, changes in retailing are not uniform across Asia especially with respect to so-called ‘third wave’ countries (Table 4.1). Third wave countries’ trends are more intense and rapid and are usually characterized by having greater levels of active state involvement in economic development (Reardon et al., 2012).

Table 4.1: Wave of Retail Revolution in South-East Asia

Wave	Country
First wave	<ul style="list-style-type: none"> • South Korea • Taiwan
Second wave	<ul style="list-style-type: none"> • Malaysia • Indonesia • Thailand • Philippines
Third wave	<ul style="list-style-type: none"> • China • India • Vietnam

Sources: Modified from Reardon et al. (2012)

Reardon et al. (2012) stated that supermarkets in third wave countries have accelerated from the initial urban base to rural markets and from the initial offering of mainly processed foods and staples into fresh products. In order to penetrate rural areas, modern retails need to adapt the format of Asian supermarkets and combine their services with fresh farm products. Hence, Asian supermarkets have already started to penetrate fresh produce markets (Reardon et al., 2012). Three fundamental structural transitions are likely to occur as the retail structure develops. First, the retail market becomes more concentrated, for example increasing the size of store in relation to the total number of stores. Second, the powers within channel of distribution also increase as the size of retail organisations increases. Lastly, changes in the nature of retail store ownership from small enterprises to large corporate structures (Alexander & Myers, 1999; Eckman, Sakarya, Hyllegard, Borja, & Descals, 2015; Nanarpuzha & Noronha, 2016).

Product attributes such as certification, labels, quality, price and brands are diverse in the contemporary retail environment (Burt, 2000; Hassan et al., 2013). However, these product attributes are becoming more diverse and fragmented with an overload of information and alternatives for consumers (Hassan et al., 2013; Liao, Chen, & Wu, 2008). In Malaysia, food retail sector has developed dramatically over the last few decades with new retail concepts

emerging and competing with traditional retail formats. Previously, the retail scenes were dominated by the traditional markets, grocery stores or mini-markets (Chamhuri & Batt, 2013; Hassan et al., 2013; Mohd Roslin & Melewar, 2008). However, as the food retail sector moves forward, Malaysian consumers are increasingly interested in some essential product elements, for example, merchandise assortment and consumer convenience (Mohd Roslin & Melewar, 2008). In fact, the food retail sector is the most consumer centric sector that covers a wide spectrum of different businesses (Macdonald, 1994).

Malaysian consumer behavior has changed together with the development of the food retail industry. Several factors have affected Malaysian consumers' lifestyle that affect the way they purchase food (Chamhuri & Batt, 2013):

- *Increase in personal disposable income.* According to Shamsudin and Selamat (2005), the ownership of electrical equipment such as microwave ovens and refrigerators has increased and that changed the purchasing habits of consumers. As compared to the past, consumers preferred to buy perishable goods from traditional markets. Hence, having a refrigerator allows consumers to shop less often because the capacity of the refrigerator allows them to store perishable products for a longer time;
- *Need for convenience.* There are many working women involved in the workforce causing time constraint thus the demand for convenience is high. Given the highly gendered nature of food shopping in Malaysia for working women convenience means more than just a one stop store for working women. In addition, convenient facilities such car park, proximity to other shops, extended trading hours and the width and depth of the product range should be provided by the supermarket and hypermarkets;
- *High awareness of food safety and food quality issues.* Caswell (1998) noted that the safety of food products and the characteristics of food processes and supply chain are becoming increasingly important in the operation of food systems; (see also Gössling & Hall, 2013). As for consumers, they increasingly consider these attributes when making purchasing decisions;
- *Changes in diet.* Consumers in Malaysia are now starting to eat healthier food. Shaharudin, Pani, Mansor and Elias (2010) argued that there is increasing purchase of organic meat by Malaysian consumers as they become more concerned with the use of antibiotics and vaccines in poultry and cattle production. Nevertheless, there is only

limited availability of organic products for Malaysian consumers. According to Shamsudin and Selamat (2005), organic food can be found mainly in modern retail outlets and is rarely found in traditional markets. In fact, Dardak et al. (2009) found that Malaysian consumers coming from outside of the central region did not recognize the Skim Organik Malaysia (SOM) as a brand.

Roslin and Melewar (2008) agreed that consumers should not be ignored in developing measures to regulate distribution channels. Retailers have to reconsider operational strategies in order to respond to changing consumer behavior patterns. Nevertheless, changing consumptions patterns and consumer spending preferences have lead to wide acceptance of new large scale retail formats. Indeed, for retailers to increase consumers' consumption, both consumers and the requirements of channel members must be balanced.

The Malaysian government has described the food retail sector as a prominent area under the economic transformation programme and this emphasis should prove supportive of industry growth. By 2020, the government is expected to increase the wholesale and retail sectors' contributions to gross national income from MYR57.2bn (USD18.5bn) per annum in 2009 to MYR165bn (USD53.4bn) by 2020 (Business Monitor, 2014). In order to increase the wholesale and retail contributions, some initiatives have been planned including increasing the number of large format retail stores such as superstores and hypermarkets, modernising smaller retailers to sharpen their competitive edge against bigger retailers and upgrading transport and infrastructure to facilitate retail distribution. These will certainly lift the domestic retailers' price competitiveness and further their reach to rural consumers, thus the Malaysian mass grocery retail (MGR) sector is expected to show positive growth moving in to the immediate future (Business Monitor, 2014).

Furthermore, according to Business Monitor (2014), most of the mass grocery retail sector in Malaysia is fairly fragmented coming primarily from small outlets, open markets and non-permanent retail facilities. Although it is fairly fragmented, retail in Malaysia can be considered to have a stronger presence than in many comparative Asian markets. 73% of the country food sales are accounted by the organised sector and its dominance is continually growing. Dairy Farm is the leading retailer by revenue, followed by AEON and The Store Corp Bhd, of which only the latter is locally owned.

Modern retail outlets have begun to increasingly expand outside major urban centres in recent years, although this form of retail is still found mainly in cities. Middle to upper income

consumers who appreciate the variety of products on offer as well as additional services provided including in store bakeries, food service areas and ready-prepared meals are attracted with modern retail formats (Business Monitor, 2014; Shamsudin & Selamat, 2005). Meanwhile, Business Monitor (2014) stated that small traditional outlets are preferable to consumers because of their proximity to residential areas and the provision of well-known products at competitive prices. Chamhuri and Batt (2013) previously found that even though “traditional market shoppers” purchased other household products from supermarkets, they were more loyal as they purchased fresh meat from the same vendors and were prepared to go out of their way to purchase fresh meat from traditional markets. In fact, they also enjoyed the opportunity to bargain over price. However, modern retail outlets are gradually opening up in new neighbourhoods and townships and taking business away from the traditional retail outlets, particularly as their economies of scale allow them to offer more competitive prices. This leaves familiarity as the only strong selling point for these traditional stores (Business Monitor, 2014; Hassan et al., 2013).

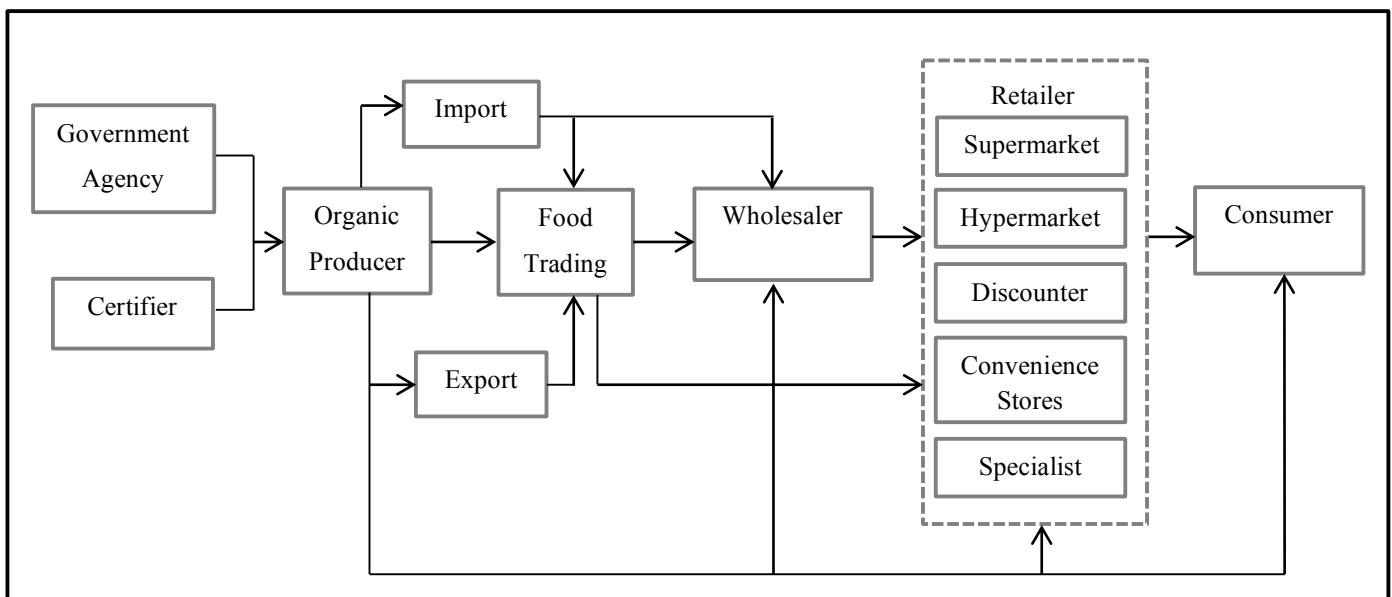
According to Business Monitor (2014), competitions between the hypermarkets are very intense. This format has garnered most interest from multinational retailers in terms of selling power, superior profitability and return on investment level. Large scale retailers such as the Dairy Farm Group is leading the hypermarket sector with its Giant brand, while AEON and UK major Tesco are also active (Business Monitor, 2014; Mohd Roslin & Melewar, 2008). In 2013, there were 2409 supermarkets and 141 hypermarkets.

4.1.1 The South-East Asia organic food industry

The organic food industry has steadily moved from a niche market (small specialty stores) to the mainstream market (large supermarket chains) (Jones & Clarke-Hill, 2001). The distribution of sales volumes seems to be related to the structure of the distribution systems that are in place and to the following two main trends of consumption: (i) regular organic food consumers using standard distribution channels (supermarkets) and (ii) consumers adopting alternative channels (box delivery, farmers’ market, specialty stores, and small grocery stores) (see also Hall & Gössling, 2016). In addition, conventional distribution channels, characterized by a longer channel where consumers do not see and interact with the producer and where the information about food is limited and targeted toward consumers looking for a one-stop grocery shopping experience (Hamzaoui-Essoussi et al., 2013).

Products that are normally grown in South-East Asia include rice, vegetables and fruits and there is some organic food processing in Malaysia and Thailand. In the distribution of South-East Asia's organic food, some of the producers supply consumers directly via farm shop and home delivery although most of the organic products go to the retail trade (Figure 4.1). The difference between large retailers and smaller retailers is that supermarkets and large organic food retailers usually buy directly from importers and producers, meanwhile smaller retailers rely on wholesalers (Organic Monitor, 2006).

Figure 4.1: South-East Asian Distribution Structure for Organic Food



In addition, most large organic enterprises in South-East Asia are vertically integrated and operate import, wholesale and retail business for example, companies such as Nature's Glory and Super Nature also import organic products for their retailers. The majority of organic foods are sold at supermarkets, and although specialist retailers remain important in the market where its market share has declined and they are normally not directly involved in importing (Organic Monitor, 2006).

The increasing retail distribution of organic products in other South-East Asian countries can also be seen in Singapore where United Nature are the leading supermarket and Yogi House retailers have also been expanding their outlets since 2006. In Thailand, TOPS is the supermarket chain that sells organic products over a wide area (Organic Monitor, 2006). As

Busch and Bain (2004) stated, international retailers operating outside their home national border are starting to seek out new markets more aggressively. Most of the larger international chains also have increased the numbers of stores, opening new ones in different nations for example Tesco, Carrefour and Cold Storage.

Asian supermarkets with dedicated areas for organic products are highlighting these products by clear store signage. Some supermarkets are explaining the differences between the organic products and conventional products via information leaflets and in-store posters. Some even have certificates of authenticity to assure consumers of the organic production methods. Department stores such as Marks & Spencer and Sogo are also marketing organic food and beverages in their food retailer outlets. The growing number of organic food retailers is also making organic foods more accessible to consumers in South-East Asia (Organic Monitor, 2006).

However, high cost is the major obstacle for organic food's market growth in Asia Pacific. China, Indonesia and India can be considered as lower income countries in which food and non-alcoholic beverages already account for a third or more of per capita consumer expenditure. On the other hand, consumers from other developed countries such as Japan, Hong Kong, Singapore, and South Korea are able to afford organic food but the concept is still not as popular as fortified/functional foods (Euromonitor, 2012). Moreover, most organic businesses are focusing on consumer demand in the greater remunerative markets of North America and Western Europe. Thus, even though supermarkets in overall are focusing on the region, there is a relative lack of focus on developing sales organic products in the Asia Pacific (Euromonitor, 2012).

Despite growth related issues, the supply of organic foods from these regions is increasingly important to the international market, and while international retail chains remain firmly concentrated in the US and Western Europe, it is expected that more will become available locally as the supply grows. For example, in the Japanese domestic market, organic retailing has started to appear with the country itself accounting for nearly 60 per cent of Asia Pacific organic packaged food sales in 2006. In addition, there are also several supermarket chains in other domestic markets, such as Singapore and Hong Kong, that carry organic lines for example Cold Storage, Giant, Jusco, and Carrefour, while Dairy Farm in Hong Kong is strongly oriented towards organic foods, positioning itself as a "healthy" supermarket (Euromonitor, 2012).

There are also international retailers that are well-established in South East Asia, like Tesco, trying to provide organic products. In order to offer products that suit the preferences of local consumers, Tesco strategically undertook an aggressive organic expansion and tailored its product offerings. Hence, this allowed Tesco to consolidate a strong presence in the local market, especially Malaysia, India and Vietnam (Business Monitor, 2014).

According to Euromonitor (2012), the development of stronger organic retailing sector can also be seen in some lower income countries such as Malaysia, with established organic supplier Country Farm operating four retail stores in its native Malaysia as well as supplying a number of local supermarket chains. Organic products also can be seen in Foodworld Gourmet concept store in the Indian market. Nevertheless, organic products are only accessible to high income consumers and remain relatively niche though expanding. Euromonitor (2012) suggested that in order to further raise the profile of organic foods, retailers should look at developing or supporting consumer education programmes even in countries where the market is currently small. There is a potential for the organic market in Malaysia and India that has been demonstrated by demand for organic retailing even when the incomes of some organic consumers are still relatively low (Euromonitor, 2012).

4.1.2 Certification

Organic food certification programmes in the Asia Pacific are considered as a prominent regulation system for the export of organic food to developing countries' markets (Prabhakar et al., 2010). However, there are differences in organic certification system in each part of the Asia Pacific. Hamzaoui-Essoussi et al. (2013) argued that there are more differences than similarities in term of certification system and distribution. Many countries in these regions have specific agencies that are responsible for ensuring that organic food is in keeping with governmental regulations/standards when it comes to international trade (Table 4.3). In addition, leading standard setting agencies such as Codex Alimentarius (Codex) and International Federation of Organic Agricultural Movements (IFOAM) offer principles and guidelines for organic certification processes (Prabhakar et al., 2010).

Table 4.2: Organic certification standards and institutions in selected countries in the Asia-Pacific region

Country	Government agency	Governmental regulation/standards	No. of certification agencies	private	Other offered	certifications
Australia	Australian Quarantine and Inspection Service	National Standard for Organic and Bio-dynamic Produce	7		JAS, IFOAM, USDA Organic, etc.	
China	Organic Food Development Center of China	China National Organic Product Standard (2005)	33		NOP, OCIA, JAS, EU, etc.	
India	Agricultural and Processed Food Products Export Development Authority (National Program for Organic Production, National project on organic farming)	Indian national standards for organic products (2001-05)	12		EU, NOP, Codex, DAP Germany, etc.	
Indonesia	Badan Nasional Nasional standard agency), Kompeten Organik (Organic Food Competent Authority)	Standardisasi (Indonesia's Otoritas Pangan Organik (Organic Food Competent Authority))	Indonesia National Standard	2		IFOAM, JAS, EU, etc.
Japan	Japan Standards	Agricultural	Japan Agricultural Standards of Organic Agricultural Products	55	-	
Republic of Korea	National Products Management Service, Korean Food and Drug Administration	Agricultural Quality Management Service, Korean Food and Drug Administration (Transaction Certificate)	Certification standard based on Environmentally Friendly Agriculture Promotion Act (1997)	33	-	

	for Processed Organic Products)				
Malaysia	Skim Organik Malaysia, Department of Agriculture Malaysia	Skim Organik Malaysia (national organic standard, MS 1529:2001)	1	EU, NOP, JAS, etc.	
Philippines	Organic Certification Center of the Philippines, Bureau of Agriculture, Fisheries and Product Standards	Philippine National Organic Standards for Crop and Livestock Production	1	-	
Thailand	Organic Agriculture Certification Thailand	National Organic Standard Guideline for Crop Production	2	EU, JAS, Codex, NOP, etc.	
Vietnam	Ministry of Agriculture and Rural Development	Organic Agricultural Production Standards	2	-	

Sources: (Prabhakar et al., 2010)

4.2 Organic Foods in Malaysia

Malaysia is one of the South-East Asian countries that offers significant market potential for organic food products (Voon et al., 2011). Organic food in Malaysia showed six per cent value growth in 2012 compared to eight per cent value growth in 2011 due to the lower overall economic growth in 2012, resulting in sales of RM 17 million (Euromonitor, 2013). However, with the number of organic food consumers rising, it has become an increasingly important category within health and wellness packaged food in Malaysia. Indeed, Malaysian consumers' awareness towards organic food has also increased significantly due to the presence of more organic specialised stores as well as more shelves containing organic food in leading supermarkets and hypermarkets (Euromonitor, 2013).

Although there are differences with respect to definition between jurisdictions, organic food is widely regarded as a product which is free from Genetically Modified Organisms (GMOs) and is certified by a number of different organic food organisations. Consumers are becoming more aware of the potential advantages of consuming organic food without the absence of GMOs as the number of illnesses purportedly resulting from an excessive intake of GMOs in products is reportedly increasing (Euromonitor, 2013). However, Voon et al. (2011) argued that although Malaysian consumers are becoming more aware and conscious about their consumption choices, they still lack of knowledge or are not well informed with respect to organic food products. They emphasize that Malaysian consumers primarily depend on food product labelling and the mainstream media instead of organic certification when evaluating product options.

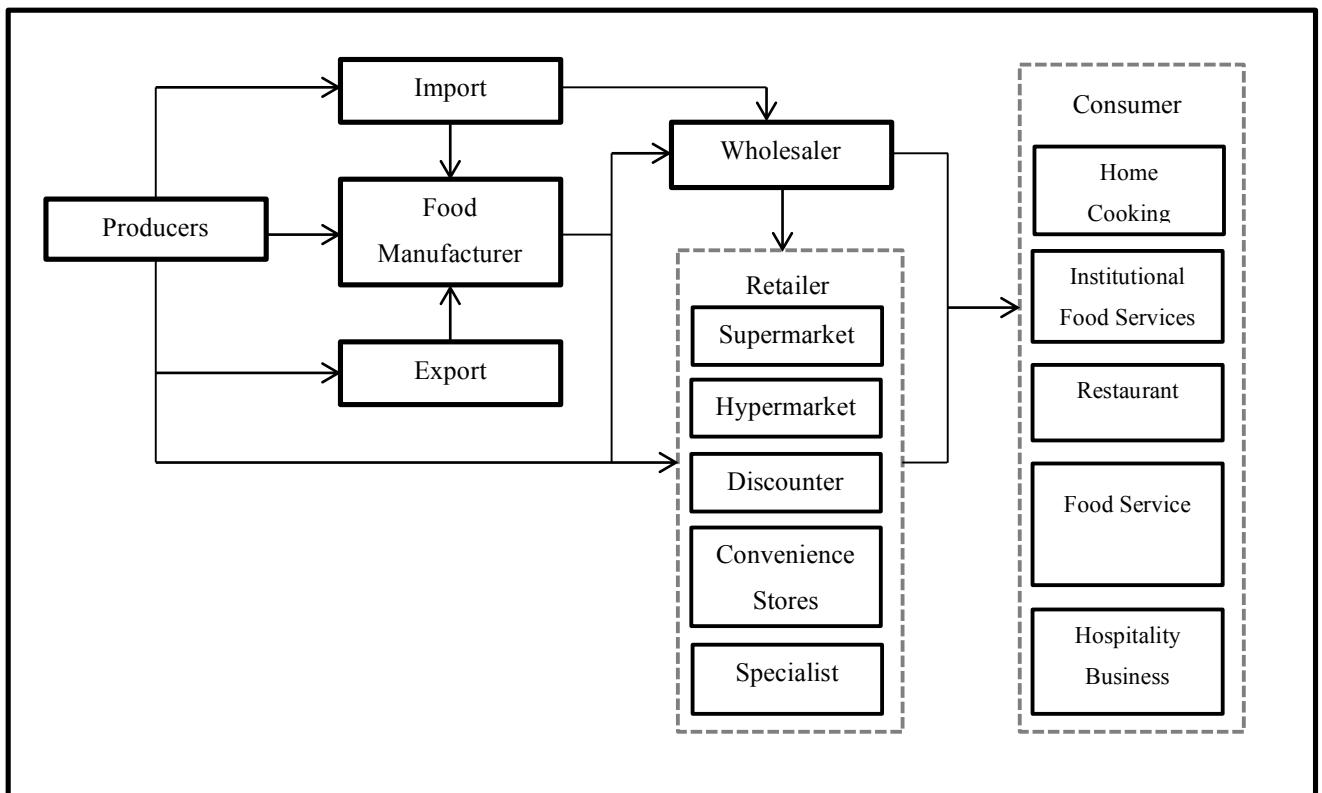
According to Euromonitor (2013), Malaysia's GDP growth is expected to improve in the future at a stronger pace than that of the projected constant value growth of grocery retailers. More promotions will be done to attract consumers as competitions become more intense among grocery retailers, thus limiting the constant value growth potential of this channel. In addition, the increasing exposure to international trends from the Internet and overseas travel is making consumers sophisticated in their food purchasing and more willing to invest in premium grocery products such as imported brands and organic products. Premium supermarkets such as Cold Storage will potentially gain from this benefit in terms of performance which offsets the negative impacts of the frequent price promotions held by other grocery players.

In 2012, the most recent year for which a full overview is available, organic product specialist stores in Malaysia accounted for as high as 43 per cent value share of the organic market as compared to other grocery retailers. Country Farm Organics and BMS Organics are examples of organic specialist stores that are increasingly established in various neighbourhood locations as well as some shopping centres. Consumers do not only purchase organic food and drinks but also other organic products such as beauty and personal care items. Therefore, there is a wide range of organic products being sold by organic specialist stores. The distribution value share of supermarket and hypermarket in 2012 for organic products slightly increased with both assigning increased space on their shelves for such products (Euromonitor, 2013).

Furthermore, according to Business Monitor (2014), well established international retailers, like Aeon, in Malaysia are expected to move into the new format by opening organic food supermarkets and/or discount retail stores to achieve both growth and competitive differentiation. Discount stores will attract consumers that cannot afford typical modern retail prices by expanding into areas of Malaysia such as in the under retailed rural areas. The same article suggested that Aeon Malaysia is likely to harness the consumer health trend in Malaysia and seek to appeal to the increasingly sophisticated tastes of the middle and upper class by setting up fresh/organic food supermarkets and expanding its fresh food portfolio.

Most distribution channels in Malaysia are fragmented between large format retail outlets and small shops (Figure 4.2). Major supermarket such as Cold Storage Group, AEON and Tesco dominate the organic food channels. In addition, many organic health food outlets are operating all across Malaysia and some of these outlets also operate a small cafe or food service area within their store (Stanton & Emms, 2011). Well established food retailers in Malaysia, for example AEON, that operate in urban areas have established separate areas in their stores for organic products that carry the Skim Organik Malaysia (SOM) certification logo and while Tesco stores have dedicated shelf space for organic food and drinks (Stanton & Emms, 2011).

Figure 4.2: Supply Chain in Malaysia



Factors that could make the distribution and organic certification system different in Malaysia as compared to other markets include the level of market maturity, labelling system and food culture (Hamzaoui-Essoussi et al., 2013). Although the organic market is becoming more mainstream in Malaysia, the organic retail marketplace for organic food is small and locally based and while a growing number of small specialist organic food retailers have an increasingly visible presence the multiple grocery chains currently dominate the market (Jones & Clarke-Hill, 2001). In Malaysia, most of the organic food products are distributed by specialist organic food and supermarket chains. Some organic food products are also distributed by the traditional retail shops, roadside stalls and wet markets but there is usually no promotion or advertising to support for any brands via these channels (Stanton & Emms, 2011).

Malaysia has national standards for organic farming, however there is no or very limited enforcement (Organic Monitor, 2006; Stanton & Emms, 2011). The voluntary nature of standards may allow agricultural products to be marketed as organic even if they are not produced according to formal standards (Organic Monitor, 2006). According to Voon et al. (2011), the use of "organic" and "organically produced" are not strictly regulated especially

among imported food products. Any food products that are claimed to be organic are difficult to validate in the absence of written documentation and any producer or importer can easily label food products as organic even if it is not. As a result, consumers become confused when they see a large number of products being labeled as organic but without organic certification logos.

Furthermore, legitimate organic farmers do not necessarily certify their organic products and this causes further confusion and indeed, many supermarkets in the region market have been reported as selling organic vegetables that are not certified (Organic Monitor, 2006). Most of the organic food products in Malaysia are imported and this requires organic food products to provide a credible organic certification from the country origin if it is to be undertaken legitimately. Much of the understanding and perception towards organic food products in Malaysia are also more related to the non-use of chemicals and pesticides in the growing and production process. There is also a general lack of awareness among producers, retailers and consumers with respect to organic food standards in organic markets (Voon et al., 2011). It has therefore been argued that Malaysia needs to have mandatory organic standards in order to prevent non-certified products to be marketed as organic in the country (Organic Monitor, 2006). Imported products would therefore also need to comply with national standards so there is some conformity in organic products. Such initiatives would potentially strengthen consumer demand for organic products and would also encourage more farmers and food processors to consider organic production methods (Organic Monitor, 2006).

4.2.1 Organic Certification in Malaysia

In order to monitor the agriculture farms and products, the Department of Agriculture has developed a certification programme called Malaysian Organic Scheme (SOM) that is based on Malaysian Standard MS1529:2001 *The Production, Processing, Labelling and Marketing of Plant Based Organically Produced Foods*. The standard covers the conditions and criteria which are derived from the enactment that regulates the law on hazard control which has an impact on the environment, food safety and workers' health and safety (Department of Agriculture Malaysia, 2007). Farms, which have been examined and identified as meeting the standards by the Ministry, are permitted to use the SOM logo on their products and the labelling of the organic products emanates under *Regulations 18(7) under Food Regulations 1985*. Those who found guilty of non-compliance can be penalized up to RM 5,000 (USD 1,750) per breach of regulations (Stanton & Emms, 2011).

In 2003, the logo of the Malaysia Organic Scheme was introduced for organic products that are produced in Malaysia. This logo can be put on the organic products which the Department has determined the authenticity of (Figure 4.3). To get certified, all the producers need to do is to follow the requirements set by the Department of Agriculture Malaysia with the standards applied to farms of unprocessed plants and plant products (Department of Agriculture Malaysia, 2007). According to Stanton, Emms and Sia (2011), the Malaysia Organic Scheme (SOM) regulations are not applicable to imported products, but are supported by regulations on the labelling of organic products, including imported products under *the Food Act 1983 and the Food Regulations 1985*. The regulations are implemented and enforced by several government agencies:

Figure 4.3: Malaysia Organic Scheme

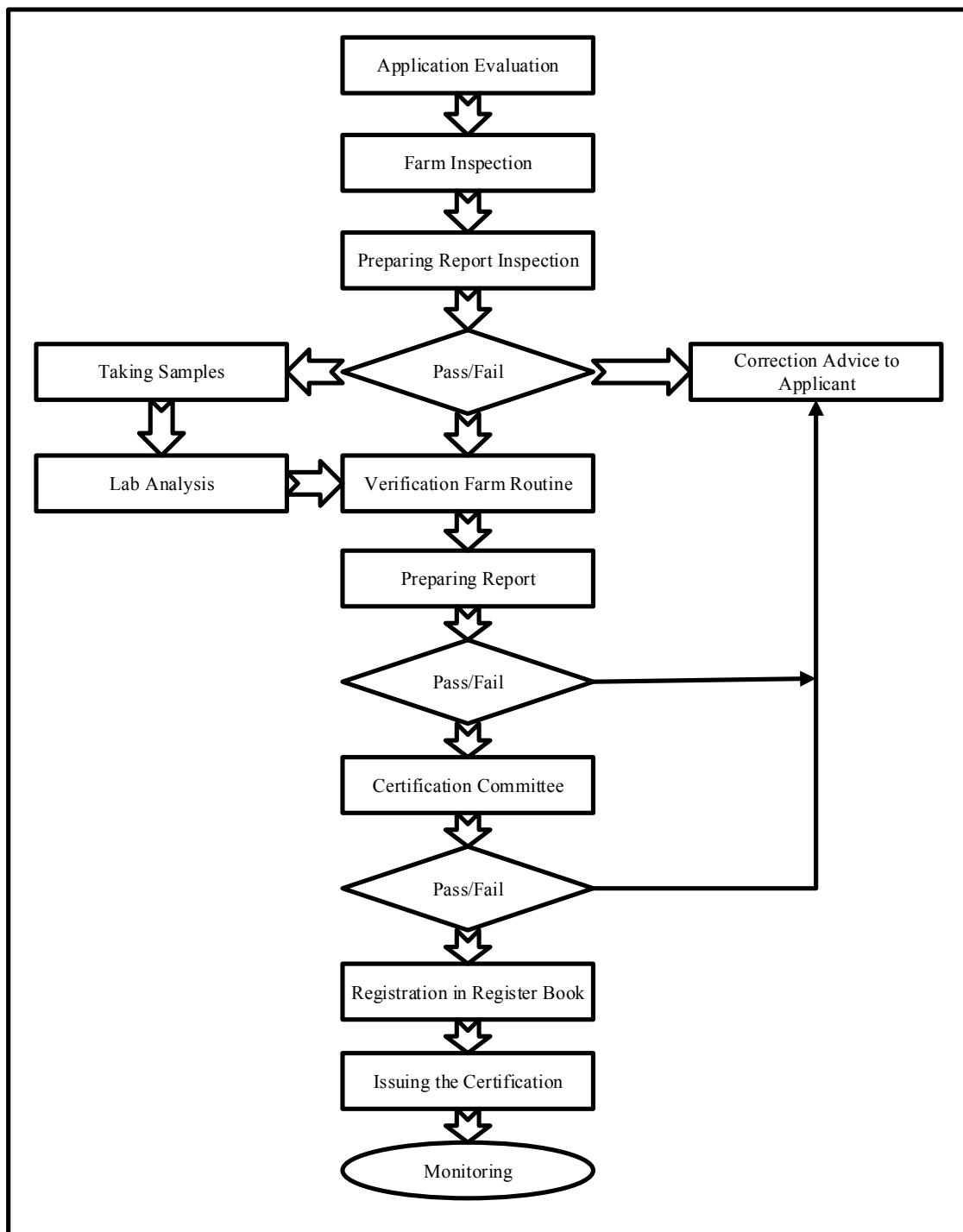


Source: Agriculture Malaysia, 2007

- The Food Safety and Quality Division (FSQD)
- The Drug Control Authority
- The National Pharmaceutical Control Bureau (NPCB)
- The Committee for the classification of Food-Drug Interface Products, which is involved in the area of functional food and drinks and nutraceutical; and
- JAKIM, the Malaysian national halal certification agency.

There are several stages in order to obtain the Malaysia Organic Scheme (SOM) (Figure 4.4)

Figure 4.4: Work Flow Chart for SOM Certification



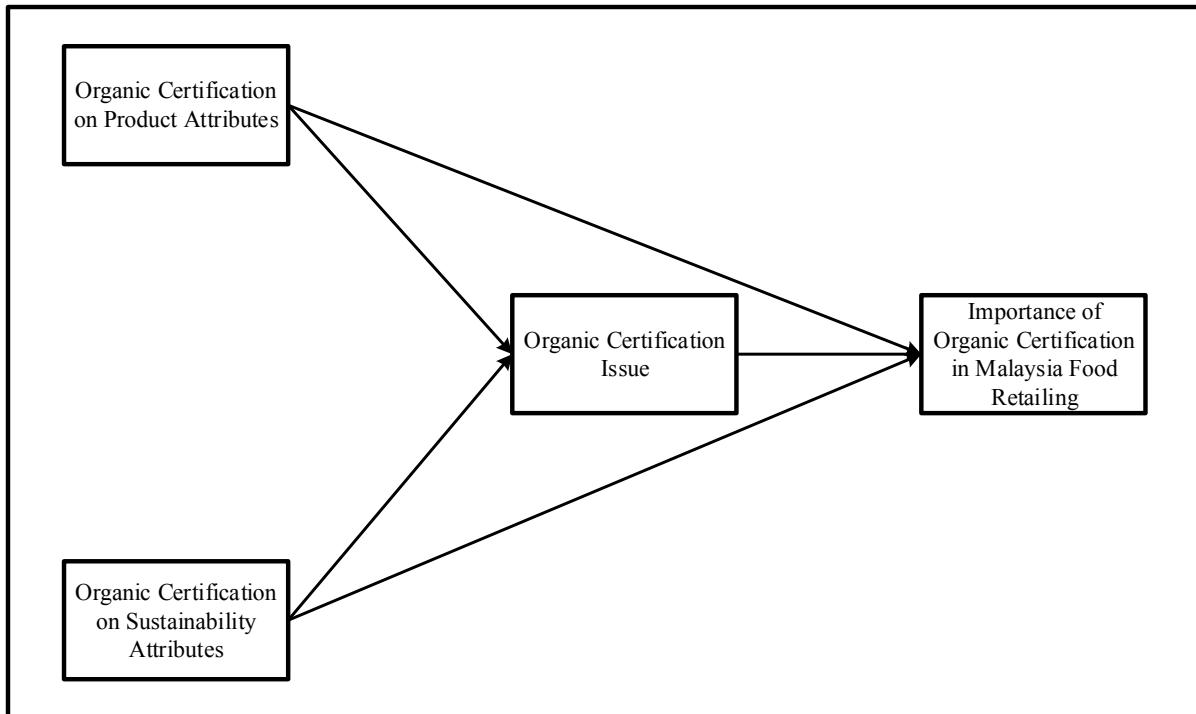
Source: Agriculture Malaysia, 2007

4.3 Overview of Literature

Based on the limited literature available on the organic certification process in Malaysia and elsewhere, and their relevance for food retailing, three main themes with respect to organic

certification have been identified and are summarized below in terms of their importance for organic certification in Malaysian food retailing (Figure 4.5).

Figure 4.5: Conceptual Framework



4.3.1 Product Attributes

In marketing strategies, product attributes play an important role when communicating with consumers. According to Canavari et al. (2010), product attributes are related to food quality and safety that involved taste, appearance and other attributes. This includes organic food products that are produced organically without using any pesticides, fertilizers, chemical or GMOs. It is also perceived as nutritious, tastier and fresher compared to non-organic products (Essoussi & Zahaf 2008). Siderer et al. (2005) explained that organic food products that are claimed to have been produced organically need to have written certification in order to ensure they are grown or made according to the standards of the organic agriculture. Generally, organic certification allows the consumer to differentiate between food products that claim organic and non-organic status (Siderer et al., 2005). However, in terms of food and certification systems, organic certification is important to build trust in order to prevent fraud (Munteanu, 2015).

Furthermore, organic and food certifications are important in food retailing for the determination of food product attributes especially the food products that are considered to

have credence attributes and premium. Due to the information asymmetries of organic food products, carrying valid certification and labelling that is able to convince and reassure the quality and safety of organic food products is important (Midmore, Francois, & Ness, 2011). Sangkumchaliang and Huang (2012) suggested that consumer knowledge is influenced by the type of information signals that are made available. Awareness of certifications, labelling, and advertisements are examples of knowledge enrichment. Hence, these types of signal information have implications of consumers' behavior that are particularly focused on their knowledge and awareness.

4.3.2 Sustainability Attributes

Sustainability marketing can be defined as creating and maintaining sustainable relationship with the consumers and the environment (Belz & Schmidt-riediger, 2010). Consumers are demanding more sustainable production systems that increase companies' interest in environmentally friendly practices in food production. As a result, the need of sustainable certification practices is rising (Banterle, Cereda & Fritz, 2013).

Consumer trust toward sustainability of products can be gained via the role of voluntary or mandatory certification. In order to differentiate food products, some features or attributes can be promoted through certification. In other words, a trustworthy labelling system is needed for food products that have credence attributes including respect of social and environmental practices and the value of the product to the consumers. As a result, credence attributes of sustainability products can be converted to a search attribute that can be assessed before purchasing and reduce information asymmetry (Banterle et al., 2013; Caswell, 1998; Caswell et al., 2002).

According to Hampl and Loock (2013), sustainability can be understood as a holistic approach which is often defined as managing the triple line, meaning that a firm's processes help manage their social, economic and environmental risks, obligations and opportunities (also referred to as 'people, profits and planet'). Moreover, they identified that an important aspect of sustainability strategies in retail are products or product assortments such as, for example, organic products, eco-products (Marine Stewardship Council) and Fair Trade products. A range of assortments (standard, standard and organic, standard and regional, standard and organic and regional) has been introduced and it assumes that a broader assortment of sustainability products would have a positive impact on store choice.

The credibility of the products claimed to have environmental values is very important to consumers in order for them to make sustainable and ethical choices (Prakash, 2002; Ginsberg & Bloom, 2004; Chkanikova & Lehner, 2014). This credibility involves trust in sustainability practices to be established via independent monitoring and verification procedures that penalize irresponsible practices (Sonderskov & Daugbjerg, 2011). In addition, consumers are increasingly able to track green products back to the farm and get the assurance that a product fulfills its claims (Potts, Van Der Meer & Daitchman, 2010; Chkanikova & Lehner, 2014). The important and growing role of sustainability programmes in industrial brands and private labels is also aimed at benefiting the environment as well as meeting consumer demands. The process of product differentiation via sustainability certification can justify a premium price and a premium image of the products. However, reliable systems of certification and labelling are needed for sustainability that will convert credence attributes into a search attribute (Caswell, 2000; Caswell et al., 2002; Banterle et al., 2013).

4.3.3 Organic Certification Issues

The organic food market is growing positively (Schulze & Spiller, 2010). In the previous chapter, organic and food certification was noted as an instrument for gaining trust and convincing consumers in credence food products markets so as to reduce the information asymmetries of the food products (Jahn et al. 2005; Albersmeier et al., 2010). Asymmetric information occurs when consumers have a lack of information about the organic process (Magistris & Gracia, 2008). Moreover, Schulze and Spiller (2010), emphasized that organic production is related to the quality of process which cannot necessarily be verified in the final products. Hence, it is difficult for them to assess organic food product attributes. This could negatively influence the development of organic food products demand and increasing information asymmetries raises concerns over mislabeling and the risk of food scandals (Schulze & Spiller, 2010; Magistris & Gracia, 2008)

Trust in the certification scheme is one of the means to convince and gain trust from the consumers (Jahn et al., 2005; Albersmeier et al., 2010). However, a lack of knowledge and trust is one of the certification issues for organic purchases (Jansen, 2012, Aertsens et al., 2009). Mutlu et al. (2007) found that organic certification is a critical issue. Most of the consumers in Germany do not have any idea or understand whether organic food products have to be certified before reaching the consumers or not. While in Turkey, most of the consumers believe that certification in organic farming is compulsory. Similarly, Midmore et

al. (2011) found that consumers do not necessarily trust the certification process and demonstrated higher preferences for a product being ‘natural’ than being certified organic. This could reflect a lack of understanding of the certification requirements and the meaning of organic. Alternatively, it could also reflect a marketing strategy that focuses on specific characteristics of food products rather than a basket of characteristics under a single label.

Hammerling et al. (2015) emphasized that without any verification of organic food products, labelling can be misused by the producers as the consumers do not clearly understand what differentiates between organic and natural. In fact, the many certification and labelling schemes in the organic market that can be found in many countries and the differences between them only add to the confusion. In addition, certification fraud can happen in organic food products. For example, some retailers in Turkey could not provide a valid organic certification and used illegally signboards claiming that the food products were organic (Mutlu et al., 2007).

Janssen et al. (2012) argued that different types of organic certification and logos in the market raises concerns as to which organic certification and logos are preferable for consumers to choose. This issue is not only an organizational concern for those certifying organic food products but is also relevant for producers, processors and retailers in the organic market. Lockie et al. (2002) found that Australian consumers are sceptical as to the reliability of organic certification due to the lack of understanding about existing certification schemes as well as the increasing availability of processed organic food. In different studies, Panico et al. (2011) revealed that Italian consumers do not trust certification bodies equally. In fact, in Nepal, most of the consumers are not convinced with the organic food products that are sold in the market because the lack of mechanism to differentiate organic and non-organic food products (Aryal et al., 2009).

Barret et al. (2002) argued that an international recognised certification and inspection process is very expensive to obtain especially for local producers that want to export their organic food products. Using local certifier bodies is much cheaper compared to international certifiers because of advantages such as knowledge of local environments and the ability to communicate in local language. Therefore, it is difficult to obtain and maintain international recognitions. Nevertheless, using international inspectors is recommended for any producer focusing on exporting organic food products (Barrett et al., 2002). Xie et al. (2011) argued that different organic certification legislations could be barriers for organic food products to

be exported to other countries particularly to developed countries. Most imported organic food products are certified by international certification bodies from the EU, USA or Japan. The process to obtain organic certification is complex and requires annual re-inspection. In other words, those that received organic certification must be inspected annually for the purpose of maintaining the certificate.

4.4 Chapter Summary

Food retailing in Malaysia has emerged into new retail formats in order to cater to Malaysian consumer needs (Roslin & Melewar, 2008; Terano et al., 2014). According to Ismail and Chamhuri (2015), the Malaysian food retail structure has changed considerably. The development of modern food retail formats is due to the demand and changes in consumers' lifestyles. Moreover, consumers tend to go to food retailers that provide a variety of product assortments, better prices, discounts and special prices (Hassan & Rahman, 2012). Thus, it is very important for food retailers to understand consumers' preferences in order to influence the consumers purchasing decision towards fresh food products (Terano et al., 2014).

Organic food products are getting more acceptance in Malaysia especially for consumers that are conscious of food product safety and quality. However, despite the increased assistance given by the Malaysian authorities to the development of organic food products, there is very limited research on the food retailing sector which is the focus of the present thesis. With the increasing demand and concern on safety and quality of food products, food retailers will need to take necessary actions to ensure that food products do not violate food standards especially for organic food products. If violation occurs, then the consumers' trust and the credibility of certification may be compromised. The next chapter discusses the methods used to answer the research questions set out in Chapter 1.

CHAPTER FIVE

RESEARCH METHOD

5 Introduction

This chapter explains the research methods used in the study. As noted in Chapter One, this thesis seeks the understanding on the importance of organic and food certification in Malaysian food retailing. As discussed in previous chapters, there appears to be little documentations on retailers' perception of organic certification in Malaysia or in other countries. To the author's knowledge, this study is the first to investigate the underlying attributes of organic certification on retailers in Malaysia and may provide important insights for the development of organic food retail growth.

This thesis seeks understandings on Malaysian retailers' perceptions of and attitude towards organic certification. This thesis therefore focuses on the importance of organic certification in food retail and contributes to understanding Malaysian retailers' perceptions of and attitude towards organic certification. Although consumers perceived food certification is important to determine the quality and safety of the product, there is relatively little academic research on organic certification in relation to food retail, and especially in a developing country context (Hamzaoui-Essoussi et al., 2013).

This chapter discusses research design, the measuring instrument, data analysis and ethics of conducting the research. A semi-structured interview was developed in order to gain understanding of Malaysian retailers' so as to seek for greater information of the issues surrounding organic food products and organic certification in Malaysia. A survey instrument was administered along with the interview sessions. The questionnaire consists primarily of seven -point Likert scale questions and was emailed to food retailers in Malaysia. In addition to descriptive statistics Partial Least Squares (PLS), Structural Equation Modelling (SEM) was also used to analyse the data collected from the questionnaire.

5.1 Research Design

As mentioned in the previous chapter, there is only a limited amount of research regarding food and organic certification from the retailers' perspectives not only in Malaysia but also internationally. This stands in stark contrast to the extensive literature on consumer perception of organic certification (e.g. Dardak et al., 2009; Chamhuri & Batt, 2013). There are several

major differences between the current research and previous studies on food certification in Malaysia. Firstly, previous research that examined food certification particularly focused on consumers instead of retailers. For example, Dardak et al. (2009) and Ahmad and Juhdi (2010) selected Malaysian consumers who went to supermarkets as their sampling unit. Secondly, food retail in Malaysia are considered as having a stronger presence than in other Asian markets with an increasing number of retail outlets such as supermarkets, hypermarkets and convenience stores. Running in parallel with the increase in retail outlets, it will be interesting to know how significant food and organic certification is as a retail attributes in Malaysian retail. This is particularly because the number of consumers of organic foods has significantly increased due to the presence of more organic specialist stores as well as more shelves containing organic food in leading supermarkets and hypermarkets (Euromonitor, 2013). Thirdly, and as discussed in Chapter 3, food certification is significant to retailers in developed and developing countries as they strengthen their structural power in the food chain. Overall, the previous research of food certification in Malaysia did not cover organic certification in detail and no research has focused specifically on Malaysian retailers' perception on organic certification.

According to Saunders et al. (2009), research design is a general plan on how to answer the research questions. This research took a two-stage mixed method approach to collecting data in order to fulfill the research objectives. The mixed method approach can be defined as the assemblage or investigation in cooperation of quantitative and qualitative data in one solitary research (Hanson, Creswell, Clark, Petska, & Creswell, 2005). The data were collected concurrently or sequentially based on the priority of the research that involves integration of the data at one or more stages in the process of research (Creswell, 2003; Hanson et al., 2005).

Indeed, mixed methods are becoming increasingly popular, especially in the social sciences (Hanson et al., 2005). This research collected data sequentially as qualitative data were collected and analysed first, followed by quantitative data. The reason to collect the data sequentially is to help ensure its suitability in explaining and interpreting the relationships between organic certification and retailers' perceptions. According to Hanson et al. (2005), the priority of sequential design is usually unequal and given to the qualitative data. These designs give advantage when exploring relationships of the research variables are not known, refining and testing an emerging theory and generalizing qualitative findings to a specific population. In fact, the design is useful when exploring a phenomenon but also when wanting to expand on the qualitative findings.

However, the drawback of this approach is that it requires a substantial length of time to complete both data collection phases that can be difficult for some research situations and is also difficult to build from the qualitative analysis to the subsequent quantitative data collection (Creswell, 2003). In order to overcome these difficulties, the author was being careful to manage the allocation of time for both sets of data collection. The duration for each period of data collection was approximately three to four months. For the semi-structured interviews, the author contacted the participants and set early appointments to conduct the interview. In the case of the survey, the author contacted the participants frequently to ensure they answered the survey accordingly in the given time. For the qualitative analysis, all the transcriptions were checked thoroughly via repeated reading in order to avoid any miscoding.

To the author's knowledge, no previous research has utilised a mixed method approach regarding retailers' perception towards food certification. Table 5.1 outlines some of the characteristics of previous research undertaken with respect to retailer perceptions of food certification.

Table 5.1: Previous Research Regarding Retailers' Perception of and Attitude Towards Organic and Food Certification

Author	Country(s)	Focus	Sample Size	Methods
Hamzaoui-Essoussi et al., 2013	Canada and France	Trust of organic products	80 store managers (superstores, specialty stores, farmers' markets and producers)	Unstructured interview (in-depth interview)
Moore, Gibbon, & Slack, 2006	Europe	The impact of mainstreaming on both the Fair Trade movement and the supermarkets	3 Fair Trade organizations and 4 supermarkets	Interview
Alexander & Nicholls, 2006	United Kingdom	Perspectives on fair trade marketing communications from key actors and stakeholders in the field	11 interviews consisting of Fair Trade wholesaler, of the largest, specialist, Fair Trade brand, of two leading grocery retailers involved with fair trade, and of other fair trade labelling and support organisations	Semi-structured interview
Nicholls, 2002	United Kingdom	Strategic option in fair trade retailing	5 interview senior representatives of a leading Fair Trade wholesaler, of the largest, specialist, Fair Trade retailer, of two high street	Semi-structured interview

			supermarket, and of the Fair Trade Foundation.	
Baizuri Badruldin, Zainalabidin Mohamed, Juwaiddah Sharifuddin, Golnaz Rezai, Amin Mahir Abdullah, Ismail Abd Latif & Mohd. Ghazali Mohayidin, 2012	Malaysia	Food manufacturers perception towards JAKIM service quality in Halal certification	197 food manufacturers (wholesaler, distributors or exporters)	Questionnaire
Ibrahim, Kamaruddin, & Shabudin, 2012	Malaysia	The status of Halal development system and challenges on the Halal logistics in Malaysia	35 key personnel (3 local and 1 foreign agency, 3 local and 2 foreign logistics providers, 4 local and 2 foreign port, 2 local and 2 foreign industry)	Structured interview
Mat Issa, Hamdan, Wan Muda, & Jusoff, 2009	Malaysia	The level of practice by producers in producing Halal food products	60 food producers in Malaysia	Questionnaire
Probst, Houedjofonon, Ayerakwa, & Haas, 2012	West Africa	The marketing potential of organic vegetables in the food vendor sector	180 food vendor	Questionnaire
Aertsens, Mondelaers, & Huylebroeck, 2009	Belgium	The different strategies of retailers who are active in the organic product market and to explain the drivers	Three most important retailers 5 staff members of each	Interview and observations

		which may underlie them	retailers	
Jonas & Roosen, 2005	Germany	The tendency of German food retailers to market organic products as private-label (PL) products	110 companies of the organic industry and 14 general food retailers	Online questionnaire
Ali and Suleiman, 2016	Malaysia	The relationships between the sustainable production principles and the practices of standard food production	6 organizations and 600 Malaysian small and medium sized enterprises	In-depth interview and questionnaire

Table 5.1 indicates that most of the previous research related to retailers' perception towards food certification have been qualitatively based (Aertsens, Mondelaers, et al., 2009; Alexander & Nicholls, 2006; Hamzaoui-Essoussi et al., 2013; Iberahim et al., 2012; Moore et al., 2006; Nicholls, 2002). Semi-structured interviews were conducted in most of the previous research and there is only one previous study that was conducted using an in-depth unstructured interview (Hamzaoui-Essoussi et al., 2013). Meanwhile, Alexander and Nicholls (2006) and Nicholls (2002) used a form of semi-structured in-depth interview. These interviews above did not only focus on retailers but also on several organizations that are particularly related to food certification such as government, private organizations and also logistics provider.

In contrast, Badruldin et al. (2012), Jonas and Roosen (2005), Mat Issa et al. (2009), and Probst et al. (2012) used questionnaires as their instrument for data collection. The majority of the questionnaires were mail-based. There is only one study that used an online survey to collect the data and the response rate of the food retailers was 28 per cent (Jonas & Roosen, 2005). Most of the respondents in previous research in Malaysia were among small sized companies or small medium enterprises (SME) coming from various food sectors and generally their annual sales turnover did not exceed RM50 million (Ali & Suleiman, 2016). None of the previous research conducted was done using mixed method studies on retailers' perception towards food certification.

Qualitative research refers to researching how people feel, behave and experience their own lives (Strauss & Corbin, 1998). According to Amaratunga et al. (2002), qualitative research is fundamentally well suited for locating people's perceptions and assumptions based on their life experience. Hence, the objective of qualitative research is to examine, decipher and interpret meaningful patterns or themes that come from the data (Malhotra, Birks, & Wills, 2012).

As mentioned above, qualitative method was conducted first for this research as it may assist the conceptual development and instrumentation of the quantitative analysis (Amaratunga, Baldry, Sarshar, & Newton, 2002). In addition, due to limited literature of retailers' perception towards organic certification, it would be appropriate to collect qualitative data first before conducting quantitative method in order to find new findings or insightful idea that can be used when constructing questionnaire. In fact, qualitative data is useful when one

needs to supplement, validate, explain, illuminate or reinterpret quantitative data gathered from the same setting (Amaratunga et al., 2002).

Meanwhile, quantitative research particularly focuses on deduction, theory/hypothesis testing, confirmation, prediction, standardized data collection, and statistical analysis (Johnson & Onwuegbuzie, 2004). The collected data can be analysed in a form of mathematical procedure. Thus, survey techniques were used in this approach which it is more widely adopted.

A survey is a common research strategy in business and management. When answering questions such as who, what, where, how much and how many, surveys are the most frequently used approach to answer these types of questions. This strategy is usually related with exploratory and descriptive research (Saunders, Lewis, & Thornhill, 2009). As this research is a form of descriptive research, a survey strategy was deployed when collecting the data in order to have a clear picture of retailers' perception towards organic certification. In addition, the survey approach allows the collection of large amounts of data from a sizeable population in a highly convenient way (Saunders et al., 2009). It also can be carried out to collect information regarding people's knowledge, expectation and behaviour (Neuman, 2003). Therefore, this research utilised a questionnaire as the survey instrument for gathering the data.

The survey was designed to examine perception towards organic certification as well as other forms of food certification in the context of Malaysia. This survey used seven-point Likert scales that anchor from strongly agree to strongly disagree in order to measure all items in the questionnaire. Using seven-point Likert scales is a suitable and most frequently used means to measure attitudes and behaviors in organizational research (Sekaran, 2006).

Furthermore, a draft questionnaire survey was developed and pre-tested before it was distributed to retailers. The questionnaire was based on the literature outlined, insights of interviewees and considered the overall objective of the research. The draft questionnaire was pre-tested with a small number of retailers. Sekaran (2006) explained the pre-test is important to ensure the respondents understand the content of questionnaire when answering it. Indeed, it helps to rectify any inadequacies before administering the questionnaire and reducing bias when respondents answered the questionnaire.

The population of retailers in Malaysia is 3953, which consists of supermarkets, hypermarkets and convenience stores (Business Monitor, 2014) and according to Malaysian Franchise Association (2015), the total number of franchises in Malaysia is 830. The survey was conducted among modern food retailer formats (hypermarkets, supermarkets and specialty stores) whether the food retailers sell organic products or not in order to obtain perceptions from a range of food retailers. The questionnaire was distributed by mail as this is suitable for large sample sizes (Saunders et al., 2009; Sekaran, 2006). In the previous study by Ali and Suleiman (2016) that focused on small and medium enterprise (SME) regarding halal food production practices, the response rate from using mail was 17%.

The distribution of the questionnaire survey was focused on food retailers located in big cities and urban areas such as in Kuala Lumpur and Selangor. Based on the list provided by the Companies Commission of Malaysia and Organic Alliance Malaysia's directory, there are 432 food retailers and thus, a census approach was adopted in this study as the questionnaire was distributed by mail to all these retailers. Many food retail stores are located in the major cities, urban centres and larger towns in Malaysia. The fact these food retail stores are located in the major cities is because the majority of the consumers come from the middle and high income as well as the number of population that live in Kuala Lumpur and Selangor is increasing every years (FAS Kuala Lumpur, 2013; Euromonitor, 2014). The questionnaire took approximately 15 minutes for respondents to complete.

5.2 Semi-Structured Interview

There are three categories of collecting research data via interviews which are: structured interview, semi-structured interview and unstructured interview or in-depth interviews (Saunders et al., 2009). Healey and Rawlinson (1994) differentiated between standardised and non-standardised interviews. A questionnaire is normally used in a structured interview that is based on a predetermined and 'standardised' or identical set of questions. In semi-structured interviews, a list of themes and questions that will be covered is usually prepared by the researcher but the exact nature and combination of questions may vary from interview to interview. Unstructured interviews are informal in order to gain understanding into a topic of interest. The questions will not be derived from a predetermined list but still researchers need to have a clear idea about the aspect or aspects that they want to explore (Saunders et al., 2009).

During the semi-structured interview, a list of themes and questions are covered. According to Saunders et al. (2009) the questions may vary from interview to interview. It means that, some questions from the list can be omitted in particular interviews, given a specific organisational context that is encountered in relation to the research topic. This is different from structured interviews that need to follow specific questions in a predetermined order with a limited number of response categories (Stuckey, 2013). In addition, the sequence of questions in semi-structured interviews may also be varied depending on the flow of the conversation (Saunders et al., 2009). Hence, for this research, additional questions were required to explore the research questions and objectives given the nature of events within particular organisations.

Furthermore, with the purpose of this research being to examine retailers' perception towards organic certification, semi-structured interviews give the opportunity to 'probe' for answers from the respondents. This gives the respondents the opportunity to explain and respond by using their own words or ideas in a particular way. The advantages to probing during the semi-structured interview could add significance and depth to the data that is obtained (Doody & Noonan, 2013; Saunders et al., 2009; Stuckey, 2013). However, it may also be difficult to identify where to ask prompt questions or probe responses, so some relevant data may not be gathered (Doody & Noonan, 2013). Since this research is a descriptive study, it is suitable to use semi-structured interview in order gain more information before conducting quantitative research since there is not much literature that can be found related to retailers' perception on food certification. Thus, by using this type of interview, new items and issues that have been not considered previously may be identified hence may assist in developing the survey instrument for the quantitative approach.

For this research, semi-structured interviews that involved fixed but open-ended questionnaires were conducted among actors in the food sector in Malaysia. Currently, there were four organizations involved with food and organic certification. Two of the organizations are government organizations; Malaysian Department of Agriculture and JAKIM. Meanwhile, the other two are private sector associations; Organic Alliance Malaysia (OAM) and Centre for Environment, Technology & Development Malaysia (CETDEM). In addition, the interview was also conducted on well-established retailers in Malaysia.

The semi-structured interview was conducted to the organization managers with a total of one to two people for each organization. However, the number of managers interviewed depended

on the structure of organizations itself with regards to their experience and knowledge related to food retail and certification. The interviews took between forty-five minutes to one hour per session and were conducted over a span of three months. The main priority of the interview was to gather information from respondents in terms of reflection, comments and their insights into perception and attitude toward food and organic certification in developing countries like Malaysia. Several topics constitute the primary focus of discussions with organization managers:

1. Definition of food and organic certification
2. The importance of food and organic certification
3. The reliability of food and organic certification
4. The reliability of the food supply chain
5. The connection of food and organic certification on consumers
6. The issues and problems of food and organic certification
7. The role of retailers to address the issues of food and organic certification

All data for qualitative research were then transcribed and analysed. In order to meet research ethics requirements, the author ensures all the data were treated as strictly confidential. The interview sessions were conducted sequentially with the survey which offered insights and support in understanding food and organic certification attributes. Thus, the aim of the qualitative research was to obtain information on the attitudes and opinions of a group of individuals with similar habits, needs, and interests, and parallel to this, to investigate the influence of factors that make people behave in certain way (Cohen, 1990; Barrios, 2004).

5.3 Partial Least Squares (PLS) Structural Equation Modelling

Partial Least Squares (PLS) which is variance based Structural Equation Modelling (SEM) was used as a quantitative method. PLS-SEM can be defined as a causal modelling method aimed at maximizing the explained variance of the dependent latent constructs (Hair, Ringle, & Sarstedt, 2011, 2013; Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014; Sarstedt, Ringle, Smith, Reams, & Hair, 2014). Marketing and other business disciplines have increasingly applied PLS-SEM. SEM started to appear in the marketing literature in the early 1980s and its application has become increasingly recognised in recent years (Hair et al., 2011, 2014).

The major reasons why many authors in business research, particularly marketing, use SEM are to test complete theories and concepts (Hair et al., 2011, 2014). In order to analyse data

from non-normal distributions, PLS-SEM is a suitable technique to use (Falk & Miller, 1992) because it is distribution free and does not require or exclude any distributional form for the measured variables (Hair et al., 2011, 2013, 2014). According to Aibinu and Al-Lawati (2010) measuring individuals' perceptions using Likert scales will likely yield non-normally distributed responses. Therefore, PLS-SEM is a suitable technique for use in this research since this research relied on Likert scales to measure retailers' perceptions of organic certification.

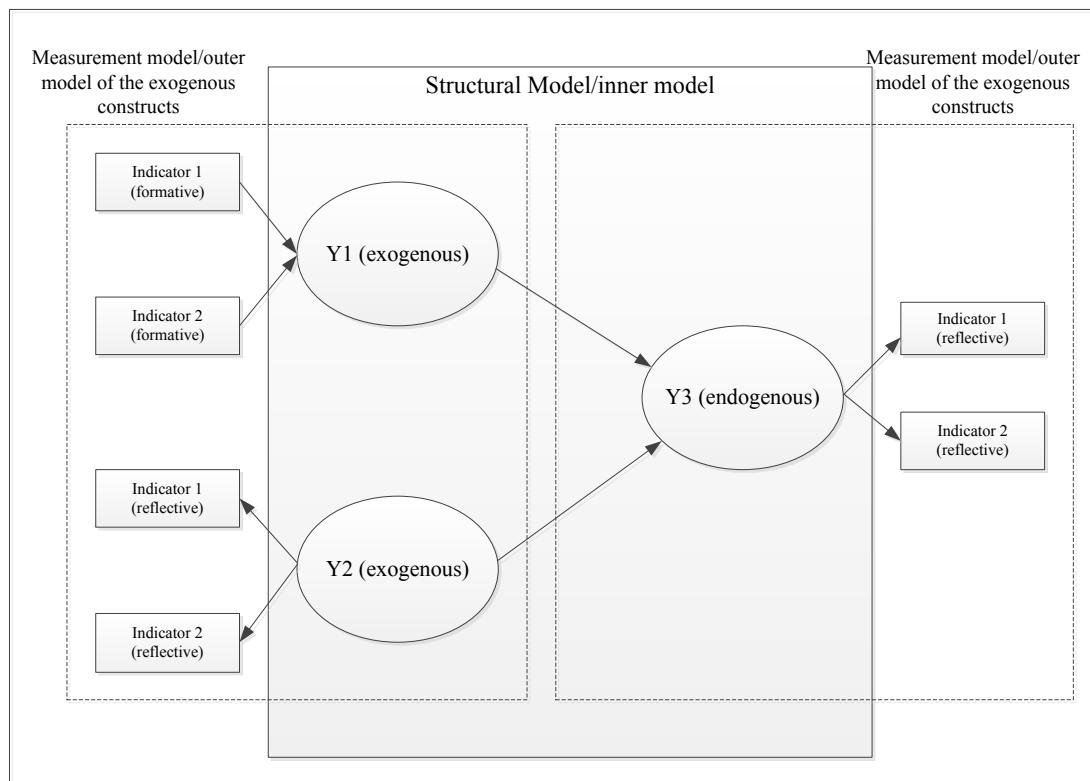
The aim of PLS-SEM is to predict the effect of a set of independent variables on a set of dependent variables (Abdi, 2010). Abdi (2010) explained that PLS-SEM is used as a multivariate technique when comparing multiple response variables and multiple exploratory variables. This technique has similarities with principal components analysis (PCA), but PLS-SEM is a better alternative than multiple linear regression and PCA regression techniques since it presents more vigorous model parameters that do not change with new calibration samples from the target population (Falk & Miller, 1992).

As mentioned above, PLS-SEM is a promising method that gives advantages for SEM researchers especially in terms of "regression-based" approaches that minimize the residual variances of the endogenous constructs (Hair et al., 2011, 2014). In addition, PLS-SEM also provides advantages to researchers that need an alternative approach to examine structural models when the primary objective is not theory confirmation (Hair et al., 2011, 2014; Sarstedt, et al., 2014).

However, PLS-SEM is constrained by some disadvantages. According to Hair et al. (2011), one of the disadvantages of PLS-SEM's focus is with respect to maximizing partial model structures. In the context of the PLS-SEM algorithm, measurement model parameters need to be optimized first and in the second step, estimates the path coefficients in the structural model. Hence, to apply PLS-SEM one has to examine the measurement models' characteristics and deal with those that are unacceptable with analysing the reliability and validity of the models. By following this approach, PLS-SEM findings can be interpreted after assessment of the model measurement characteristics. Another disadvantage of PLS-SEM that restricts its use for theory testing and confirmation is that there is no adequate global measure of goodness of model fit. In general, PLS-SEM parameter estimates are not optimal regarding bias and consistency – a property frequently referred to as PLS-SEM bias (Hair et al., 2011; Sarstedt, Ringle, Smith, et al., 2014).

PLS-SEM involves creating a path model between variables and constructs where it connects based on theory and logic (Hair et al., 2014). Creating the path model is important to distinguish the location of the constructs as well as the relationships between them (figure 5.1). Constructs are either exogenous or endogenous. The exogenous constructs act as independent variables and without an arrow pointing at them (Y1, and Y2 in figure 5.1). Meanwhile, endogenous constructs, usually considered as the dependent variable within the relationship, are explained by other constructs (Y3 in figure 5.1). However, endogenous constructs can also be an independent variable when they are placed between two constructs (Hair et al., 2014; Sarstedt, Ringle, Smith, et al., 2014).

Figure 5.1: A simple path model of PLS-SEM

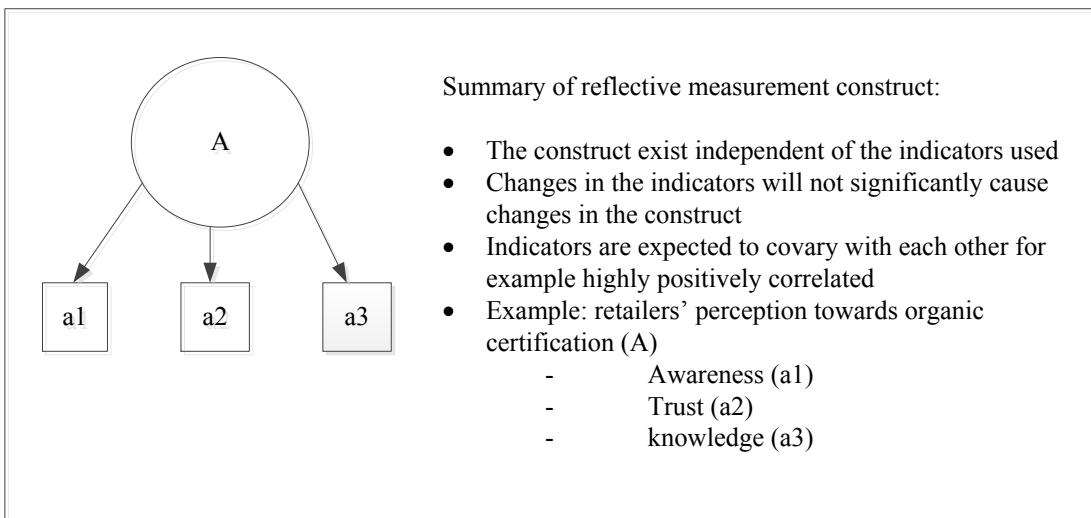


The outer models need to be specified after the inner model is designed. This can be done by making several decision such as whether to use a multi-item or single item scale (Diamantopoulos, Sarstedt, Fuchs, Wilczynski, & Kaiser, 2012; Hair et al., 2014; Sarstedt & Wilczynski, 2009) or the outer model can be specify either reflective or formative manner (Diamantopoulos & Siguaw, 2006; Gudergan, Ringle, Wende, & Will, 2008; Hair et al., 2014; Sarstedt, Ringle, Smith, et al., 2014). According to Sarstedt et al. (2014), this item scale can be also known as indicators, variables or manifest variables. Y2 is measured formatively (figure 5.1) while Y1, and Y3 have a reflective measurement specification.

5.3.1 Reflective Measurement Construct

Reflective indicators (Mode A) in Figure 5.2 are caused by the construct and it minimizes the residual variance in measurement equations that refer to the outer model (Fornell & Bookstein, 1982; MacCallum & Browne, 1993; Sarstedt, Ringle, Smith, et al., 2014). In order to calculate this reflective indicator, a single through regression procedure needs to be done in which each indicator is individually regressed (Figure 5.2). In addition, if the organic certification on product attributes (construct) is measured as a reflective indicator (effect), hence the measures example for its indicators are related to organic attributes. Therefore, there should be highly positively correlated items when construct is being measured. The prediction pattern and construct validity can be affected if the reflective constructs are weak measures for its factor loading.

Figure 5.2: The reflective measurement model (Mode A)



Sources: Adapted from Bollen and Lennox, 1991; Petter, Straub, & Rai, 2007

5.4 Data Analysis

Statistical Package for Social Science (SPSS) and PLS-SEM were used to conduct the statistical analysis. The analysis of this study started with a business summary and demographics. Then, the frequencies and percentages were computed to analyse respondents' profile consisting age, gender, position and educational background and business demographic profiles. Descriptive and ANOVA analysis were used to analyse the perception of the respondent's own retail outlet and perception of and attitude towards other food certifications. As noted above, PLS-SEM was used to analyse the data for quantitative method. Hair et al., (2011) explained typically there are two-step-process of PLS-SEM

assessment that need to be followed which involves separate assessment of the measurement models and the structural model. The first step of PLS-SEM assessment is to examine the measures' reliability and validity according to certain criteria that are related with formative and reflective measurement model specification. In addition, the second step of the assessment involved the structural models when the measures are shown to be adequate. Examining the parameter estimates' stability by means of a holdout sample should be included in any statistical analysis.

5.4.1 Evaluation of Measurement Models

5.4.1.1 Reliability

According to Hair et al. (2011), in order to analyse reliability and validity, reflective measurement models should be assessed. Usually, the assessment of construct reliability focuses on composite reliability that refers to internal consistency of the estimation constructs. On the other hand, for Cronbach's alpha, composite reliability does not assume that all indicators are equally reliable, thus it more suitable for PLS-SEM, which prioritizes indicators according to their reliability during model estimation. Meanwhile, in more advanced stages of research, composite reliability values from 0.60 to 0.70 and values from 0.70 to 0.90 are regarded as satisfactory whereas values below 0.60 indicate a lack of reliability (Table 5.2).

Table 5.2: Rule of Thumb for Model Assessment of Measurement Model

Model Assessment	
Reflective Measurement Models	<ul style="list-style-type: none"> Internal consistency reliability: Composite reliability should be higher than 0.70 (in exploratory research, 0.60 to 0.70 is considered acceptable). Indicator reliability: Indicator loadings should be higher than 0.70. Convergent validity: The average variance extracted (AVE) should be higher than 0.50. Discriminant validity: <ul style="list-style-type: none"> The AVE of each latent construct should be higher than the construct's highest squared correlation with any other latent construct (Fornell–Larcker criterion). An indicator's loadings should be higher than all of its cross loadings.
Formative Measurement Models	<ul style="list-style-type: none"> Examine each indicator's weight (relative importance) and loading (absolute importance) and use bootstrapping to assess their significance. The minimum number of bootstrap samples is 5,000, and the number of cases should be equal to the number of observations in the original sample. Critical t-values for a two-tailed test are 1.65 (significance level = 10 percent), 1.96 (significance level = 5 percent), and 2.58 (significance level = 1 percent). <ul style="list-style-type: none"> When all the indicator weights are significant, there is empirical support to keep all the indicators. If both the weight and loading are non-significant, there is no empirical support to retain the indicator and its theoretical relevance should be questioned. Multicollinearity: Each indicator's variance inflation factor (VIF) value should be less than 5. Indicator weights should be examined to determine if they are affected by (observed or unobserved) heterogeneity, which results in significantly different group-specific coefficients. If theory supports the existence of alternative groups of data, carry out PLS-SEM multi-group or moderator analyses. If no theory or information is available about the underlying groups of data, an assessment of unobserved heterogeneity's existence must be conducted by means of the finite mixture PLS (FIMIX-PLS) method. When many indicators are used to measure a formative construct, with some being non-significant, establish two or more distinct constructs, provided there is theoretical support for this step.

Sources: Adapted from Hair et al., (2011), page 145.

5.4.1.2 Validity

The validity assessment of reflective measurement models' focuses on convergent validity and discriminant validity. Examining the average variance extracted (AVE) is needed for convergent validity. An AVE value of 0.50 and higher indicates a sufficient degree of convergent validity, meaning that the latent variable explains more than half of its indicators' variance. Meanwhile, the Fornell – Larcker criterion and cross loadings have been put forward for the assessment of discriminant validity. The Fornell – Larcker criterion indicates the variance a latent construct shares with its indicators rather than another latent variable in the structural model. This is different from an indicator's loading which is the second criterion of discriminant validity that is usually a bit more liberal. Generally, the loading of indicators that relates to latent constructs should be higher than its loading with all the remaining constructs, for example the cross loadings (Hair et al., 2011, 2013).

5.4.2 Evaluation of Structural model

The structural model is evaluated by measuring the R^2 and the level and significance of the path coefficients. In order to explain the endogenous latent variables' variance, the key target constructs' level of R^2 should be high because it is the goal of the prediction-oriented PLS-SEM approach (Hair et al., 2011, 2013). However, the judgement of the level value of R^2 can be high depending on the specific research discipline. For example, according to Hair et al., (2011), in consumer behavior, R^2 values of 0.20 are considered high. Generally, in marketing research studies, the values 0.75, 0.50 and 0.20 are to be described as substantial, moderate or weak in structural model (Table 5.3) (Hair et al., 2011, 2013).

Table 5.3: Rule of Thumb for Model Assessment of Structural Model

Model Assessment	
Structural Model	<ul style="list-style-type: none"> • R² values of 0.75, 0.50, or 0.25 for endogenous latent variables in the structural model can be described as substantial, moderate, or weak, respectively. • Use bootstrapping to assess the path coefficients' significance. The minimum number of bootstrap samples is 5,000, and the number of cases should be equal to the number of observations in the original sample. Critical t-values for a two-tailed test are 1.65 (significance level = 10 percent), 1.96 (significance level = 5 percent), and 2.58 (significance level = 1 percent). • Predictive relevance: Use blindfolding to obtain cross-validated redundancy measures for each construct. Make sure the number of valid observations is not a multiple integer number of the omission distance d. Choose values of d between 5 and 10. Resulting Q² values of larger than zero indicate that the exogenous constructs have predictive relevance for the endogenous construct under consideration. • Heterogeneity: If theory supports the existence of alternative groups of data, carry out PLS-SEM multigroup or moderator analyses. If no theory or information about the underlying groups of data is available, an assessment of unobserved heterogeneity's existence must be conducted by means of the FIMIX-PLS method, which is available in the SmartPLS software package.

Sources: Adapted from Hair et al., (2011), page 145.

5.5 Ethical Considerations

Ethics can be defined as appropriateness of researcher behavior on relation to the rights of those who become the subject of the researcher's work. Research ethics is about how researcher formulate and clarify their research title, research design, collect data, analyse data and write up the research findings in a moral and responsible way (Saunders et al., 2009). Studies being carried out are required to be conducted with quality and integrity by the researchers (Hesse-Biber, 2010). Therefore, in order to ensure quality and integrity when conducting the research, the author met the requirement of University of Canterbury ethics by submitting the questionnaire and a set of questions for interview to the Human Ethics Committee (HEC) for reviewing. The purpose of HEC is to ensure that researchers whose work involves human participants will conduct their work with appropriate regard for ethical principles and cultural values and in accordance with the Treaty of Waitangi.

Several ethical questions were considered in this research.

1. Questionnaires distributed to the retailers consisted of an opening paragraph stating the purpose of the research and the confirmed confidentiality of the respondents' personal details. Questionnaires were prepared in English and Malay in order to help respondents better comprehend especially for retailers whose English is not their second language as well as to prevent misinterpretation of meaning.
2. The interviews involving government and private organic certified organisations such as Malaysian Department of Agriculture were advised of the research purpose and the use of the findings. In order to give assurance to the respondents, the researcher provides for the confidentiality of their personal details and the information.

Furthermore, before data collection, the author had obtained written consent from all participants involved in this research. The purpose of gaining the consent from the participants was to ensure that they are well informed of the objectives of this research and to gain permission for the author to use the data collected. As this research involved many organizations, the author sent an introductory letter that briefly explains the purpose of the research and also established a vital credibility in order to gain access (Saunders et al., 2009). All data obtained are treated as strictly confidential.

5.6 Chapter Summary

In this chapter, the methods used to conduct this research were discussed. In order to collect the data, mixed method was conducted in sequentially starting with semi-structured interview (qualitative) and followed by questionnaire (quantitative). Semi-structured interview was utilised to interview public and private organizations involved with food retails located in Kuala Lumpur and Selangor. In addition, the data collected from the questionnaire were analysed using PLS-SEM that relied on Likert Scale to measure retailers' perception and organic certification and it is appropriate to test complete theories and concept (Hair et al., 2011).

In overall, this research is anticipated to contribute new findings and result on retailers' perception towards organic certification not only in Malaysia but also in general food retail sector. Moreover, the outcome of the results will be significant to individuals and organizations that consist of the government, private sector, food retail industry and the education institutions, as organic food products become more demanded by Malaysian consumers. Findings for survey and interviews will be discussed further in the next chapter.

CHAPTER SIX

Findings – Semi-structured Interview

6 Introduction

As noted in Chapter Five, a two part of combination of qualitative and quantitative methods were applied in this study. Qualitative data were collected and analysed via semi-structured interviews conducted with participants who have the experience and knowledge in food certification, and organic certification in particular. The interviews were conducted to gain additional information and understanding of organic certification in order to assist in developing the survey question as well as providing insights in their own right.

The first section in this chapter will detail the profile of participants who were interviewed for this study. The analysis shows that most of the participants agreed that organic and food certification is important in the food supply chain. They also discussed the relationship of organic certification attributes with producers, retailers, government and consumers. During the interviews, the participants also revealed some of the issues associated with organic certification such as misconduct and misuse, lack of enforcement, difficulty of applying for organic certification, lack of consumer knowledge and awareness; and limited certified land and farms.

6.1 Profile of Participants

Participants for this study came from the public sector, private-sector organizations and food retailers. On average, they have been working in these organisations for more than three years. The purpose of the study was explained to participants and the author also informed them that the interview would be recorded with anonymity assured. A consent form was given to participants who agreed to participate in the interview session (Appendix 3 (English) and 6 (Bahasa)). The author then explained again what has been written in the consent form in order to ensure participants fully understood the purpose of the study and the contents of the consent form. Once participants have given their consent, the interviews were commenced based on a series of questions prepared by the author.

Table 6.1 indicates the profile of participants including job position, organization and work experience. Interview participants were selected who represented different organizations with six participants from public organization, three from private organizations and three from

food retails. All the participants are from government agencies, non-profit organizations and food retails. There were twelve participants in total.

Table 6.1: Profile of Participants

Participant	Job Position	Organization	Work Experience
1	Director	Public	Three years
2	Assistant Officer	Public	Six years
3	Assistant Director	Public	Eight years
4	Assistant Director	Public	Six years
5	Director	Private	Sixteen years
6	Assistant Director	Public	Four years
7	Executive Officer	Public	Three years
8	Project Coordinator	Private	Ten years
9	Chairperson	Private	Twelve years
10	Manager	Food Retail	Six years
11	General Manager	Food Retail	Five years
12	Senior Manager	Food Retail	Ten years

6.2 Analysis

The interview session initially covered the participants' understanding of organic and food certification including its importance in a food supply chain context. The discussions then went more in-depth by covering the reliability and the implications of organic certification on the organic food products in Malaysian market.

All the interviews were recorded and transcribed. As for the data extraction, the author analysed the data by reading all the transcripts and identified any issues related to this study. To ensure all the transcriptions were checked thoroughly, repeated readings were performed in order to avoid miscoding. The data collected were extracted manually under thematic headings and later were analysed by using thematic analysis. A list of coded categories was drawn up and three main categories were organized for thematic analysis. Three common themes were identified among the participants interviewed: the impact of organic and food certification in food supply chain; organic certification attributes that signify the organic food product; and organic certification issues. All the relevant keywords transcribed from the data were carefully selected and positioned under related categories (Table 6.2). In addition, the keywords for every category were identified based on the literature review in Chapter Four.

For example, the author selected the keywords for organic certification attributes if any participants mentioned words such as food safety, food quality, trust or credibility.

Table 6.2: Stage of Thematic Analysis

No.	Stage	Description of the process
1.	Familiarizing the data	Transcribing data in discreet way. Transcriptions have been check thoroughly in order to avoid any miscoding.
2.	Extracted the data	The data were extracted manually with analysed using thematic analysis.
3.	Generating potential themes	Potential themes were collated
4.	Reviewing themes	The potential themes has been checked with the original data set.
5.	Defining and naming themes	Formulating the themes by generating clear definitions and names for each theme.
6.	Writing the analysis	The analysis of the themes were written in order to develop the survey for quantitative data.

Several supporting themes such as food safety and quality, trust, credibility/reliability, traceability, sustainability/environmental and price were developed under the organic certification attributes theme. The remainder of the themes also provided an in-depth understanding of the organic concept from the perspective of the interviewees.

During the interviews, some of the participants requested to be interviewed in Bahasa Melayu as they felt more comfortable communicating using the national language. For the presentation of the results, some of the quotes were translated from Bahasa into English. In addition, anonymised participant information was provided with relevant quotations from the interview.

6.2.1 Impacts of Organic and Food certification in Food Supply Chain

The interviews indicated that most of the participants understood the purpose and the role of organic and food certification. Participants expressed this matter based on their knowledge of the concept of organic and food certification. They also suggested that the knowledge of organic and food certification is important to consumers. They also acknowledged that organic and food certification has implications for the food supply chain, particularly in Malaysia, given government initiatives, producer roles, retailer responsibilities and the importance of consumer knowledge.

The interview began with the topic of the definition of “organic” and this led to a more detailed discussion on the concept, such as the organic certification process, standards, benefits of organic food products and the differences between organic and non-organic products (Appendix 9 (English) and 12 (Bahasa)). Indeed, the majority of participants from public, private organizations and food retails defined the basic meanings of organic food according to their understanding.

Organic food is related to the plants or green foods farmed without using any chemical substance. Organic food is produced naturally and there is no other chemical substance used during the process of planting. Biological control is frequently used together with the natural fertilizer that has no harm from any chemical substance. (Director of Quality Control, public organization) (Translated from Bahasa)

Consuming organic food is free from any chemical substances as well secure from any human and animal waste. (Assistant Director, public organization) (Translated from Bahasa)

With respect to retail perspectives on organics, the participants from food retailers explained that the ingredients in organic processed products should not contain any chemical substance ingredient except organic ones, and aquaculture products should be produced without any chemical and hormone.

In Malaysia, we have organic certification which also known as Sijil Organik Malaysia (SOM). Organic is related to process from farm to fork that does not involve any pesticide and chemical. Organic can be categorised into two products, fresh product and processed product. My understanding on organic processed product, under Food Act the ingredients in the processed product should be 85% organic. Usually we as retailers will use the certification to determine if the product is organic or not. (Manager, food retail) (Translated from Bahasa)

Well as far as my understanding is concerned I think organic food would be any food or agriculture or even aquaculture products that is produced or grown without the use of chemical in the sense of fertilizer, hormone and so on. (General Manager, food retail)

In addition, all participants noted that it is important for consumers to have knowledge of organic and other food certifications. The participants suggested that consumers need to have

knowledge and better understanding when purchasing any product in the market. A participant from food retail felt that Malaysian consumers were not exposed to organic products because the awareness and acceptance phase of this product is still early. In general, consumers with organic knowledge and coming from medium or upper income group are usually the consumers who consume the organic food products.

Consumers that have knowledge regarding the importance of certification will be able to ensure the product is free from any chemical substances and if the product has a “MyGap” certification, it means the product has a low amount of chemical substances. However, without certification, we do not know how the products were made and what the process is. In order to acquire certification there are procedures to be followed. Consumers that have knowledge of MyGap or organic product will know the product is monitored during the process. (Assistant Officer, public organization) (Translated from Bahasa)

There are some consumers that already have a good knowledge regarding organic products while some of them do not. For people who do not have any knowledge about the organic product they will accept and buy the product once they saw the organic word. (Assistant Director, public organization) (Translated from Bahasa)

Well the purpose of organic for right now is still a very infant category of product. Consumers are still well not too much exposed to this range of product. As far as what is mainly catering to a lot of peoples who can afford more, who can afford this kind of products and who are a little bit more health conscious compared to the general public. So this is basically still a very niche product, very niche in the market it is still not very well spread out. (General Manager, food retail)

Participants from private organizations commented that every type of food certification has its own purpose and objective but that the main priority of all these food certifications is to ensure food products in the market are safe for consumption. Food certification is also regarded as acting as a marketing tool to differentiate the product. For example, products that are claimed to be organic need to have organic certification in order to differentiate them from non-organic products.

All types of food certification ... purposely ... ensure the safety and quality of food products. Like MyGap to ensure to produce a good agriculture on practices. Similarly,

Skim Organik Malaysia is to say it is organic. So there is different kind of certification of food that not all organic. Nevertheless, the idea is to ensure that it needs whatever is claiming to the criteria for those types of certification. (Chairman, private organization)

Basically because organic food is making a claim of additional things that they do and therefore it must take this road because certification is third party verification that needs it produce accordingly as claimed. It is also level playing field away to make sure that all operators operating in the same way. I think most importantly is an instrument for market confidence. (Director, private organization)

Participants explained that organic and food certification has implications in the food supply chain. Most of the participants agreed that the Malaysian government has taken the initiatives to help organic producers and farmers by providing several forms of assistance, for example free application fees. One of the participants mentioned that only Malaysia waived the fees compared to others countries where the cost of certification is quite expensive. Another government initiative is providing guidance the farmers and producers in applying for certification as well as assiting them to continuously adhere to the Skim Organik Malaysia (SOM) standard after gaining the certification.

From the start of the application until the producers get the output, there is no application and analysis fees in Malaysia Organic Scheme. Even in Thailand have charges when applying the certification. So we should be proud because Malaysia did this as welfare. (Assistant Director, public organization) (Translated from Bahasa)

All they need to do is apply to the Department of Agriculture for SOM certification “Skim Organik Malaysia” and it basically free. They have just do the paper work, keep record and all those things that they need to do in order for Department of Agriculture can visit them and certify them. It is basically free. I think it is same for GAP, Malaysian government is not charging for the certification. (Director, private organization)

Moreover, participants expressed that organic and food certification is important as it determines and verifies that organic food products have met the requirements of the food standard. Although it is important to have organic or other types food certifications, one of the

participants mentioned that the purpose of organic certification is to give recognition to any organic producers who follow and meet the organic standard.

The purpose in having organic certificate is to acknowledge the farmers that practicing organic farming in Malaysia by giving them organic certification. We only issued organic certification to the farms that produced organic foods in Malaysia. (Assistant Director, public organization) (Translated from Bahasa)

Organic and other food certification was also recognised as having implications for retailers. As organic food certification become more important in food supply chain, participants suggested that retailers need to play their roles by selling organic products from recognized producers and suppliers. This can be done by ensuring the validity of all the producers or suppliers with the organic certification through the Department of Agriculture's website. This helps the retailers to verify the suppliers or producers and they do not need to use a third party service to find them. A Director from a private organizations expressed the opinion that even though retailers do not need to acquire any certification, they must still make sure all the products in their retail store has certification as part of their roles in the food supply chain.

As for the retailer, it is most preferred for them to take organic product from a manufacturer that does have an organic certification (Assistant Officer, public organization) (Translated from Bahasa)

The retailers do not deal directly with us but sometimes they do go to our directory website page. It displays the name list of Malaysia organic certification recipients. So, if the retailers want to have extra suppliers they can search through our directory page. They can deal directly with the supplier as we do not provide any service to find the suppliers for them (Assistant Director, public organization) (Translated from Bahasa)

Retailer is different they consider as handler and they do not need any certification but they must handle product that have certification. I mean they need to do due diligence so when they buy products that claim to be organic products that actually authentically certified to Malaysian regulation. But there is no enforcement to date, so it doesn't matter whether you do or don't. But it's only last week, Ministry of Agriculture call for meeting and they need the retailers to know, that peoples are asking a lot of questions about whether the organic in the supermarket is actually organic or not. So, you have to shape up otherwise when we come, there will be a problem and in the

Malaysian legal context mislabelling is part of compoundable offense (Director, private organization)

We will not accept a product that says it is organic but it does not have proper certification. (General Manager, food retail)

For retailer, we will disaggregate the organic in one section for the customer easy to check and then all our suppliers have to give us the certificate to prove to verified. (Senior Manager, food retail)

Previous research of organic and food certification in Malaysia was more focused on consumers perspectives compared to the supply side, particularly food retailers (Hamzaoui-Essoussi et al., 2013). Hence, focusing on the food retailers can provide more understanding as to the importance of organic and food certification in food retailing. The participants showed that organic and food certification was important in food supply chain and they emphasized that consumers need to have more knowledge and awareness of organic and food certification. In sense, the purpose of the organic and food certification certainly has implications on food retailing. Some of the participants explained organic certification has implications on producers with involvement of the government to help the farmers and producers to produce organic products. Although retailers do not need to apply for certification, they still have to monitor and ensure that all organic products sold in their retail outlets are valid.

6.2.2 Organic Certification Attributes

All the participants defined the notion of organic in terms of their own understanding. They explained the attributes of organic certification based on their knowledge and expertise. Food quality and safety, trust, credibility, traceability, sustainability and price are the attributes that were found in this study. In addition, there were differences perspectives from public, private and food retails on these attributes.

6.2.2.1 Credibility/Reliability

The credibility of the product is very important especially for products that claim organic, Fair Trade, sustainable or halal status. As noted in Chapters Two and Three, the information asymmetries of credence products are increasing and can lead to unnecessary or inappropriate behaviors in the food supply chain (Anders et al., 2010). From the interviews, the participants

indicated that the purpose of food certification, such as organic, is to differentiate between certified and non-certified products. In addition, organic certification also ensures the credibility of the products as being of good quality and the consumers are able to trust such products when purchasing. In contrast, participants from food retail commented that organic certification should be effective because the consumers are willing to pay premium price of organic products.

The difference between organic and non-organic product can be determined by the logo itself. If they already have the organic certification, the product that they sell definitely has the logo or logo sticker of SOM (Skim Organik Malaysia). The logo contains the reference number of the certificate for the products. (Assistant Director, public organization) (Translated from Bahasa)

Consumers are more attracted or interested when they see a product that has food certifications such as Halal or organic as they put their trust on that products. (Assistant Director, public organization) (Translated from Bahasa)

Consumers are willing to pay and contribute more of their proportional spend to buy organic products. So, the organic certification should be effective when differentiate the organic and non-organic product. Without the certification, it is difficult for us to differentiate them. Other than certification, we cross check with the suppliers by auditing their farm facilities. We have done that in order to make sure the products are organic. (Manager, food retail) (Translated from Bahasa)

To ensure the product is organic we cannot tell from the outside of the product. For example, you give me a corn organic and non-organic corn, so we only can tell from if the organic food has certification such as SOM that can prove to us the food is actually have gone through the process without using any synthetic (Senior Manager, food retail)

Private sector participants explained that the credibility of organic and food certification is dependent on the effectiveness of the symbol or the mark on the product when delivering the messages to consumers. However, such a message cannot be delivered effectively if consumers do not understand or know the different types of certification in food retailing. Moreover, the credibility of organic certification is in the farmers' interest because they need to meet all the required organic standards in order for them to claim their products as organic.

Meanwhile, the participants from food retail felt that certification is a channel to ensure the products have valid certifications due to the information asymmetries of the organic products.

It is effective if the messaging and the symbol that is used is well message. It is not the system itself does the checking but the consumer only know if the message goes out. Therefore, if the message is not coming out strongly well communicated people still do not understand it. It is a system that can allow easy identification with use a common marked. If used a common mark, then it easy. If you do not have a common marked and you have everybody certification marked in the market place then is not easy. Consumer cannot learn about what the difference certification bodies. (Director, private organization)

To protect the farmers interest as well. In somewhere also is to make the farmers responsible because if you can read all the criteria you know to be able certified. (Project Organic Coordinator, private organization)

It is because is only a way that we can be sure that foods and vegetables are really organic as I said if it does not have certificate it does not mean is not organic but then there is no way of telling. So the only way of to be sure is to have a real certification by certified bodies and as far as retailers like us you know buyers there is no way for us to tells. Even when you visit the farm to look at organic vegetables there is no way to tell. But the certification would be I would say a channel that we can you know be sure that the products are properly certified. (General Manager, food retail)

The participants explained that Malaysian organic certification follows the international guidelines that are accepted by other countries. They argued that as a result, Malaysia's organic certification can be considered as being of good quality. One of the participants from public organizations mentioned that with respect to organic certification from other countries there is a need to know the level of enforcement of regulations. In fact, with any recognised certification body or organization, it is important for them to gain trust from consumers and stakeholders as this will influence their credibility.

In general, I cannot talk about other organic certifications but as for Malaysia organic certification, we are following the guidelines given under organic international guideline. The international guideline that we follow is also accepted by ASEAN countries. Therefore, we think that our certification is of very good quality and

supposedly it can be accepted by everybody, including foreigners, if it is being exported outside of the country. (Director, public organization) (Translated from Bahasa)

In Malaysia, SOM is definitely effective in differentiating between organic and non-organic. If it is from other countries, we need to know what countries issued the certification and then whether implementation and enforcement really follows the standards or not. (Assistant Director, public organization) (Translated from Bahasa)

Obviously, food certification is important because once we talk about certification, we know it has been recognized or endorsed by any bodies that relate to food certification itself and we can put our trust on this food certification. (Assistant Director, public organization) (Translated from Bahasa)

Furthermore, from the perspective of business strategy, the credibility of organic and food certification on food products is important especially for products that have a premium price. One of the participants suggested that organic and food certification helps the company to export their products. The credibility of the certification helps determine the quality of food product. This is particularly important for organic products due to the price being slightly higher than non-organic ones.

As we go forward to globalization, we need export our [organic] products to overseas more. Therefore, in order to gain access for the product in other countries, one of the global trends that I can see is we need to show our product is good. Food certification is one alternative to ensure that our product is good as it will help our exporters. Definitely in our country, the awareness of buyers is high because when they saw the product that has logo and certification they are more confident to buy the product. (Director, public organization) (Translated from Bahasa)

In relation to the credibility of organic products, all the participants were asked their views on its function as a product differentiation strategy. The respondents suggested that organic certification can help retailers in product differentiation. However, the retailer needs to ensure the level of organic demand is high because the price is relatively high compared to non-organic products. In addition, there is a well-established effort where retailers work together with the producers and the government to promote the organic products.

Actually, we already cooperate together with producers and other retailers like Tesco whereby we invite them to promote organic product that carried Skim Organik Malaysia (SOM). They also sell products from producers that carried our organic certification. Then I think, a few of them like Tesco focus on organic product such as vegetables that have SOM certification. (Director, public organization) (Translated from Bahasa)

To us, we look at product certification as one way of branding food that is really quality product differentiation and all that. Those are marketing terms. It is probably yes. (Chairman, private organization)

Participants that are expert on halal certification commented that certification in Malaysia has positively impacted manufacturers sales when their products carry halal certification. The participants explained that the majority of consumers in Malaysia are Muslims where they tend to perceive halal certification as more credible compared to other products that are not halal certified even the products are claimed to possess organic status. In addition, one food retailing participant agreed that halal certification was a push factor for consumers to purchase products at retail outlets.

For me, it really helps. Why? We conducted a random survey with manufacturer to know the difference before and after they obtain halal certification. From the results, the manufacturer explained that there is a significant difference in sales after obtaining halal certification. Consumers everyday talk about halal product and halal premises. Therefore, we can see how the manufacturers and consumers demand halal product. It does not matter if the products can heal any diseases or declared as organic, [without halal status] consumers will be doubtful to consume it. (Assistant Director, public organization) (Translated from Bahasa)

We have halal certification, as Muslim population in Malaysia is 66% [of total population]. Although halal certification is a voluntary basis, the certification has become a compulsory to manufacturers including to our retail stores because halal certification is considered a push factor of consumers. So, the products need to have halal certification when listing in our retail stores. (Manager, food retail)

One of the participants suggested that organic certification helps the producer or processor in their product differentiation strategy but that organic certification can only differentiate

between the organic and non-organic product. The participants commented that organic and food certification is a regulation they need to follow and if not for the consumers' concern they could not care less about the certification. Interestingly, a Senior Manager from one of the food retailers felt that organic product is a selling strategy as consumers are more confident with the products instead of having doubts whether the products are properly certified.

I think it might help the producer or the processor to differentiate his product and the differentiation of the product if only there are other products to differentiate from. In GAP categories, if all foods are supposed to be GAP then there is no differentiation in the market. Organic certification can only differentiate against non-organic products not within the organic. (Director, private organization)

Organic is considered a premium product in the food market and we sell it at premium price. Actually the price is set by the suppliers and we just follow the given price. For me, it has advantage and disadvantage. When the suppliers have the organic certification, we can sell the products as a premium. So, it helps in terms of margin. Although the margin is a bit high but the sales value is a bit less. Actually, food certification is a consumer trend and some of the consumers do not know food certification. We did this because of the regulation, otherwise we do not care about food certification. (Manager, food retail) (Translated from Bahasa)

Not so much on product differentiation because the fact that when you have certain organic range of products in the market normally most retailers will have it. So is not really so much of differentiation but rather a selling strategy because consumer will then be more confidence with the product and then you know they will be more confidence to buy rather than having doubts whether the product properly certified. So it not so much on differentiation but I would say it is more on product selling strategy. (General Manager, food retail)

Public organization participants perceived the credibility of organic and food certification in terms of two specific elements. First, to ensure product quality so as to ensure consumers' confidence when purchasing the products. Second, is to demonstrate Malaysian organic certification is following international guidelines that are acceptable among other ASEAN countries and that helps those that want to export their organic products. In contrast, private organizations and retailer participants perceived that the organic and food certification is a

means to communicate with the consumers. In addition, the credibility of the organic certification is for the selling strategy because organic products are considered as a premium product.

6.2.2.2 Trust

Participants argued that products in food retailing need to have certification as it proves that the products have met the requirements of food standard. Most of the participants explained that organic and other food certifications are used not only to determine the quality and safety of the product but also to gain consumer trust. Participants from food retail commented that there might be organic products that do not have organic certification because they did not undergo the certification process yet. However, another participant mentioned that consumer trust depends on whether consumers are discerning or not towards certification.

Yes, by displaying the certificate, consumers will feel more confident with that.
(Assistant Officer, public organization) (Translated from Bahasa)

If people have more trust in the direct observation on the farmers then certification hasn't carried much weight. But theoretically, or originally discerning consumers it will have made it different if you are discerning. If you are not discerning, certification does not make a difference. You will go whether for cheap or somebody recommended you to the brand or somebody said go to the retailer and buy, that's all. So, certification effectiveness depends on discerning consumers. If consumer is not discerning it is not effective. (Male, Chairman, private organization)

Certification of course is something [that] is a sign of confidence to give to the customers because there have been many products who claim to be organic but without any certification. But again is still very subjective to say that those products are not organic just because they do not have a certification because they probably not going through the process of certification. So right now I think in Malaysia itself certified organic food or vegetables or for that matter it is still very limited where else there are also some range of imported organic products from Australia, from New Zealand and so on. So those are bit of mixture of products that we can find in the market today. (General Manager, food retail)

A majority of the participants suggested that large numbers of different organic certifications in food retail may confuse consumers and affect their purchasing decisions. Two participants

explained that imported fresh organic products in Malaysia usually have international certification and not many consumers are aware of or understand the different types of organic certification.

Sometimes, it does create a doubtful sense. We do import fresh organic products and these are repackaged by a company located in Malaysia. It means the product has been imported from the countries that declare it as organic. So, it does affect consumer buying decisions. Educated people probably know and understand about food certification but for local consumers, they will feel more confidence towards local product. To some extent the influence is based on consumer education. (Assistant Officer, public organization) (Translated from Bahasa)

Consumers are confused because of many types of international certification. At the moment SOM is only for vegetables and imported apples. Of course there will be no SOM certification. So in that sense the certification comparison does not apply at the moment until we can have certification for dry stuff. Very few consumers know about that, first they don't look for labels. Secondly, even if they look for label they don't know the background. They may know about SOM but they may not know Australia (NOA). (Chairman, private organization)

Well I am not so sure because organic is still very new to the market and to be frank if you ask the normal consumers today what is the certification body of the organic food? I do not think they can't answer it. If you show him a funny logo and telling them this is a certified organic body they will say yes. So I think the knowledge of the consumer today are still very limited they only know by words, if you say organic you show them some organic certification and they will take it as organic. (General Manager, food retail)

The involvement of the government was also regarded as important in order to increase consumers' confidence and trust due to the many types of international organic certification that can be found in food retail. Participants from public and private organizations mentioned that consumer trust' towards organic certification depends on how much they trust government regulation. Therefore, trust is a two-way relationship between the government and consumers.

Consumers confuse the difference types of organic certification and basically they want to know whether or not the international certifications are endorsed by us. The truth is it is based on the enforcement of the countries itself. (Assistant Director, public organization) (Translated from Bahasa)

It pretty much depends on the scheme owner and the enforcement that has been used by the scheme owner. In that ways, sometime people trust one scheme more than another scheme and the scheme may use multiple agents for implementation. So within the schemes sometime people would trust one certification bodies more than another because they think that supervision of all agents are not 100% prove. In the place where the scheme owner or if it the government and there is high level of trust in the government there will be high level of trust in the organic certification scheme. If there is a low level of trust in the government in the system there will be low level of trust. For example, in Europe, the European Union has one common scheme and then in different market, some market literally they prefer the EU mark because they think the EU is more trustworthy than the Italian situation. Then you go to England and they do not care about the EU mark, they prefer the local Soil Association because they think what EU has to do with anything and they do not trust against the EU. Thus, it is depending on the scheme owner. (Director, private organization)

In contrast, a participant from food retail mentioned that organic and food certification is important for them to build trust with third party certification because they want to ensure that the products coming into their stores have valid certification.

It important definitely because we build trust on the third party certification. So without the third party certification, every food retails need to go audit the farms by themselves. But if they have the SOM certification mean that they already have HACPP certification. (Senior Manager, food retail)

Participants from private organizations also suggested that the retailers need to fulfill their roles by displaying the certification and ensuring that it is valid. The participants went on to explain that if there is no certification to validate the logo of the product, it is certainly not enough to gain consumer trust.

It is about obligation because they are supposed to display otherwise how consumers are supposed to know the SOM is valid. The logo is still not enough unless there is

certificate that saying the logo is still valid. That is why it goes to certification but if you trust the farmers then you do not look for certification. Therefore, certification is very good and gives trust for those who do not know the producer as well for consumers that are discerning (Chairman, private organization)

I think we are not allowed to published the certificate. Likewise, when you talk about halal product, we are not allowed to published the halal certificate but when consumer query of course all of our store will have a set of those certificate in their hand to actually show to customer. (General Manager, food retail)

The value of certification for retailers is to gain consumer's trust when they purchase food products. It is particularly important for premium products such as organic to be differentiated from non-organic products. Participants from both public and private organizations emphasized that trust in organic and food certification is a two-way relationship between the government and consumers because of how much consumers trust government-backed regulations. Meanwhile, the perspective of food retailers is that trust of organic and food certification is more between retailers and third-party certification that helps retailers to save their time to audit the farms.

6.2.2.3 Food Quality and Safety

Participants suggested that consumers are increasingly concerned about the quality and safety of food products. They also argued that the quality and safety of food products, including organic products, can be only determined by food certification:

Organic certification determines that the products do not contain any chemical substance. Nowadays, the consumers are more concerned with the effect of chemical substance in the products. Therefore, when the consumers see the word 'organic' they automatically know the product does not contain any chemical substance. They will have the intention to purchase the organic product instead of conventional products that probably have chemical substances and pesticides. So, I feel certification is important (Director of Quality Control, public organization) (Translated from Bahasa)

It is important for organic product to be certified because if the consumers are concerned about family health and so forth, they will choose organic product that has been certified. They definitely know that certified organic product will guarantee the

safety of the product and is safe to be consumed (Assistant Director, public organization) (Translated from Bahasa)

Organic certification is important. Nowadays, there are many organic products in the food retail but it cannot be sure whether the product is organic or not. This is because the organic products that do not have any organic certification could only have a label. With organic certification, we can ensure the quality of the product. However, without certification, we could never be sure of where and from what agency that produce the organic product. Some supermarket for example Jusco, they will need to display the organic certification even if they have Skim Organik Malaysia (SOM). Therefore, organic producers that produce organic products supposedly need to display those certifications in order to ensure and convince us by not depending just on the label (Assistant Officer, public organization) (Translated from Bahasa)

Basically certification ... ensures there is a basic quality that people who make claims to protect the consumers actually. So end consumer is not cheated (Chairman, private organization)

Each of the food certification carry different check point of course for organic they will look more on how the process validate the process of the product from farm to fork to make sure it the process really no have cross contamination or anything from synthetic materials (Senior Manager, food retail)

Participants also agreed that food quality and safety may influence purchasing decisions. They pointed out that organic and food certification can influence consumer decision-making if the product is perceived to have high quality and safety attributes. They stated that consumers are more concerned about the use of pesticides in supermarket food products than other safety dimensions. A director from a private organization also mentioned that if consumers are not convinced with safety enforcement then organic products are regarded as the best alternative for ensuring the safety and the quality of products.

With organic certification, consumers that are safety-conscious are more confident towards organic products as they know the organic product is high quality. So they will definitely have confidence on the quality of organic product and understand how harmful the pesticide is and so forth. That is why they choose organic products

compared to the others (Assistant Director, public organization) (Translated from Bahasa)

If the consumer has lost confidence in food safety enforcement then they will choose organic from safety side. (Director, private organization)

Does organic certification give priority to consumer, the answer is yes. Meaning that, it will influence their decision to buy organic product that carried organic certificate. (Assistant Officer, public organization) (Translated from Bahasa)

We will feel confidence with the product that have certification as it shows the good quality and safety of the product. (Assistant Director, public organization) (Translated from Bahasa)

As mentioned above, consumers are concerned about food safety and quality. During the interviews, participants noted that many organic products can be found in the food markets and by carrying the organic certification on the products, it can be ensured that the products have met the requirements of food standards. In addition, certification influences consumers to purchase the products especially for those who are safety-conscious.

6.2.2.4 Traceability

In order to maintain the reliability of the product, traceability is regarded as essential in organic and food certification system and has become one of the most important requirements for food certifications programs and monitoring of the food supply chain. All the Malaysian organic certification and GAP recipients have a registration number that includes the details of the farmers or producers.

Every producer has the registration number for GAP and SOM certification. If there a case of food poisoning or anything else, we can trace who is the producer. Although the Department of Agriculture do not have enforcement but it depends on other act which is Food Act under Ministry of Health. (Assistant Officer, public Organization) (Translated from Bahasa)

Organic certification has traceability that can trace the location of the farms, the producers and so forth. Therefore, consumers can trust organic certification and if there any concerns they can directly refer to the Department of Agriculture in order to

get clarification whether the company is really producing organic products or not. (Assistant Director, public organization) (Translated from Bahasa)

The purpose of organic certification is to ensure the products or the outcome is originally organic and if anything happens, we can trace it back. It means that products can be traced. (Assistant Director, public organization) (Translated from Bahasa)

With respect to traceability issues, questions were asked to all participants with respect to transportation and storage. Public and private organization participants suggested that organic products should be separated from non-organic products in order to prevent contamination. A private organization director explained that it depends on how the producers and retailers manage transportation and storage. Without proper handling, the products are still at risk of contamination, however, this can be avoided by following the procedure on how to manage the handling properly.

For organic produce, there have standard procedures for harvesting, packaging, labelling and marketing. The supply chain should be separate from non-organic produce and if they do so, they should have some barrier/physical separator to prevent the organic produce from contaminated. In addition, it must be able to trace. (Assistant Director, public organization) (Translated from Bahasa)

Rather doubtful in Malaysia except in cases where the final sale product is examined for quality. (Chairman, private organization)

Depends on how they are managed. Risk of contamination also depends on the manner in which product is packed for transport and storage. For example, there is little risk of contamination of a sealed package even if transport or storage is not clean or contain non-organic substances. Things can get mixed up if they are not handled properly. Obviously, if there are non-organic items sharing the same space there will not be any mixing. That is not the point. The point is good management and handling should be able to handle organic and non-organic and not mix them up. This is similar to handling different grades of one type of product, e.g. grade A and grade B rice. There are many management and handling procedures to do this well. Standards need not be prescriptive in what the operator should do. They clearly state the desired objective, i.e. there shall not be any comingling or contamination. This applies for

handling different grades of similar organic products as well, e.g. organic rice.
(Director, private organization)

Although the public and private organizations have similar perspectives on transportation and storage, the retailers seemed to have different opinions. A participant from food retail felt that bacteria contamination will not happen between natural and organic vegetables as compared to exposure to raw products. In contrast, one participant from food retail commented that their outlets advised suppliers to pack and label the organic products. He added that there probably has been contamination issue caused by mixing up with other non-organic products due to transportation cost.

They combined, they are not contamination that can happen between natural and organic vegetables unlike cook product and the raw product. It can easily contaminate because of the bacteria. But if we talked about organic vegetables versus non-organic vegetables there is specifically not many ways of contamination that can happen.
(General Manager, food retail)

Transportation for agriculture, certain products have labelling and some of them are not. What we usually do is advise the suppliers to make sure that they pack the products with the label before they delivered to our retail. So, the potential for contamination is there because they also have non-organic product and to maximize the logistic cost they need to mix up. But, we can differentiate it by the packaging itself. Usually for organic product, it should be pack and label. (Manager, food retail)
(Translated from Bahasa)

In relation to the retailers, participants from public organizations suggested that retailers always need to be aware and monitor the validity of Malaysian organic certification on organic products in their store. The retailers can check on the validity of organic certification through the Department of Agriculture Malaysia's website containing information on validity of producers' organic certification. This is regarded as allowing the retailers to know the status of organic products and encouraging them to be more responsible for the products sold.

I think that the retailers need to monitor the logo and there is information on the logo for them to check. If the retailer is suspicious whether the label is valid or not, they can directly ask Department of Agriculture. (Director, public organization) (Translated from Bahasa)

We do have a website that list all the valid and expired organic producers and MyGap. So we give this facility for the retailers to make sure whether the product they sell is organic or not. (Assistant Officer, public Organization) (Translated from Bahasa)

We need the traceability because we need them to display the certification in order to know which farms or suppliers that they took it as well what are the resources and so forth. If the product is recalled, we have to get the details. Therefore, retailers must monitor the organic product that they sell because we have listing all producer names that has been certified. The organic certification is valid for only one year and it needs to be renewed every year by the producer. If they stop renewing, we definitely remove them from our active list and if we know the retailer still buy from them [and sell as organic], then we will have to ban this retailer. (Assistant Director, public organization) (Translated from Bahasa)

Food retailers also argued that their only concern was on the sales of their products. It is important for their retail outlets to monitor sales instead of monitoring the product certifications. Meanwhile, other participants mentioned that as a retailer, the only measure they can do is to ask the suppliers to provide organic and food certification. Even so, they agreed that responsible certification bodies need to ensure that producers or manufacturers comply with the standards.

Because we are retailers, I mean the only thing that we monitor is the sales of the product. Number one of course we want to have return on the product, we cannot afford to buy and throw or buy and keep them for month. As far retailer is concern is purely on the commercial point of view because we buy the product we have to make sure we sell the product. I think in the end is how much of grow category that we can project each year because again as I said from the commercial public we want to grow our business. So we the last thing we want to have is a category where the sale is on the negative grow. So to answer the question I think what we monitored as far retailer is concern is purely on commercial point of view. (General Manager, food retail)

For our part, we just have to ensure the suppliers when the supply to us they must get from the farms that is a SOM certified and those dry products if they claimed organic they have to give us the certificate. That all we can do from retailer part. So in term of comply or not comply to organic standard the certification bodies have do their part to

ensure the farmers and the manufacturers complying to organic standard. (Senior Manager, food retail)

Traceability is one of important requirements in quality assurance schemes for monitoring the food supply chain. An interesting finding during the interview session was that food retailers argued there is no contamination issue taking place between natural and organic products compared to raw products. However, due to the logistics cost, they need to be handled with non-organic products as the retailers mentioned that they did ask the suppliers to pack and label the organic products to differentiate with non-organic products. Another significant finding is that food retailers are only concerned with product sales instead of monitoring the organic certification hence the certification bodies need to ensure the producers and manufacturers comply to the standards.

6.2.2.5 Environment

One of the perceived advantages of organic certified products is that a consumer believes or perceives the organic product values such as health, being environmentally friendly and taste (Zagata, 2012). Participants commented on how organic certification not only focuses on the process by which organic products are produced but also on the environmental dimensions of the product. They suggested that organic products are regarded as helping to preserve the environment and that this is an important aspect of organic standards.

As we know, in terms of practice, organic is preserving the environment. Beside focus on food safety, quality and environment, Malaysia organic certification is also concerned more about farmers' safety. (Assistant Director, public organization) (Translated from Bahasa)

Some choose it for the environmental side and then others small the amount chooses it for the social equity side. Meaning that they think that the profit are better distributed in that organic chain than others. (Director, private organization)

Participants from food retailers felt that environmental concern has grown in organic consumers as they are looking for more sustainable products.

Our organic consumers are growing and now we getting more customers are looking more sustainability, looking into healthy food. So many peoples start to believe in organic. So the demand of customers on organic product is getting higher every year.

So is better our retail outlets have a segregate section so easy for the customers to make the purchase. (Senior Manager, food retail)

Organic also to be environmental conscious. Most people get motivated towards organic either for health reason or environmental reason. For example, in Australia I was surprise to find out many years ago that they interested in organic and they did a survey you know why? Most Australian want to buy organic food because of freshness and taste. Nothing to do with environment, nothing to do health only freshness and taste. (Chairman, private organization)

6.2.2.6 Price

The price of organic products is considered to be at a premium compared to non-organic products. Organic products are generally sold at higher prices due to the relatively high cost of production needed to meet the requirements of organic standards. However, some consumers are reluctant to purchase organic products because the prices are regarded as too expensive although there are still consumers who are willing to pay at premium price (Díaz, Pleite, Paz, & García, 2012; Loo & Diem, 2013). During the interview sessions, most of the participants from public and private organizations agreed that consumers still purchase organic products even though they need to pay at premium price. They further explained the price will not be a barrier for consumers who are really concerned about the quality and safety of the products towards their health. Although organic food products are more expensive than non-organic, the participants felt that high income customers mostly consume and are willing to purchase organic products.

Price is also one of the factors that influences consumer purchasing decision. There is a product that have certification sell at premium price compared to products that do not have certification. Therefore, it influences consumers if they really looking for quality, they will go for organic. (Assistant Officer, public organization) (Translated from Bahasa)

Not they will buy more but it chooses one over the other. If you saying that influence buying certified versus non-certified product. I think if the price is affordable for consumer and depending on the country you are in. If they have low confidence on the normal system, then they will pay for that. But usually the ones that will pay for this is

already decided that they want most security for their product chain. (Director, private organization)

Organic is more to premium and it cater more to high end needs. Therefore, mostly organic products are consumed by high end peoples because of the price oriented factor and we declare it as a premium product. (Manager, food retail) (Translated from Bahasa)

Yes, I think so, I think if they're prepared to paid that kind of money I think they would want to be sure that is properly certified. (General Manager, food retail)

One of the participants suggested that organic certification and the use of logo should be made compulsory for products that are claimed to have organic status in order to sell them at a premium price. Indeed, it will prevent any producer from selling the product at the higher price without displaying the organic certification and logo.

The logo is compulsory if they claimed the product is organic. Otherwise, they will not get the higher price and they cannot claim it as organic. (Assistant Director, public organization) (Translated from Bahasa)

According to regulation, products claiming to be organic in Malaysia must meet MS1529. Certification by Department of Agriculture is one way to proof compliance to MS1529. (Director, private organization)

Unless there is strict enforcement of certification and adequate awareness among the consumers, unscrupulous retailers/ producers have on occasions have just labelled the produce organic expecting to get away with it, especially with unquestioning end-users. (Chairman, private organization)

If they are not certified, they can't use the word 'organic'. Sometimes they will use word 'naturally grown', 'grown with compost' and 'free pesticide'. (Assistant Director, public organization) (Translated from Bahasa)

6.2.3 Organic Certification Issues

All participants indicated that several issues exist in the food supply chain with respect to organic and food certification. The issues include fraud in certification and use of logo, lack of enforcement, application procedures, lack of awareness and knowledge among consumers;

and limited organic land and farms. Their discussion on such organic certification issues is insightful as there is lack of prior organic certification literature specifically in the Malaysian context. These insights are also significant with respect to trying to improve the certification process.

6.2.3.1 Misconduct and Misused of organic certification

There are many countries that have their own organic standards and procedures. In Malaysia, local fresh organic products need to follow Malaysian organic standards. While any organic products coming from other countries must have a valid organic certification. During the interviews, the participants were asked whether there are any issues related to organic certification. The participants from public organizations explained that there are several cases such as some producers selling non-organic products with the organic logo on it and in other cases, there are organic producers selling products that are not organic to retailers. In addition, participants from food retails explained that the issues of misconduct and misused has become a concern to retailers and consumers.

I think some of them are not following the procedure because we received complaints from consumers claiming that some of organic shops put the organic label on non-organic product. When we went do the inspection and we found out they using our logo. There are two possibilities, either they do not get approval from us or their certification is already expired. They need to renew the organic certification with us but they had not and still used our organic certification. (Director, public organization)
(Translated from Bahasa)

I think its concern not only for retailer like us but it also for consumers. They will not know which is genuine certification body and which is not. In the end, it creates confusion and it is also unfair for genuine suppliers because consumers are not sure who is the real supplier. So, I think that it has to be control by the government.
(General Manager, food retail)

One of the public organization participants suggested that retailers need to frequently monitor organic products in their store or supermarket by visiting the Department of Agriculture Malaysia's website. Although there is a suggestion for retailers to monitor the organic products and certifications, participants from private organizations commented that there are

issues with respect to retailers' ethics whereby most of the retailers do not display the certification or display expired certifications.

Retailers need to be aware by visiting our website and know whether the supplier is still valid or not and the product that they supply is embodied in the certification. Sometimes the producer registers only a few types of organic product and then sale products that not register as organic to the retailer. Therefore, the retailer always need to be aware. (Assistant Officer, public organization) (Translated from Bahasa)

All the certification has expiry period, the problem is most retail shops do not display the certificate and I definitely came across one shop in Melaka has expiry certificate on display and peoples are still buying and a little bit down there was another valid certificate. One has valid certification and one has expired certificate. End retailers should display the certificate but most of them do not display the certificate. That the first problem, you go to many of these retail outlets even they have certificate they do not display the certificate. So that why we argued with SOM and put regulation, you should go and check. (Chairman, private organization)

Whether the retailers check the validity of organic certification or not, food retail participants explained the validity of organic certification processes their retail outlets have followed.

There is a case that a producer claimed that they have the certification but they did not. Since our scheme is voluntary and we do not have enforcement, we just only can advise them. In another case, a producer used another producers organic logo. (Assistant Director, public organization) (Translated from Bahasa)

We do cross check with the Department of Agriculture. We request the organic certification from the suppliers during stock listing. If they declare organic, so how we want to determine whether the product is organic or not? What we usually do is filter the certification. After that, we will cross check with Department of Agriculture to know whether the certification is valid or not. (Manager, food retail) (Translated from Bahasa)

6.2.3.2 Lack of Enforcement

Enforcement and monitoring of standards is important in the food supply chain in order to prevent any fraud or misconduct with respect to organic and food certification. Lack of

enforcement can easily be manipulated by irresponsible producers or retailers who only focus on gaining profit margins instead of consumer's safety. Even though the Department of Agriculture Malaysia issues organic certification, most of the participants commented that they did not have any direct enforcement role in production or retail. The enforcement of organic product certification is under the supervision of the Ministry of Health Malaysia and if the Department of Agriculture Malaysia receives complaints, they will forward these issues to the Ministry of Health for further actions.

Our department do not have any enforcement team. This is because organic is under Food Act. The Food Act is under Ministry of Health Malaysia. That is why if we received any complaints or problems, we need to forward to Ministry of Health Malaysia in order for them to take necessary action. (Assistant Director, public organization) (Translated from Bahasa)

The effectiveness of organic certification to differentiate between an organic and a non-organic product depends on the enforcement because we went to factory that claimed organic animals but when we did the inspection they used antibiotics without being monitored. If there is enforcement, I think it will help Malaysia organic certification especially by monitoring the labelling and so forth. (Executive Officer, public organization) (Translated from Bahasa)

The lack of enforcement was discussed thoroughly by participants from private organizations. One of the participants suggested that the government needed to make better decisions on enforcement so that producers, retailers and consumers have a clear understanding of the importance of organic certification.

The Malaysian market is confusing as long as government has not decided what they want to do to promote the organic marked. The national scheme owner has not figured out what they want to do. Over the last few years, government did not do anything with processed products. So it is only on primary production that they have SOM marked and then it is only on the farms not on the processed repacking of the vegetables. So that is also difficult because not all farms packed the product themselves and then last year government opened up the scheme for processed and import products with certificates. So you do not see anything coming into the market and the labels are just being designed today and government has decided not to allow the use of the current SOM marked on the label because they said that a new marked is

going to come later this year. We do not have a way of communicating and it is difficult. So, I think we still waiting 2 to 3 years for this to pan out and even that Malaysia has talking about Malaysian mark there in ASEAN scenario or ASEAN economic community and ASEAN market and there is discussion about should we have an ASEAN organic mark and then what will happen to the ten member state of organic mark. So how will that be communicated? So those are the things that stopping the consumers for having a clear so what is a void and what is a valid organic authentic product? (Director, private organization)

Furthermore, participants from private organizations commented that the capability of inspectors from the Agriculture Department is one of their major concerns. They felt that the agriculture inspectors lacked experience and were not well trained in terms of evaluating farms because there were complaints from the farmers highlighting on the inspectors' incompetencies.

This is where the debate is going on because we have a debate now even on foreign certified organic and locally certified organic. Some retailers raised a question to us because apparently under the new proposed SOM regulations for process food they do not recognize foreign certification. But the SOM itself is having problems. We have been observing people come and complain because that was our concern. We agreed at the beginning to let Agriculture Department handle SOM certification. Mainly because of the reason we wanted to [maintain] cost control because if in other places is done by private sector but they are costly. So argument was seen it due to Malaysia and new organic farmers definitely cannot afford expensive certification. We do agreeable to SOM agriculture department doing it but our concern was that most of the agriculture officers were not organically train. Although in the past they have some organic element you go and talk to agriculture people those like composting all those introduce by the British they got beautiful charges in agriculture department but nobody in agriculture department have been practicing it. So we really concern that these peoples may lack experience background to do the evaluation and nobody actually done the audit and we suggesting that should be audit on the SOM inspection. So the issue of integrity of the SOM thing is still there. I think the part of the problem certification has link to the fact that Malaysian consumers are not going discerning. (Chairman, private organization)

We would not say all the inspectors [are doing a bad job] because some of them are really doing a good job and careful especially those been on the field before and those a bit more serious. We did hear the farmers did also say the inspectors not competent. (Project Coordinator, private organization)

6.2.3.3 Difficulty in applying organic certification

To certify organic products, producers need to apply and follow the standard procedures set by the Department of Agriculture Malaysia. The participants highlighted that it is difficult for producers to obtain Malaysian organic certification. A director from a public organization explained that this happens due to several requirements they need to follow. For instance, the farm lands must be their own property and it takes them about two years in order to attain the verification that the farm lands have no chemical substances.

The main issues are that we need many organic farms to have certification because currently it is not enough and it is not easy to get the certificate. The reason is that they need to follow a few requirements before they can obtain the certification. For example, the land must be their own property and they need to wait for another two years to make sure the farms have no chemical substances. Due to that reasons, we are trying to work with the authority. (Director, public organic organization) (Translated from Bahasa)

Skim Organik Malaysia (SOM) is based on Malaysian Standard 1529:2001 and International guideline under FAO. So for producer to get organic certification is quite difficult. (Assistant Director, public organization) (Translated from Bahasa)

...organic farms have not been audited by Department of Agriculture because of the transition period and they cannot claim the farms are certified. (Manager, food retail)

A food retail manager commented that in Malaysia, there is no regulation or guideline to certify organic poultry. In addition, the participant explained there are suppliers who claim that their poultry is organic without proving any verification of organic certification. Therefore, the product cannot be sold as organic in their retail outlets.

Actually, there is one [domestic] supplier that claims their poultry chicken is organic but they do not have organic certification because in Malaysia there is no standard or guideline for organic poultry. The government needs to develop the standard or

guideline internally and certified it. So the supplier did not get the listing in our retail stores and even they get the listing we will consider it as a normal chicken. (Manager, food retail) (Translated from Bahasa)

6.2.3.4 Consumer lack of knowledge and awareness

On the consumer's side, lack of knowledge and awareness is seen as an issue or barrier for retailers in providing organic products. One of the participants explained that the reason consumers lack of knowledge and awareness as they do not read the labels and assume the word "natural" as organic. As highlighted in Chapter Four, the regulations for using organic or organically produced in Malaysia are not strictly enforced. Nevertheless, respondents indicated that organic certification is important to consumers in order for them to know the difference between organic and non-organic products instead of just looking at the word "organic".

They just buy it without asking about the certification and just because it is written organic. Some of the products are not organic but they do not read the label. They did not know that, and you will be surprised the people who sell it. They do not know that it is actually natural and not organic. For example, tin of oat milk, they say it is organic, the truth is the oat is organic but the rest is not organic. People think it is organic because it is in organic shop and sometime the manufacturers also put the word organic although it is not organic. So the awareness is not so much there. It is important to have the certification for dried goods and processed goods. (Project Organic Coordinator, private organization)

Due to the confusions between natural and organic products, participants were asked whether there should be educational campaigns for consumers in order to increase their awareness and knowledge as well to help consumers differentiate between organic and natural products. Most of the participants explained there has been a campaign to educate consumers but they were not sure whether the campaign has really helped consumers to differentiate between natural and organic products. Furthermore, two participants from private organizations commented that the producers and/or retailers needed to clearly differentiate between organic and natural. From the retailers' perspectives, one participant explained that their retail outlets had a campaign which demonstrated that their premium outlets had a greater impact on sales as compared to their retail outlets.

Yes, there is. For example, Campaign of Organic Day through government agencies and NGO. (Assistant Director, public organization) (Translated from Bahasa)

Not that we know of in Malaysia but our organization does make it an obligation on the producers/retailers at our organic events to clearly put signs that theirs are only Natural products. (Chairman, private organization)

Not that I know of. Also not really necessary. The words organic and natural are different words. Products claiming to be natural are not claiming to be organic. Consumers may sometime ask whether product claiming to be natural is also organic? The answer is of course no. If product want to claim it is organic, it will use the word organic. (Director, private organization)

Last time we did a campaign organic event. The organic event was held at our headquarter retail store and our premium retail store. The impact was on our premium store that increase our sales to 35% compared to our low end retail store. (Manager, food retail) (Translated from Bahasa)

In terms of educational campaigns, the participants were then asked whether it is necessary to have marketing campaigns and the person/organisation that is responsible for educating the consumers on organic products. The participants suggested that all groups in the food supply chain should be involved and responsible for customer education. However, one of participants from food retail explained that their stores do not organise a campaign for consumers because they only bring the products to the stores in order to encourage the consumers to change their eating habit styles.

The organic sector is a market lead development. Hence, marketing campaigns for organics are indeed important. A thriving sector is one where the respective stakeholders play their roles well. In principle all stakeholders should be responsible and not just any one stakeholder group. Government should set clear standards and labelling regulations. Operators comply and offer quality products. Marketing channels identify market needs, service them accordingly and provide market data and feedback. Where organic products are perceived as and projected to be expensive, then I do not expect governments will want to play any kind of lead role in promoting or funding marketing campaigns. Where it is going to be a high margin product, market actors, who stand most to benefit will have to lead and fund the marketing campaign

themselves. They invariably do this in their respective brand and outlet promotions. They can also get together and have joint ‘buy organic’ campaigns. Where market actors are able to organise themselves to conduct national promotions, that is where we find a thriving organic sector. In all cases, successful campaigns need to have an attractive mark, good product positioning and messages that reach consumers’ hearts. (Director, private organization)

Lack of knowledge and awareness of organic products has led to confusion among consumers as there are many different types of organic certification in the market. Participants from private organizations believed that consumers will get confused if they do not have the initiatives to learn more about the organic products and is one of the barriers to encourage people to buy organic products.

The different number of organic certifications can create confusion. ... it does not matter how many certification bodies around there because [consumers] do not care about the certification bodies’ name, they just care about the marked and the communication. (Director, private organization)

To us as an organization we do not have concern because to us as long as people know what the criteria is, but for ordinary consumers they not willing to go and look into them at anything. If you’ve got too many certificates people get confuse. (Chairman, private organization)

An Assistant Director from a public organization who is expert in halal certification admitted that consumers are still confused about the international bodies certification and logo.

I cannot deny that consumers still confuse with the logos from halal bodies from international. Only 73 international certification bodies that JAKIM recognize. In order to get recognized from JAKIM they need to apply and JAKIM will audit them. Then JAKIM will recognize them as halal certification bodies. (Assistant Director, public organization)

One reason for consumers having a relative lack of knowledge and awareness could be food retailers do not have a separate section that is exclusively set for organic products that may encourage consumers to learn about organic products. Two participants from food retail commented that they do not have an exclusive section for organic products but they mix them in the same section with other non-organic products.

In our store we have organic vegetables and we have what we term as healthy vegetables. So that why you know today consumer think that vegetables that is healthy definitely organic because is healthy. Well I admit that kind of confusion is there and today unfortunately there are nobody doing anything to address this issue. (General Manager, food retail)

Other retail stores they have a separate section that is exclusively for organic products. But in our stores, we do not have that but we do have shelving for organic products. While for fresh organic products we put them in multi-deck display chiller labelled organic. So, it is not an exclusive section but has become one shelf section. But still we can differentiate it. (Manager, food retail) (Translated from Bahasa)

6.2.3.5 Limited certified land and farms

Another issue for organic certification in Malaysia is the limited amount of certified land and farms. Most of the participants observed that it is difficult to find any farm that has organic certification. In Malaysia, there are 164 farms with a total area of 1899.21 ha (Willer & Lernoud, 2016). Because of this situation, it is suggested that retailers often do not have enough fresh organic products to sell and they have a limited number of suppliers to provide retailers with fresh organic products.

I think the issue that is faced by the retailer is that they do not have enough organic product because it is difficult to find any farms that have the organic certification. Therefore, the retailer does not have enough supply. (Director, public organic organization) (Translated from Bahasa)

Suppliers for organic product is not enough. As for the retailers they need more organic product for their marketing but in Malaysia the organic farms are limited. (Assistant Director, public organization) (Translated from Bahasa)

I mean for now, short term, limited supplier because the supplier has not come into certification. So the retailer has very little number of people that they can buy from. (Director, private organization)

From the retailers' perspectives, the limited number of suppliers makes it difficult to transport the organic products to their key stores due to extra costs involved.

If they grow in Kuala Lumpur, they pack in Kuala Lumpur it will be difficult for them to send all the way to Penang and as I said just now, do not forget organic product is really a niche market mainly customer who buying this are from the middle upper income group. So if you talk about our stores for example our store in Bukit Mentajam those peoples are not going to pay to buy tomatoes at five times than price of normal tomatoes. So, this constraint we are limiting move the suppliers to focus on our key stores like Subang Jaya, Mid Valley and Wangsa Maju. These are our key stores where we have the kind of customers who can afford to buy organic vegetables. (General Manager, food retail)

We have one supplier. This supplier maybe has five farms but out of this five farms maybe only three farms certified another two more not yet. So, we have to make sure they put the SOM certificate there and the packaging must be come from the three farms not from another two. (Senior Manager, food retail)

6.3 Chapter Summary

Participants in the interviews believed that they understood and knew about the organic concept. Their experience provides more details about organic products and certification from producer, retailer and consumer perspectives. All the participants also believed that the priority of organic and food certification is to ensure the quality and the safety of food products. It can also be used as a marketing tool to communicate with the consumers. Meanwhile, they argued that retailers need to ensure that organic products in their store or supermarket possess organic certification. Retailers can also check the status of producers or suppliers of organic products by visiting the Department of Agriculture Malaysia's website. In addition, they argued that the government has taken the initiatives to help producers and farmers to attain organic certification by waiving the application fees compared to other countries that would charge fees for applications. However, despite this, participants still noted that there are a limited number of certified farms in Malaysia due to the stringency of the process.

Credibility was identified as one of the main attributes for organic certification. The participants stated that the purpose of organic certification is not only to differentiate between organic and non-organic products but also to determine the credibility of the organic products. A participant from private organisation suggested that the credibility of organic products and certification also depend on how effective the mark or symbol on the productswhen delivering

messages to consumers. Organic certification credibility is regarded as important even if it comes from other countries. Nevertheless, participants from food retail felt that the credibility of organic and food certification is a selling strategy in order to justify the premium price compared to the others conventional products.

The price of organic products is regarded as higher than non-organic products and to sell the product at a premium price, a credible organic certification is needed in order to justify the price of organic products. A director from a public organization also agreed that the credibility of the certification will help companies that want to export organic products due to the price being higher compared to non-organic prices. Almost all of the participants from public and private organizations interviewed suggested organic certification would help retailers to differentiate products. They also noted that large retailers are working together with the producers and the government to encourage consumers to purchase organic products. In contrast, food retail participants think organic certification is not important so much for product differentiation but is instead more of a selling strategy.

Most of the participants explained that organic and food certification is important to gain consumer's trust in purchasing organic products. This is due to organic products being a credence product that has significant information asymmetries. Organic and non-organic products can be differentiated by certification and one of the participants agreed that organic certification can not only help consumers to differentiate but also gain confidence and trust. However, a participant from private sector argued that consumer's trust is based on how discerning consumers are towards organic certification. The interviews also found that participants believed that consumer's trust can be enhanced if they put their trust in government regulations. Government's involvement in organic certification is therefore regarded as extremely important. One of the participants argued that a product logo by itself is still insufficient to gain consumer's trust as the logo does not represent or determine the safety and quality of products. Therefore, food certification is important to justify the logo and to gain consumer's trust.

Participants believe that safety and quality is a priority for consumers when purchasing any food products. Food certification is important as it determines the safety and quality of food products as well organic products. Although organic products do not use any pesticide or chemical substance, the participants argued that they still require organic certification to verify the contents of the organic products. Furthermore, participants also suggested that

organic certification can influence consumers' purchasing decisions with respect to food safety and quality.

Traceability has become a requirement for food certification programs including organic certification. According to the participants, every recipient of organic certification must have the details and registration number of the farmers and producers in order to track them should anything happens to their products. As for retailers, traceability can be used to check on the validity of Malaysia's organic certification of the products sold in their store. Most of the participants explained that retailers can visit the website at Department of Agriculture and this should encourage retailers to be more responsible for the products they sell. However, from the retailers' perspective, the only concerns from them is to monitor the sales of the products and certification bodies need to ensure that farmers and producers comply to the organic standards.

Environmental issues were also related to organic products and certification. Some of the participants stated that one of the roles of organic products is to help preserve the environment and that this is considered to be one of the most important aspects in meeting organic requirements. Although the price of organic products is high compared to normal products, some of the participants mentioned that consumers who are concerned with safety and health will still purchase organic products and are willing to pay at a premium price.

According to the participants, there are several issues with respect to organic certification and organic products in Malaysia. One of the issues is selling unregistered organic products and non-organic products with an organic logo. One of the alternatives suggested to prevent fraud in organic and food certification is greater enforcement. According to most of the participants, the Department of Agriculture does not have direct enforcement capacity and any complaints are then forwarded to the Ministry of Health. Participants also claimed that since organic certification is based on international guidelines, this makes the application of organic certifications difficult for producers or farmers that have issues or problems. For example, the lands must be owned by them and clear from chemical substances as they need to meet all the requirements of organic standards from the start of the process until the product is delivered to the store.

Consumer's lack of knowledge and awareness is also an issue in Malaysia with one of the participants suggested that consumers do not read the labels carefully and assume the word "natural" as organic. Participants stated that due to lack of knowledge and awareness,

consumers may get confused by many of the organic certifications exist in the Malaysian market. The participants also claimed that the limited extent of organically certified land and farms in Malaysia also has a negative effect on retailers. According to interviewees, to find any farm in Malaysia that has organic certification is difficult and with a limited number of suppliers, retailers do not have enough local organic product to sell in their retail outlets.

In conclusion, organic and food certification are important aspects of the food supply chain. Although the organic and food certification is beneficial to consumers, the retailers are responsible for the products sold in their outlets, particularly organic products. It was also suggested that given that it is a credence product, retailers need to ensure that their organic products have certification either from Malaysia or an international certification. In addition, retailers also need to monitor the validity of the organic certification in their retail outlets. The next chapter shall discuss the findings of the survey component of the present study.

CHAPTER SEVEN

SURVEY FINDINGS

7 Introduction

This chapter presents the data analysis gathered from a questionnaire survey based on the literature review and the results of the semi-structured interviews detailed in Chapter Six. The first section of this chapter covers the participants' demographic profiles. The survey was mailed to all 432 retailers around Selangor and Kuala Lumpur. Participants represented the different types of retailers such as supermarket, hypermarket and organic shops.

The second section in this chapter presents a descriptive analysis of the data with respect to perceptions of the respondent's own retail outlet and perception of and attitude towards other food certifications. The third section of this chapter presents an analysis of perceptions of and attitudes towards organic certification using PLS-SEM. PLS-SEM was employed to evaluate the conceptual framework that was developed in this study. The assessments of the conceptual framework typically involved two separate processes in PLS-SEM. The first step of assessment is to examine the reflective measurement model by measuring the reliability and validity of the construct. The reliability assessment of the construct particularly focuses on the composite reliability while the validity assessment focuses on convergent validity and discriminant validity. The next step of PLS-SEM assessment is to examine the structural model by measuring the capabilities of the predictive model and the relationships between the constructs (Hair, Ringle, & Sarstedt, 2011). SMARTPLS 3 software was used in this study in order to run PLS-SEM analysis.

7.1 Demographic Profiles of Business and Respondents

To gather the information for this research, a mail survey was delivered to prospective respondents as discussed in Chapter Five. Data were collected over a four-months period from November to February 2016. A total of 432 questionnaires were delivered and administered in two locations in Malaysia: Kuala Lumpur and Selangor. Out of the 432 questionnaires, 106 retailers responded, which is a 25 per cent response rate. After screening of the data, four of the questionnaires were excluded due to the unengaged responses with most of the questions not filled in. Therefore, only 102 questionnaires were used for the analysis. Three types of

retail format were represented in this research; supermarkets, hypermarkets and specialty organic shops.

Respondents in this research were from different age groups, genders, positions and educational backgrounds. Table 7.1 provides the demographic profile of the businesses that participated in this study, 45 (44.1%) were supermarkets followed by specialty organic shops (38 (37.3%)) and hypermarkets (19 (18.6%)). The population of supermarket and hypermarket in Malaysia is 1335 and 174 outlets (Euromonitor, 2015). While 211 specialty organic shops are located in Malaysia (OAM, 2016). Fifty-three respondents owned and operated their own business (52.0%). Given that hypermarkets accounted for less than 20% of respondents, it is not surprising that the majority of retailers had small and medium size stores. Almost two-thirds of responses came from Selangor (65 (63.7%)) with the remainder from Kuala Lumpur (37 (36.3%)). Although Kuala Lumpur is Malaysia's capital city, many of the respondents were from Selangor as the state is bigger than Kuala Lumpur. Given that responses were dominated by smaller retailers, it is unsurprising that retailers with a less than ten employees contributed almost 60% of responses, although retail outlets with more than 20 employees accounted for over a quarter of respondents. Retailers that have an annual turnover of less than 0.5 Ringgit Malaysia (RM) million accounted for almost 30% of the respondents. Only 12.7% of the respondents had an annual turnover of more than three Ringgit Malaysia (RM) million. Nearly 30% of the retail stores had been in business for over ten years, 30.4% (31) of the respondents had retail stores established for between 6 – 10 years, closely followed by respondents that had established the retail stores between 3 – 5 years (29.4%) ago. Less than 10% of the stores had been established for less than three years.

Table 7.2 indicates the demographic information of individual respondents. Most of the respondents participated in this research belonged to the 31 – 40 years old age group. The number of male respondents (55) was slightly higher than the number of female respondents (47). The retailers who answered most of the questionnaire were those who held positions as a supervisor (40.2%), followed by assistant manager (38.2%) and senior manager (21.6%). In this research, most of the respondents possessed the academic qualification levels of either a Diploma (40.2%) or a Bachelor's Degree (26.5%).

Table 7.1: Summary of Business Demographics

<i>Business Demographic Profile</i>	<i>Categories</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Retail Format</i>	Supermarket	45	44.1
	Hypermarket	19	18.6
	Specialty Organic Shop	38	37.3
	Total	102	100%
<i>Business Type</i>	Franchise	34	33.7
	Foreign Owned	14	13.7
	Others:	53	52.0
	Total	101	99.0
<i>Size (m²)</i>	< 2000	44	43.1
	2000 – 5000	45	44.1
	>5000	13	12.7
	Total	102	100
<i>City</i>	Kuala Lumpur	37	36.3
	Selangor	65	63.7
	Other		
	Total	102	100
<i>Number of Employees</i>	1 – 5	30	29.4
	6 – 10	29	28.4
	11 – 15	11	10.8
	16 – 20	4	3.9
	>20	27	26.5
	Total	101	99.0
<i>Annual Turnover (RM million)</i>	<0.5	30	29.4
	0.5 – 1.0	12	11.8
	1.0 – 1.5	19	18.6
	1.5 – 2.0	17	16.7
	2.0 – 2.5	7	6.9
	>3.0	13	12.7
	Total	98	96.1
<i>Number of Years Established</i>	<3	10	9.8
	3 – 5 years	30	29.4
	6 – 10 years	31	30.4
	>10 years	29	28.4
	Total	101	99.0

Table 7.2: Summary of Respondent's Demographics

<i>Respondent's Profile</i>	<i>Categories</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Age</i>	Below 21 years	2	2.0
	21 – 30 years	27	26.5
	31 – 40 years	45	44.1
	41 – 50 years	23	22.5
	51 years and above	5	4.9
	Total	102	100
<i>Gender</i>	Male	55	53.9
	Female	47	46.1
	Total	102	100
<i>Position</i>	Senior Manager	22	21.6
	Assistant Manager	39	38.2
	Supervisor	41	40.2
	Total	102	100
<i>Educational Background</i>	PhD		
	Master's Degree	1	1.0
	Bachelor's Degree	27	26.5
	Diploma	41	40.2
	Certificate	13	12.7
	Secondary School	17	16.7
	Other	3	2.9
	Total	102	100

7.2 Data Analysis

7.2.1 Descriptive Analysis

The characteristics of the three variables which are retail, product and sustainability attributes, on the perception of the respondent's own retail outlet were explained by using descriptive analysis. The results of the analysis of these variables are summarized in Tables 7.3 to 7.5. Many negatively skewed values in the three tables indicate that the scores of the respondents are clustering at the high end. Seven-point Likert scales were used for each of the constructs in this research to indicate the importance of each factor. The Likert scales in the questionnaire ranged from "strongly disagree" (1) to "strongly agree" (7) and required respondents to rate their level of agreement with statements.

Table 7.3 indicates the results for perceptions of respondents of their own retail outlet with respect to retail attributes. The highest mean level of agreement with the statements was in relation to providing a variety of products (6.21) followed by meeting the requirement of related certification standards (6.20) and maintaining a hygienic working environment (6.12). These findings are supported by the work of Sinha and Banerjee (2004) who claimed that consumers preferred to visit retail outlets that have a depth and variety of products. The results of the present study are also supported by a survey done on preferences for retail format choice between modern and traditional retailers in Malaysia by Chamhuri Batt (2013) which revealed that consumers preferred modern retailers because of preferences for wide variety products.

Most of the respondents agreed that their retail outlets only provided certified food products (mean value of 6.09). Respondents also rated courtesy of personnel (mean value of 6.04) and ensuring products provide value for money (mean value of 6.01) highly. Consumers prefer to go to the store that sells products at competitive price with a high quality and provide a good service to the consumer and value for their money (Sinha & Banerjee, 2004).

Convenient location and a good atmosphere have always been the subject matter in food retail research as it is an important factor of consumers' store choice (Hino, 2010; Maruyama, Wu, & Huang, 2016; Prasad & Aryasri, 2011). The mean values of 5.95 and 5.91 indicated support for the significance of a convenient location and providing a good atmosphere.

Table 7.3: Perceptions of the Retail Attributes of the Respondent's Retail Outlet

Questions	N	Mean	SD	Skewness	
				Std. Error	
This retail outlet...					
provides a variety of products	102	6.21	0.89	-1.10	0.24
has met the requirements of related certification standards	102	6.20	0.90	-1.06	0.24
maintains a hygienic working environment	102	6.12	1.12	-1.32	0.24
only provides certified food products	101	6.09	1.27	-1.62	0.24
maintains courtesy of personnel	101	6.04	1.08	-0.87	0.24
ensures products are value for money	102	6.01	1.10	-1.01	0.24
is at a convenient location	102	5.95	1.12	-1.07	0.24
provides a good atmosphere	102	5.91	1.04	0.42	0.24

Consumers often assume that fresh food offered in a clean and tidy supermarket is safer to eat than the products available from an unclean and disorganized market (Berdegué et al. 2005). Consumers use product attributes to determine the quality and safety of the product (Mohayidin & Kamarulzaman, 2014). Table 7.4 shows the results for respondent's perception of their own retail outlet with respect to product attributes. Respondents perceived products in their retail outlet as being safe and of good quality with high mean values of 6.38 and 6.35 respectively. It is important for products to have high levels of food safety and quality because it is a part of a product attribute strategy that will minimize consumer's uncertainties when purchasing (Aziz & Chok, 2013; Verbeke, 2005). Much previous research has, unsurprisingly, emphasized the safety and quality of food product as the important product attributes (Chamhuri & Peter, 2015; Cowan, 1998; S Henson & Northen, 2000; Hoffmann, 2000).

Due to the significance of food safety and quality factors, products that have labels providing information for consumers to help them make their purchasing decision were also ranked highly (mean value of 6.25). Menapace et al. (2011) pointed out that food labelling is a critical mechanism when providing product information to consumers. In addition, the respondents strongly agreed that the products in their retail outlets carry different types of food certifications such as organic, halal, eco-labelling, Fair Trade and Marine Stewardship Council (MSC) (mean value of 6.03). According to Hatanaka (2005), without the certification

and labelling schemes on the food products, consumers view the retailer as being responsible for the safety of the products sold.

The respondents believed that products in their retail outlet emphasise on health (6.01) and affordable prices (5.94) for consumers. They also tended to agree that the products in their retail outlets should have different packaging in order to differentiate particular products (e.g. organic, halal, eco-product) (mean value of 5.87). Products in the respondents' outlets tend to primarily be local brands (see also Sanjoy & Oded, 2001). In other findings, local brands were perceived by consumers as being significantly better than international brands (Cheng, Chen, Lin, & Wang, 2007).

Table 7.4: Product Attributes for Perceptions of Respondent's Retail Outlet

Questions	N	Mean	SD	Skewness	
				Std. Error	
Products in this retail outlet...					
ensure safety (e.g. no pesticides, no chemicals, genetic modifications)	102	6.38	0.88	-1.91	0.24
have a good quality (e.g. appearance, cleanliness, taste)	102	6.35	0.87	-1.66	0.24
have labels in order to provide information for consumers to help make their purchasing decision	102	6.25	0.86	-0.99	0.24
carry different types of food certifications such as organic, halal, eco-labelling, Fair Trade and Marine Stewardship Council (MSC)	102	6.03	1.10	-1.19	0.24
emphasise healthiness	102	6.01	1.05	-0.81	0.24
are at an affordable price	101	5.94	1.03	-1.03	0.24
have different packaging in order to differentiate particular products (e.g. Organic, Halal, Eco-product)	102	5.87	0.92	-0.52	0.24
are mostly local brands	102	5.46	1.30	-0.72	0.24
are mostly international brands	102	5.03	1.51	-0.53	0.24

The perception of sustainability attributes in retail outlets have raised many interesting and new findings (see Chapter Two). Sustainability attributes were not given as much importance by respondents as product and retail attributes (Table 7.5). The results showed that respondents perceived the sustainability attributes of using environmental friendly equipment (e.g biodegradable bags), followed by selling products that benefit the environment, and

training employees for social and environmental issues as being the most significant for their retail outlets, with mean values of 5.81, 5.79 and 5.68 respectively. Some of the retail stores in Malaysia implemented sustainability in order to promote the green food and technology and environmental friendly products. The Body Shop is one of the retail stores that uses plastic bottles made from recycled materials and carrier bags that are recycled organically from grown cotton. Organic retailers, such as Justlife Group Sdn. Bhd., also implemented green activities and involve themselves in sustainable development projects (Teng et al., 2011).

A majority of respondents agreed that their retail outlets implemented sustainability initiatives by selling local products in order to reduce food miles (a mean value of 5.63). Local supply chains have been associated with reductions in the environmental impacts of food miles (Coley, Howard, & Winter, 2011; Sirieix, Grolleau, & Schaer, 2008). Indeed, the retailers recognized the importance of promoting local products and implementing sustainability initiatives by considering the distance food products have to travel and by getting the products from the nearest suppliers (mean values of 5.41).

Table 7.5: Sustainability Attributes for Perceptions of Respondent's Own Retail Outlet

Questions	N	Mean	SD	Skewness	
				Std. Error	
This retail outlet implemented sustainability initiatives ...					
by using environmental friendly equipment (e.g. biodegradable bags)	102	5.81	1.00	-0.52	0.24
by selling products that benefit to environmental	102	5.79	1.05	-0.63	0.24
by training employees for social and environmental issues	102	5.68	1.14	-0.57	0.24
by selling local products in order to reduce food miles	102	5.63	1.09	-0.43	0.24
by promoting local products instead of international product	102	5.45	1.35	-0.82	0.24
by considering the distance food products have travelled	100	5.41	1.22	-0.57	0.24
by getting products from the nearest suppliers	101	5.41	1.42	-1.18	0.24

Table 7.6 to 7.23 represent the results of retailers' perception of and attitude towards other food certifications. Table 7.6 shows that halal certification has the highest mean value (6.21)

to indicate food quality in food retail outlets followed by Fair Trade (5.79), Marine Stewardship Council (MSC) (5.62) and MyGap (5.52) certification.

The retailers were concerned about consumers' confidence in term of food quality (see Henson & Reardon, 2005). Socio-demographic characteristics and perceived quality and risk factors have also been related to be important determinants of consumer's attitudes towards food certifications (Botonaki et al., 2006). Regulatory inspection of food products is therefore often regarded as an important part in maintaining food quality and standards (Habibah, Talib, Anuar, Ali, & Jamaludin, 2008).

Table 7.6: Food Certification as an Indication of Food Quality

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets indicates food quality					
Halal	102	6.21	1.07	-1.55	0.24
Fair Trade	102	5.79	1.06	-0.48	0.24
Marine Stewardship Council (MSC)	102	5.62	1.19	-0.49	0.24
MyGap	102	5.52	1.06	-0.46	0.24

Botonaki (2006) emphasized that the number of quality assurance schemes and food certifications has grown as well the stricter safety specifications due to the emerging efforts to provide higher food safety and food quality. The types of food certification that have higher mean value for food safety are indicated in Table 7.7. The survey results show that the retailers perceived halal certification providing the strongest indication of the safety of a product. Producers, processors and retailers can either label the safety and process attributes of their product themselves (including joining third part certification schemes) and/or follow government requirements.

In essence, food retailers have the potential to differentiate their food retail outlets from wet markets and attract consumers by selling food products that carry a valid certification and label to provide information to consumers (Ortega, Wang, Wu, & Hong, 2015). Previous findings in Malaysia found that when purchasing fresh meat, consumers tend to prefer modern retail outlets because they believe the fresh meat is safe and the display of halal certification

and logo can give advantage to food retailers to convince and attract more consumers to purchase fresh meat. (Chamhuri & Batt, 2013).

Table 7.7: Food Certification as an Indication of Food Safety

Questions	N	Mean	SD	Skewness	
				Std.	Error
I think that _____ certification in food retail outlets indicates food safety					
Halal	102	6.22	0.99	-1.32	0.24
Marine Stewardship Council (MSC)	102	5.79	1.12	-0.66	0.24
MyGap	102	5.70	1.07	-0.45	0.24
Fair Trade	102	5.66	1.16	-0.83	0.24

Another important aspect of food certification is to build trust by ensuring retail outlets provide a valued source of information for consumers of the safety of the products they purchase (Becker, Benner, & Glitsch, 2000). Table 7.8 demonstrates that halal certification in food retail has the highest trust with a mean value of 6.24, whilst Fair Trade certification's mean value is 5.88 with slightly lower mean values for MSC (5.85) and MyGap certification (5.70). Mohayidin and Kamarulzaman (2014) found that Muslims and other religious consumers in Malaysia are more trusting of halal certification and they agreed and believed that halal is more important compared to price or brand.

Table 7.8: Food Certification in Food Retail Outlets as an Indication of Trust

Questions	N	Mean	SD	Skewness	
				Std.	Error
I think that _____ certification in food retail outlets indicates trust					
Halal	102	6.24	0.98	-1.34	0.24
Fair Trade	102	5.88	1.05	-0.84	0.24
Marine Stewardship Council (MSC)	102	5.85	1.09	-0.63	0.24
MyGap	102	5.70	1.07	-0.50	0.24

The food certification that has the highest mean value for indicating authenticity (Table: 7.9) in food retail outlets was halal (5.93). For Fair Trade, MSC and MyGap certifications, the mean values are 5.61, 5.60 and 5.54 respectively. Although halal certification has the highest

mean as compared to other food certifications, it has the lowest mean in relation to other halal certification attributes. Misuse of food labelling is a form of commercial fraud with respect to the authenticity of food authenticity and is often a major concern to relevant food authorities (Mafra, Ferreira, & Oliveira, 2008; Doherty & Campbell, 2014). Food fraud may become a major issue due to the conditions of product shortages and/or increasing prices.

Table 7.9: Food Certification and Indications of Authenticity

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets indicates authenticity					
Halal	102	5.93	1.18	-1.12	0.24
Marine Stewardship Council (MSC)	102	5.61	1.07	-0.29	0.24
Fair Trade	102	5.60	1.01	-0.13	0.24
MyGap	102	5.54	1.04	-0.16	0.24

Understanding on food certification does not only focus on the final food products but it also covers all aspects of food production, processing, transportation and retailing. Table 7.10 indicates that retailers perceived halal certification as the strongest with respect to covering all aspects of the food chain although all certifications were seen positively. Halal certification is related to examination of the processes in preparation to management practices and any endorsement of foods or products that meet the requirements of the halal standard in Malaysia indicates that the entire food supply chain conforms to Islamic dietary rules (Marzuki, 2012).

Table 7.10: Food Certifications and Food Production, Processing, Transportation, and Retailing

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets covers all aspects of food production, processing, transportation, and retailing					
Halal	102	6.08	1.14	-1.50	0.24
Fair Trade	102	5.80	1.06	-0.61	0.24
Marine Stewardship Council (MSC)	102	5.65	1.10	-0.55	0.24
MyGap	102	5.62	1.08	-0.43	0.24

Halal certification in food retail outlets was regarded by respondents as having a positive impact on consumer satisfaction (mean value of 6.40) (Table 7.11). While Fair Trade, MSC and MyGap showed the mean values of 5.92, 5.85 and 5.72 respectively. The results shows that products that carry food certification are seen by respondents as improving consumer satisfaction. Food retailers or any business should increase orientation towards satisfying consumer's needs by helping to ensure the safety of the products and reliable and effective communication (Ahmed, 2008; Verbeke, 2000).

Table 7.11: Food Certifications and Positive Impacts on Customer Satisfaction

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets has a positive impact on consumer satisfaction					
Halal	102	6.40	0.88	-2.13	0.24
Fair Trade	102	5.92	0.98	-0.55	0.24
Marine Stewardship Council (MSC)	102	5.85	1.13	-0.59	0.24
MyGap	102	5.72	0.97	-0.27	0.24

A majority of the respondents strongly agreed that halal certification in food retail outlets acts as a marketing strategy tool to communicate with the consumers when buying their products (mean value of 6.36) (Table 7.12). The results reflect those of the study by Botonaki et al. (2006) who suggested that food certifications or labelling could be a tool to protect in an environment of distrust and as a promotional strategy of the products that will add value to the products. However, effective communication is needed in order for value-added markets to be successful (Botonaki et al., 2006; Hamzaoui-Essoussi et al., 2013).

Table 7.12: Food Certification as a Marketing Strategy

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets acts as a marketing strategy tool to communicate with consumers when buying the products					
Halal	102	6.36	0.89	-2.50	0.24
MyGap	102	5.81	1.01	-0.38	0.24
Marine Stewardship Council (MSC)	101	5.77	1.11	-0.60	0.24
Fair Trade	101	5.77	1.01	-0.75	0.24

The respondents highly agreed that halal certification in food retail outlets increases confidence levels among consumers when making a purchase decision (mean value = 6.43) (Table 7.13). In contrast, Fair Trade certification showed a mean value of 5.80 and MSC and MyGap certification share the same mean value of 5.73. The results reinforce the notion that food certification is a quality assurance scheme that can increase the consumer confidence and improve the perceived quality of a product (Hasnah Hassan & Hamdan, 2013), as well as highlighting the importance of halal certification in particular in the Malaysian retail market.

Table 7.13: Purpose of Food Certification for Increasing Confidence Levels among Consumers

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets increases confidence levels among consumers when making a purchase decision					
Halal	102	6.43	0.79	-1.68	0.24
Fair Trade	101	5.80	1.14	-0.67	0.24
Marine Stewardship Council (MSC)	102	5.73	1.09	-0.50	0.24
MyGap	102	5.73	1.12	-0.47	0.24

Table 7.14 shows that the respondents tended to agree that the different forms of food certification suggested to them can be used for wide range of general food product types (Table 7.14). Again, halal certification with a mean value of 6.26 received the highest level of agreement. This is followed by Fair Trade, MSC and MyGap with 5.51, 5.49 and 5.42 respectively, even though Fair Trade and MSC certifications are, in actual fact, more restrictive in scope (see Chapter Two).

Table 7.14: Purpose of Food Certifications for General Food Product Types

Questions	N	Mean	SD	Skewness	 Std. Error
I think that _____ certification in food retail outlets can be used for wide range of general food product types					
Halal	102	6.26	0.95	-1.47	0.24
Fair Trade	102	5.51	1.16	-0.36	0.24
Marine Stewardship Council (MSC)	102	5.49	1.20	-0.19	0.24
MyGap	102	5.42	1.08	-0.18	0.24

The certification of products is particularly important for consumers before they purchase. Retailers perceived that halal certification in food retail outlets provides the greatest level of information to consumers before they purchase the product (mean value of 6.29) (Table 7.15). The mean value of Fair Trade certification for provision of information to consumers is 5.78 closely followed by MSC certification with 5.76. The remaining certification providing information to consumers before they purchase the product is MyGap with 5.65.

Table 7.15: Provision of Information to Consumers by Different Forms of Food Certification

Questions	N	Mean	SD	Skewness	 Std. Error
I think that _____ certification in food retail outlets provides information to consumers before they purchase the product					
Halal	102	6.29	0.96	-2.20	0.24
Fair Trade	102	5.78	1.02	-0.52	0.24
Marine Stewardship Council (MSC)	102	5.76	1.03	-0.41	0.24
MyGap	102	5.65	1.00	-0.32	0.24

Most of the respondents decided that halal certification (5.95) in food retail outlets is important for non-safety attributes (Table 7.16). Fair Trade, MyGap and MSC showed the mean values of 5.57, 5.55 and 5.53 respectively. The study by Henson and Humphrey (2010) suggested that the scope of food standard has expected to develop to non-safety attributes. For example, the GlobalGap standard for shrimp is an example of a food standard that not only focuses on safety but also on environmental impact, mangrove preservation and impacts on local communities, including land rights (Spencer Henson & Humphrey, 2010; Vellema &

Van Wijk, 2015). Thus, certification and labelling are used as a symbol of quality and food safety and non-food safety process attributes that could be different between commodities and defined differently across a range of food products.

Table 7.16: Purpose of Food Certifications for Non-Safety Attributes

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets is important for non-safety attributes					
Halal	102	5.95	1.17	-1.52	0.24
Fair Trade	102	5.57	1.11	-0.22	0.24
MyGap	102	5.55	1.13	-0.21	0.24
Marine Stewardship Council (MSC)	102	5.53	1.12	-0.14	0.24

The respondents agreed that halal certification in food retail outlets is important for product differentiation with a mean value of 6.12 (Table 7.17). This is followed by MSC certification with 5.55 and Fair Trade with 5.48, whilst MyGap certification with the mean value of 5.43.

Table 7.17: Food Certifications and Product Differentiation

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets is important for product differentiation					
Halal	102	6.12	0.99	-1.20	0.24
Marine Stewardship Council (MSC)	102	5.55	1.09	-0.13	0.24
Fair Trade	102	5.48	1.07	-0.24	0.24
MyGap	102	5.43	1.07	-0.34	0.24

A majority of respondents perceived that halal certification in food retail outlets helps them to control suppliers (mean value of 5.98) (Table 7.18). The mean value of Fair Trade, MSC and MyGap certification are 5.77, 5.62 and 5.50 respectively. The purpose of food certification may change depending on whether it is used for consumer's marketing purpose or to meet the requirements of institutional buyers. In the context of food retail, most of the quality assurance schemes are based on the retailers' efforts to control the suppliers (Albersmeier, Schulze, Jahn, et al., 2009).

Table 7.18: Food Certifications and Supplier Control

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets helps control suppliers					
Halal	102	5.98	1.25	-1.54	0.24
Fair Trade	102	5.77	1.09	-0.71	0.24
Marine Stewardship Council (MSC)	102	5.62	1.12	-0.37	0.24
MyGap	102	5.50	1.09	-0.49	0.24

The respondents were asked whether certifications in food retail outlets helps gain better market access (Table 7.19). Halal certification had the highest level of agreement that this was the case with a mean value of 6.25. This is followed by Fair Trade certification with a mean value of 5.90. The other two certifications showed the mean values of 5.81 and 5.78 for MSC and MyGap certification respectively.

As highlighted by Ander et al. (2010), the importance of international standardization and certification systems, such as MSC and MyGap, has increased in food and agricultural products. A reliable food certification becomes more essential due to the amplification of information asymmetries and uncertainties with respect to product quality and food safety (See Chapter Two). Hence, to access international food products quality, assurance schemes and internationally recognised certification are important for retailers.

Table 7.19: Food Certifications and Gaining Better Market Access

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets helps gain better market access					
Halal	102	6.25	1.04	-1.65	0.24
Fair Trade	102	5.90	1.04	-0.61	0.24
Marine Stewardship Council (MSC)	102	5.81	1.09	-0.55	0.24
MyGap	102	5.78	1.11	-0.66	0.24

The perceived significance of food certification for coordination in the retail supply chain is presented in Table 7.20. The respondents perceive halal certification has the highest significance with a mean value of 6.14. The remaining certification values were Fair Trade

(5.77), MSC (5.75) and MyGap (5.65). In food retailing, halal certification is important to provide assurance as consumers require food products to be certified from trustworthy certification bodies and food retailers need to separate halal from non-halal food products.

Table 7.20: Food Certifications and Coordination in the Retail Supply Chain

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets helps coordination in the retail supply chain					
Halal	102	6.14	1.03	-1.38	0.24
Fair Trade	102	5.77	0.98	-0.42	0.24
Marine Stewardship Council (MSC)	102	5.75	1.11	-0.55	0.24
MyGap	102	5.65	1.08	-0.41	0.24

As illustrated in Table 7.21, respondents somewhat agreed that Fair Trade certification in food retail outlets will minimize transactions costs, whilst MSC, MyGap and halal certification showed the mean values of 5.07, 4.99 and 4.98 respectively. It is interesting that Fair Trade has the highest mean as compared to halal certification. Fair Trade certification is considered to have the capability to help producers, retailers and consumers as it demonstrates significant societal impacts on food supply chain (White & Samuel, 2015). Prior research found that the resource-intensive process of engaging in collaborative relationships with suppliers could be avoided and this reduces the transactions cost by retailers with the availability of third-party certification (Chkanikova & Lehner, 2014; Kogg & Mont, 2012). The present finding also supports Chkanikova and Lehner (2014), who concluded that third party certifications have important roles in assisting retailers in their effort to green food markets by reducing transaction costs and liability risks associated with the implementation of sustainability in the food supply chain.

Table 7.21: Food Certifications and Minimization of Transaction Costs

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets will minimize transaction costs					
Fair Trade	102	5.09	1.26	-0.23	0.24
Marine Stewardship Council (MSC)	102	5.07	1.31	-0.373	0.24
MyGap	102	4.99	1.13	-0.19	0.24
Halal	102	4.98	1.40	-0.54	0.24

Halal certification has the highest mean value of 5.04 with respect to respondent's perceptions that certification in retail outlets would minimize financial liability (Table 7.22). This is followed by MSC certification with a mean value of 4.92. Fair Trade and MyGap showed the mean values of 4.90 and 4.87 respectively.

Table 7.22: Food Certifications and Minimization of Financial Liability

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets will minimize financial liability					
Halal	102	5.04	1.37	-0.52	0.24
Marine Stewardship Council (MSC)	102	4.92	1.15	0.28	0.24
Fair trade	102	4.90	1.16	0.23	0.24
MyGap	102	4.87	1.08	0.26	0.24

The results in Table 7.23 shows the perceptions of respondents with respect to certification that will minimize retailer's responsibility for policing the safety and quality of the products sold. Halal certification showed the highest mean value of 5.57 and MSC certification showed a value of 5.38. Fair Trade and MyGap show mean values of 5.29 and 5.23 respectively.

Table 7.23: Food Certifications and Retailer's Responsibility for Policing the Safety and Quality of Products

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets will minimize retailer's responsibility for policing the safety and quality of the products sold					
Halal	102	5.57	1.55	-1.31	0.24
Marine Stewardship Council (MSC)	102	5.38	1.28	-0.64	0.24
Fair trade	102	5.29	1.32	-0.69	0.24
MyGap	102	5.23	1.25	-0.53	0.24

As Table 7.24 indicates, food certification that has a higher mean value indicates the increase of efficiency in the supply chain which is led by halal certification with 5.91. As for Fair Trade, MSC and MyGap certifications, the mean values are 5.56, 5.53 and 5.36 respectively.

Table 7.24: Food Certifications and Increased Efficiency in the Supply Chain

Questions	N	Mean	SD	Skewness	
				Std. Error	
I think that _____ certification in food retail outlets will increase efficiency in the supply chain					
Halal	102	5.91	1.24	-1.24	0.24
Fair Trade	102	5.56	1.17	-0.61	0.24
Marine Stewardship Council (MSC)	102	5.53	1.17	-0.45	0.24
MyGap	102	5.36	1.18	-0.37	0.24

7.2.2 ANOVA Results

This section focuses on one-way between-groups analysis (ANOVA) used to compare mean scores of retail format groups (supermarket, hypermarket and specialty organic shops) on a continuous variable in tables 7.25 to 7.28.

Table 7.25 shows ANOVA analysis of food retail formats understanding on the definition of food certification (halal, Fair Trade, MyGAP and MSC). The subjects of food retail formats were divided into three groups according to their formats (supermarket, hypermarket and specialty organic shop). The results confirmed that halal, Fair Trade, MyGAP and MSC certification attributes were significant ($p < .05$) to food retail formats group understanding on

food certification definition. Tukey HSD test were used for post-hoc comparisons and the results indicated that most of the mean scores for specialty organic shop were significantly different from hypermarket and supermarket. In addition, food retailers perceived that “indicates trust” attributes have the highest mean in halal, Fair Trade, MyGAP and MSC certifications.

Table 7.25: Understanding the definition of food certifications

	Certification/Attribute	Total sample (N = 102)			S (N = 45)		H (N = 19)		SO (N = 38)		F-test	P-value	Summary of post hoc test
		N	M	Rank	N	M	N	M	N	M			
Halal	indicates food quality	102	6.21	3	45	5.89	19	6.21	38	6.58	4.54	0.01*	S<SO
	indicates food safety	102	6.22	2	45	5.91	19	6.32	38	6.52	4.36	0.02*	S<SO
	indicates trust	102	6.24	1	45	5.87	19	6.42	38	6.58	6.55	0.00*	S<SO
	indicates authenticity	102	5.93	5	45	5.53	19	6.26	38	6.24	4.95	0.00*	S<SO
	covers all aspects of food production, processing, transportation and retailing	102	6.08	4	45	5.67	19	6.26	38	6.47	6.01	0.00*	S<SO
Fair Trade	indicates food quality	102	5.79	3	45	5.53	19	5.89	38	6.05	3.73	0.03*	S<SO
	indicates food safety	102	5.66	4	45	5.24	19	5.79	38	6.08	5.98	0.00*	S<SO
	indicates trust	102	5.88	1	45	5.49	19	6.26	38	6.13	6.02	0.00*	S<SO<H
	indicates authenticity	102	5.60	5	45	5.27	19	6.00	38	5.79	5.00	0.00*	S<SO<H
	covers all aspects of food production, processing, transportation and retailing	102	5.80	2	45	5.44	19	6.00	38	6.13	5.08	0.01*	S<SO
MyGap	indicates food quality	102	5.52	5	45	5.22	19	5.42	38	5.92	4.93	0.00*	S<SO
	indicates food safety	102	5.70	1	45	5.27	19	6.16	38	5.97	7.54	0.00*	S<SO<H
	indicates trust	102	5.70	1	45	5.24	19	6.21	38	5.97	8.62	0.00*	S<SO<H
	indicates authenticity	102	5.54	4	45	5.20	19	5.95	38	5.74	4.89	0.00*	S<SO<H
	covers all aspects of food production, processing, transportation and retailing	102	5.62	3	45	5.13	19	6.00	38	6.00	9.43	0.00*	S<SO
MSC	indicates food quality	102	5.62	5	45	5.09	19	5.58	38	6.26	12.18	0.00*	S<SO
	indicates food safety	102	5.79	2	45	5.31	19	5.95	38	6.29	9.43	0.00*	S<SO
	indicates trust	102	5.85	1	45	5.38	19	6.11	38	6.29	9.02	0.00*	S<H<SO
	indicates authenticity	102	5.61	4	45	5.18	19	6.00	38	5.92	7.31	0.00*	S<SO<H
	covers all aspects of food production, processing, transportation and retailing	102	5.65	3	45	5.24	19	5.89	38	6.00	6.04	0.00*	S<SO

Note: Mean based on scale of 1 = "Strongly Disagree", 4 = "Neutral", 7 = "Strongly Agree". S refers to "Supermarket", H refers to "Hypermarket" and SO refers to "Specialty Organic Shop".

*F-test significant at the 0.05 level.

Table 7.26 indicated that the purpose of food certification in general was significant ($p<.05$) to food retail formats and the result of post-hoc analysis showed that most of the mean scores for hypermarket were significantly different from specialty organic shop and supermarket. From the table, it is shown that food retailers perceived the food certification attributes such as “increases confidence levels among consumers when making a purchase decision”, “has the positive impact on consumer satisfaction” and “acts as a marketing strategy tool to communicate with consumers when buying the products” as higher as compared to other purposes of certification attributes.

Table 7.27 demonstrates the ANOVA results on the purpose of food certification in supply chains and they were statistically different ($p<.05$) to food retailers. Post-hoc analysis noted that the hypermarket category has more significant differences than specialty organic shop and supermarket. In addition, hypermarket, supermarket and specialty organic shop perceived food certification which “helps gain better market access” have the highest mean as compared to other purposes of food certifications in supply chains.

ANOVA results of food certification advantages to food retailers in Table 7.28 shows that they were significantly different ($p<.05$) on “minimize retailers’ responsibility for policing the safety and quality of the products sold” and “increase efficiency in the supply chain”. The table also indicates the post-hoc analysis that specialty organic shop has more significant differences than hypermarket and supermarket.

Table 7.26: The purpose of food certification in general

	<i>Certification/Attribute</i>	Total sample (N =			S (N =		H (N =		SO (N =		F-test	P-value	Summary of post hoc test
		102)			N	M	Rank	N	M	N	M		
		N	M	Rank	N	M	N	M	N	M			
<i>Halal</i>	has a positive impact on consumer satisfaction	102	6.40	2	45	6.11	19	6.53	38	6.68	4.94	0.00*	S<SO
	acts as a marketing strategy tool to communicate with consumers when buying the products	102	6.36	3	45	5.98	19	6.68	38	6.66	12.95	0.00*	S<SO<H
	increases confident levels among consumers when making a purchase decision	102	6.43	1	45	6.09	19	6.74	38	6.68	8.76	0.00*	S<SO<H
	can be used for wide range of general food product types	102	6.26	5	45	5.96	19	6.53	38	6.50	4.53	0.01*	S<SO
	provides information to consumers before they purchase the product	102	6.29	4	45	5.93	19	6.74	38	6.50	6.76	0.00*	S<H<SO
	important to non-safety attributes	102	5.95	6	45	5.42	19	6.32	38	6.39	9.63	0.00*	S<H<SO
<i>Fair Trade</i>	has a positive impact on consumer satisfaction	102	5.92	1	45	5.69	19	6.32	38	6.00	3.03	0.05*	S<H
	acts as a marketing strategy tool to communicate with consumers when buying the products	101	5.77	4	44	5.57	19	6.21	38	5.79	3.27	0.04*	S<H
	increases confident levels among consumers when making a purchase decision	101	5.80	2	44	5.48	19	6.37	38	5.89	4.56	0.01*	S<H
	can be used for wide range of general food product types	102	5.51	6	45	5.24	19	6.26	38	5.45	5.75	0.00*	S<SO<H
	provides information to consumers before they purchase the product	102	5.78	3	45	5.58	19	6.26	38	5.79	3.14	0.05*	S<H
	important to non-safety attributes	102	5.57	5	45	5.33	19	6.11	38	5.58	3.37	0.04*	S<H
<i>MyGap</i>	has a positive impact on consumer satisfaction	102	5.72	3	45	5.47	19	6.16	38	5.79	3.77	0.03*	S<H
	acts as a marketing strategy tool to communicate with consumers when buying the products	102	5.81	1	45	5.44	19	6.37	38	5.97	7.09	0.00*	S<SO<H
	increases confident levels among consumers when making a purchase decision	102	5.73	2	45	5.38	19	6.32	38	5.84	5.48	0.00*	S<H
	can be used for wide range of general food product types	102	5.42	6	45	5.16	19	6.05	38	5.61	3.93	0.02*	S<H

	provides information to consumers before they purchase the product	102	5.65	4	45	5.47	19	6.21	38	5.58	4.06	0.02*	S<H
	important to non-safety attributes	102	5.55	5	45	5.16	19	6.21	38	5.68	6.98	0.00*	S<H
	has a positive impact on consumer satisfaction	102	5.85	1	45	5.42	19	6.11	38	6.24	6.60	0.00*	S<SO
	acts as a marketing strategy tool to communicate with consumers when buying the products	101	5.77	2	44	5.36	19	6.21	38	6.03	5.97	0.00*	S<SO<H
MSC	increases confident levels among consumers when making a purchase decision	102	5.73	4	45	5.31	19	6.26	38	5.95	7.10	0.00*	S<SO<H
	can be used for wide range of general food product types	102	5.49	6	45	5.16	19	6.05	38	5.61	4.27	0.02*	S<H
	provides information to consumers before they purchase the product	102	5.76	3	45	5.40	19	6.16	38	6.00	5.73	0.00*	S<SO<H
	important to non-safety attributes	102	5.53	2	45	5.07	19	6.05	38	5.82	8.12	0.00*	S<SO<H

Note: Mean based on scale of 1 = "Strongly Disagree", 4 = "Neutral", 7 = "Strongly Agree". S refers to "Supermarket", H refers to "Hypermarket" and SO refers to "Specialty Organic Shop".

*F-test significant at the 0.05 level.

Table 7.27: The purpose of food certification in supply chains

	Certification/Attribute	Total sample (N = 102)			S (N = 45)		H (N = 19)		SO (N = 38)		F-test	P-value	Summary of post hoc test
		N	M	Rank	N	M	N	M	N	M			
Halal	important for product differentiation	102	6.12	3	45	5.84	19	6.21	38	6.42	4.55	0.01*	S<SO
	helps control suppliers	102	5.98	4	45	5.51	19	6.21	38	6.42	6.48	0.00*	S<SO
	helps gain better market access	102	6.25	1	45	5.78	19	6.74	38	6.55	9.82	0.00*	S<SO<H
	helps coordination in the retail supply chain	102	6.14	2	45	5.60	19	6.42	38	6.63	13.98	0.00*	S<H<SO
Fair Trade	important for product differentiation	102	5.48	4	45	5.20	19	5.95	38	5.58	3.93	0.02*	S<H
	helps control suppliers	102	5.77	2	45	5.44	19	6.16	38	5.97	4.12	0.02*	S<H
	helps gain better market access	102	5.90	1	45	5.56	19	6.26	38	6.13	4.93	0.01*	S<SO<H
	helps coordination in the retail supply chain	102	5.77	2	45	5.42	19	6.11	38	6.03	5.68	0.01*	S<SO<H
MyGap	important for product differentiation	102	5.43	4	45	5.11	19	5.89	38	5.58	4.39	0.02*	S<H
	helps control suppliers	102	5.50	3	45	5.13	19	5.89	38	5.74	5.09	0.01*	S<SO<H
	helps gain better market access	102	5.78	1	45	5.38	19	6.53	38	5.87	8.51	0.00*	S<H
	helps coordination in the retail supply chain	102	5.65	2	45	5.22	19	6.00	38	5.97	7.01	0.00*	S<SO<H
MSC	important for product differentiation	102	5.55	4	45	5.16	19	5.95	38	5.82	6.01	0.00*	S<SO<H
	helps control suppliers	102	5.62	3	45	5.24	19	5.74	38	6.00	5.25	0.01*	S<SO
	helps gain better market access	102	5.81	1	45	5.47	19	6.05	38	6.11	4.39	0.02*	S<SO
	helps coordination in the retail supply chain	102	5.75	2	45	5.31	19	5.95	38	6.16	7.23	0.00*	S<SO

Note: Mean based on scale of 1 = "Strongly Disagree", 4 = "Neutral", 7 = "Strongly Agree". S refers to "Supermarket", H refers to "Hypermarket" and SO refers to "Specialty Organic Shop".

*F-test significant at the 0.05 level.

Table 7.28: Advantages of food certification to food retailers

	<i>Certification/Attribute</i>	<i>Total sample (N = 102)</i>			<i>S (N = 45)</i>		<i>H (N = 19)</i>		<i>SO (N = 38)</i>		<i>F-test</i>	<i>P-value</i>	<i>Summary of post hoc test</i>
		<i>N</i>	<i>M</i>	<i>Rank</i>	<i>N</i>	<i>M</i>	<i>N</i>	<i>M</i>	<i>N</i>	<i>M</i>			
<i>Halal</i>	minimizes transaction costs	102	4.98	4	45	4.89	19	4.74	38	5.21	0.90	0.41	
	minimizes financial liability	102	5.04	3	45	5.07	19	5.00	38	5.03	0.18	0.98	
	minimizes retailer's responsibility for policing the safety and quality of the products sold	102	5.57	2	45	5.20	19	5.05	38	6.26	6.84	0.00*	H<S<SO
	increases efficiency in the supply chain	102	5.91	1	45	5.71	19	5.42	38	6.39	5.43	0.01*	H<S<SO
<i>Fair Trade</i>	minimizes transaction costs	102	5.09	3	45	5.07	19	4.63	38	5.34	2.07	0.13	
	minimizes financial liability	102	4.90	4	45	4.98	19	4.58	38	4.97	0.90	0.41	
	minimizes retailer's responsibility for policing the safety and quality of the products sold	102	5.29	2	45	5.22	19	4.74	38	5.66	3.33	0.04*	H<SO
	increases efficiency in the supply chain	102	5.56	1	45	5.42	19	5.32	38	5.84	1.85	0.16	
<i>MyGap</i>	minimizes transaction costs	102	4.99	3	45	4.93	19	4.74	38	5.18	1.10	0.34	
	minimizes financial liability	102	4.87	4	45	4.96	19	4.68	38	4.87	0.42	0.66	
	minimizes retailer's responsibility for policing the safety and quality of the products sold	102	5.23	2	45	5.04	19	5.00	38	5.55	2.13	0.12	
	increases efficiency in the supply chain	102	5.36	1	45	5.27	19	5.16	38	5.58	1.08	0.34	
<i>MSC</i>	minimizes transaction costs	102	5.07	3	45	5.00	19	4.79	38	5.29	1.04	0.36	
	minimizes financial liability	102	4.92	4	45	4.93	19	4.74	38	5.00	0.33	0.72	
	minimizes retailer's responsibility for policing the safety and quality of the products sold	102	5.38	2	45	5.13	19	5.00	38	5.87	4.75	0.01*	H<SO
	increases efficiency in the supply chain	102	5.53	1	45	5.49	19	5.11	38	5.79	2.29	0.11	

Note: Mean based on scale of 1 = "Strongly Disagree", 4 = "Neutral", 7 = "Strongly Agree". S refers to "Supermarket", H refers to "Hypermarket" and SO refers to "Specialty Organic Shop".

*F-test significant at the 0.05 level.

7.2.3 PLS-SEM Analysis

Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to analyse questions in Section C on the perception of and attitude towards organic certification. Many business disciplines, as well as marketing, apply PLS-SEM and it has become a widely recognised method in recent years (Diamantopoulos et al., 2012; Sarstedt, Ringle, & Hair, 2014). The primary purpose of PLS-SEM in business research is to test concepts and theories (Hair et al., 2011; Sarstedt, Ringle, Smith, Reams, & Hair, 2014). PLS-SEM is a suitable technique when analysing non-normally distributed data (Falk & Miller, 1992). Using Likert scales to measure individual perceptions will likely yield non-normally distributed responses (Aibinu & Al-Lawati, 2010). Therefore, since the survey uses Likert scales, PLS-SEM is an appropriate technique to analyse retailers' perception of and attitudes towards organic certification.

The conceptual framework depicted in Figure 7.1 consists of four constructs; Organic Certification on Product Attributes (OCPA), Organic Certification on Sustainability Attributes, Organic Certification Issue (OCI) and Importance Organic Certification in Malaysia (IOCM). Hair et al. (2011) explained that typically there is a two-step-process of PLS-SEM assessment that needs to be followed that involves the separate assessment of the measurement models and the structural model (Table 7.29).

Figure 7.1: The Conceptual Framework of Malaysian Retailers' Perception of and Attitude towards Organic Certification

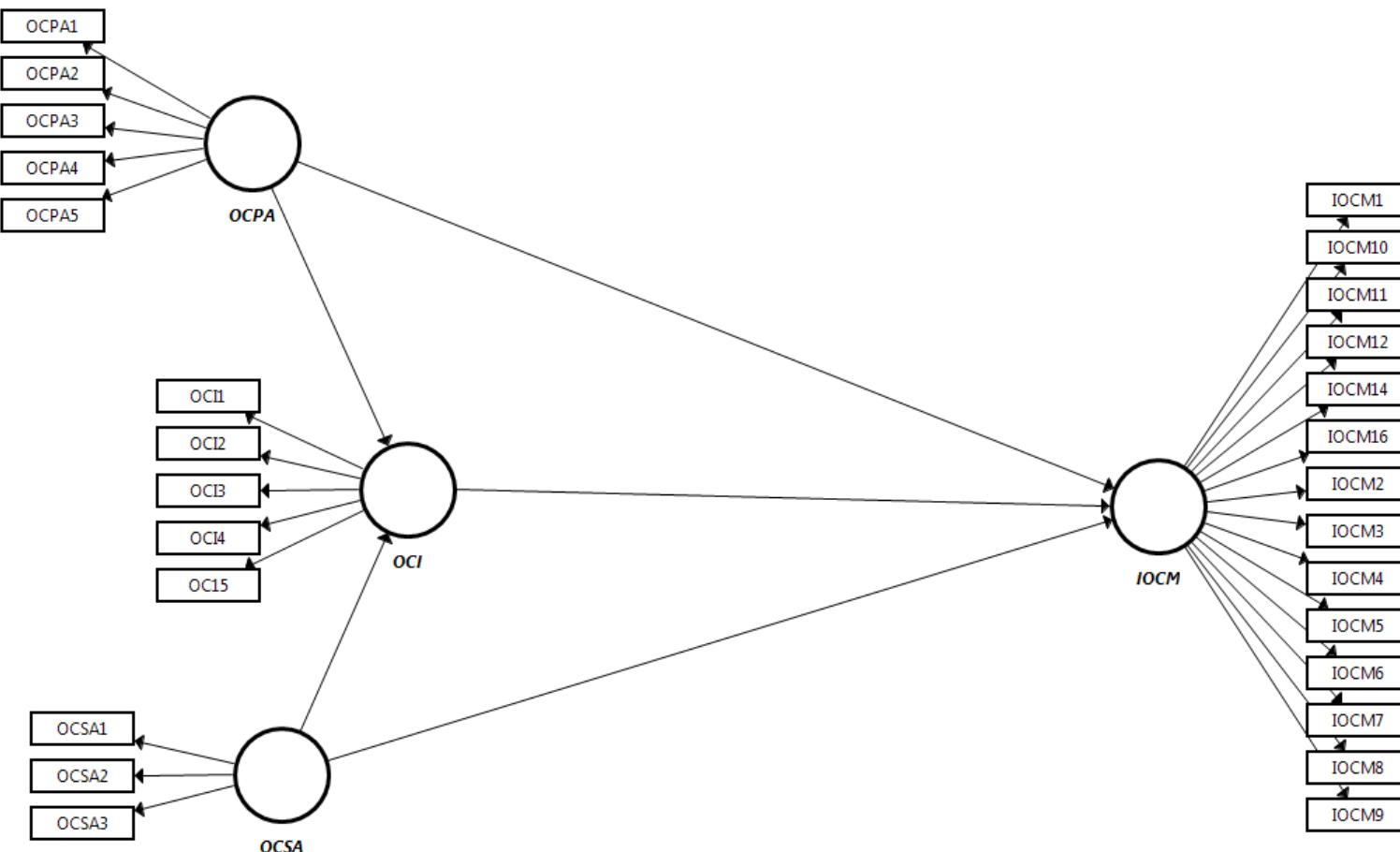


Table 7.29: Process of PLS-SEM Assessment

First Stage: Evaluation of the Measurement Models	Second Stage: Evaluation of the Structural Models
✓ Internal consistency (composite reliability)	✓ Coefficients of determination (R^2)
✓ Indicator reliability	✓ Predictive relevance (Q^2)
✓ Convergent validity (average variance extracted)	✓ Size and significance of path coefficients
✓ Discriminant validity	✓ f^2 effect sizes ✓ q^2 effect sizes

Internal Consistency Reliability

The first stage of PLS-SEM assessment is the evaluation of the measurement models that consists of internal consistency reliability, convergent validity and discriminant validity. The measurement models were evaluated by measuring the internal consistency reliability. Traditionally, Cronbach's alpha was used for measuring internal consistency. However, internal consistency reliability tends to be underestimated by Cronbach's alpha because it is sensitive to the number of items in the scale (Hair, Hult, Ringle, & Sarstedt, 2014). Thus, in PLS-SEM, using composite reliability is more appropriate when measuring the internal consistency reliability instead of Cronbach's alpha.

Generally, interpretation of composite reliability is similar to Cronbach's alpha whereby the values lie between 0 and 1. According to Hair et al. (2014, pp. 101-102) composite reliability values of 0.60 to 0.70 are considered acceptable in exploratory research, whilst values between 0.70 to 0.95 can be regarded as satisfactory.

Table 7.30 presents the composite reliability (CR) values. The results indicate that the measurement model has satisfactory internal consistency reliability as the CR of each construct exceeds the recommended level threshold value of 0.70. CR values for Organic Certification on Product Attributes (OCPA) (0.919); Organic Certification on Sustainability Attributes (OCSA) (0.930); Organic Certification Issue (OCI) (0.890) and Importance of Organic Certification in Malaysia Food Retails (IOCM) (0.945).

Table 7.30: Composite Reliability

Latent Construct	Composite Reliability
Organic Certification on Product Attributes (OCPA)	0.919
Organic Certification on Sustainability Attributes (OCSA)	0.930
Organic Certification on Issue (OCI)	0.890
Important of Organic Certification in Malaysia (IOCM)	0.945

Indicator Reliability

According to Hair et al. (2011), an indicator's reliability is based on all the indicators' outer loadings that should be higher than 0.70. Indicators with outer loading values of 0.40 to 0.70 should be considered for removal from the scale. Deleting the indicator would increase the composite reliability and average variance extracted (AVE) above the suggested threshold value, while indicators with very low outer loadings of 0.40 and lower should, however, always be removed from the scale (Hair et al., 2014; Hair et al., 2011).

Table 7.31 shows the indicator's outer loadings of the measurement model. There are 25 indicator's outer loadings above 0.70, and two indicator values of 0.40 to 0.70. Five indicators were removed from the scale in order to increase the average variance extracted (AVE) above the suggested threshold value.

Table 7.31: Outer Loadings

	IOCM	OCI	OCPA	OCSA
IOCM1	0.756			
IOCM10	0.769			
IOCM11	0.763			
IOCM12	0.766			
IOCM14	0.609			
IOCM16	0.578			
IOCM2	0.738			
IOCM3	0.750			
IOCM4	0.721			
IOCM5	0.803			
IOCM6	0.730			
IOCM7	0.838			
IOCM8	0.793			
IOCM9	0.750			
OC15		0.737		
OCI1		0.792		
OCI2		0.772		
OCI3		0.797		
OCI4		0.834		
OCPA1			0.837	
OCPA2			0.882	
OCPA3			0.921	
OCPA4			0.798	
OCPA5			0.723	
OCSA1				0.886
OCSA2				0.913
OCSA3				0.912

Convergent Validity

Convergent validity refers to the degree to which a measure correlates positively with alternative measures of the same construct (Hair et al., 2014). To establish convergent validity on the construct level, the average variance extracted (AVE) is the common measure used in PLS-SEM and the AVE value should be higher than 0.70. An AVE value of 0.70 or above indicates that more variance is shared between the construct factor and its measurement indicators than with another construct representing different sets of measurement items (Aibinu & Al-Lawati, 2010; Fornell & Bookstein, 1982).

All constructs for this study have AVE ranging from 0.552 to 0.817 that exceed the requirement threshold value of 0.50 (Table 7.32). Therefore, the results indicate that the measurement model in this study has adequate convergent validity.

Table 7.32: Average Variance Extracted

Latent Construct	Average Variance Extracted (AVE)
Organic Certification on Product Attributes (OCPA)	0.697
Organic Certification on Sustainability Attributes (OCSA)	0.817
Organic Certification on Issue (OCI)	0.619
Important of Organic Certification in Malaysia (IOCM)	0.552

Discriminant Validity

The measurement discriminant validity was evaluated after assessing the individual internal consistency reliability, indicator reliability and convergent validity. Discriminant validity is important in the measurement model in order to ensure all constructs are distinct from other constructs by empirical standards (Hair et al., 2014; Hair et al., 2011). Consequently, two methods were conducted to assess discriminant validity:

1. Cross loadings

Cross loadings were examined, as the indicator outer loadings for each construct were greater than all of its loadings on other constructs (Table 7.33). Indeed, this method tends to be flexible when establishing discriminant validity (Hair et al., 2011). Therefore, the result of cross loading indicates that all the 27 measurement items loaded distinctly on the specified constructs as establishing the discriminant validity of the four constructs.

Table 7.33: Cross Loadings

	IOCM	OCI	OCPA	OCSA
IOCM1	0.756	0.267	0.609	0.616
IOCM10	0.769	0.601	0.519	0.545
IOCM11	0.763	0.594	0.482	0.532
IOCM12	0.766	0.525	0.550	0.495
IOCM14	0.609	0.432	0.411	0.352
IOCM16	0.578	0.458	0.362	0.414
IOCM2	0.738	0.164	0.647	0.523
IOCM3	0.750	0.280	0.613	0.526
IOCM4	0.721	0.207	0.553	0.604
IOCM5	0.803	0.348	0.572	0.593
IOCM6	0.730	0.097	0.602	0.591
IOCM7	0.838	0.470	0.524	0.568
IOCM8	0.793	0.357	0.515	0.545
IOCM9	0.750	0.393	0.503	0.574
OCI1	0.450	0.792	0.205	0.314
OCI2	0.257	0.772	0.117	0.163
OCI3	0.419	0.797	0.164	0.232
OCI4	0.411	0.834	0.235	0.342
OCI5	0.386	0.737	0.146	0.312
OCPA1	0.593	0.199	0.837	0.488
OCPA2	0.611	0.176	0.882	0.559
OCPA3	0.686	0.214	0.921	0.586
OCPA4	0.534	0.067	0.798	0.525
OCPA5	0.560	0.278	0.723	0.687
OCSA1	0.702	0.366	0.727	0.886
OCSA2	0.613	0.306	0.541	0.913
OCSA3	0.634	0.299	0.563	0.912

2. Fornell-Lacker criterion

This method is a more conservative approach compared to previous methods. In this method, the square root of AVE values was compared with the correlations of the constructs. Each constructs AVE square root should be higher than its highest correlation with any other construct (Hair et al, 2014, p. 105). Table 7.34 demonstrates that all constructs in the measurement model has met the requirement criteria whereby the square root of AVE values is greater than the highest correlation with any other constructs.

Table 7.34: Fornell – Lacker Criterion

	IOCM	OCI	OCPA	OCSA
IOCM	0.743			
OCI		0.503	0.787	
OCPA			0.228	0.835
OCSA			0.722	0.682 0.904

These two methods are the most common methods that have been used in previous research (Andersson, Gustafsson, Kristensson, & Wästlund, 2016; Hassan, Ramayah, Mohamed, & Maghsoudi, 2015; Schulze & Spiller, 2010). Nevertheless, Henseler, Ringle and Sarstedt, (2014) found that the cross loading assessment and the Fornell-Larcker criterion are incapable of detecting a lack of discriminant validity due to unacceptably low sensitivity. Specifically, these methods are more suitable with high sample sizes and heterogeneous loading patterns. Therefore, to assess the discriminant validity, a comparison of the heterotrait-heteromethod correlation and the monotrait-heteromethod correlations (HTMT) is able to identify a lack of discriminant validity effectively instead of Fornell-Larcker criterion and cross loadings (Henseler et al., 2014).

There are three approaches to the HTMT criteria. The most conservative criterion is HTMT_{.85} that achieves the lowest specificity rates of all the simulation conditions. Meanwhile, HTMT_{.90} and HTMT_{inference} approaches indicate that discriminant validity has been established. In addition, HTMT_{inference} is the most liberal criterion compared to the other approaches (Henseler et al., 2014). Table 7.35 shows the HTMT for this study as the correlation values between the constructs are less than 0.85. Therefore, it does not violate the HTMT_{.85} criterion and indicates that the discriminant validity is established.

Table 7.35: The HTMT Results

	OCPA	OCSA	OCI	IOCM
OCPA				
OCSA	0.762			
OCI	0.249	0.396		
IOCM	0.786	0.787	0.548	

Evaluation of the Structural Model

Collinearity Assessment

After confirming that the measurement model is reliable and valid, the next step involved examining the model's predictive capabilities and the relationship between the constructs. However, collinearity needs to be examined first in order to ensure that the constructs were free from any collinearity issues as well as ensuring that the path of coefficients were free from the bias (Hair et al., 2014).

Hair et al. (2011) suggested that a tolerance value of 0.20 or a VIF value of 5 and higher respectively indicates that the constructs probably have collinearity issues. Table 7.36 shows the collinearity assessments and reveal there were no multi-collinearity issue in the structural model.

Table 7.36: Collinearity Assessment

	IOCM	OCI
IOCM		
OCI	1.150	
OCPA	1.872	1.871
OCSA	2.039	1.871

Structural Model Path Coefficients

The next step for evaluation of the structural model involves a path analysis that represents the hypothesized relationships among the constructs. According to Hair et al. (2014 p. 171), the standardized values of the path coefficients are between -1 and +1. Any estimated path of coefficients with values close to +1 indicates strong positive relationships and strong negative relationships for negative value that are almost always statistically significant. Any estimated path of coefficients that is close to 0 has a weaker relationship and is usually non-significant.

Bootstrapping procedure is required when determining the significance of path coefficients. The purpose of using the bootstrapping procedure is to ensure precision in the structural model estimates that are considered as a non-parametric method. In this research, bootstrap function of SMARTPLS 3.0 was used with 5000 sample sets. Table 7.37 shows the results of the path coefficients, t-statistics and significance level for all hypothesized paths. Moreover,

this result was used to determine the acceptance or rejection of the proposed hypotheses and is presented in Table 7.38.

Table 7.37: Significance Testing Result of the Structural Model Path Coefficients

	Path Coefficients	t Values	Significance Levels	Results
OCPA → IOCM	0.434	4.888	***	0.000
OCSA → IOCM	0.322	3.610	***	0.000
OCI → IOCM	0.288	3.809	***	0.000
OCSA → OCI	0.383	2.223	**	0.026
OCPA → OCI	-0.033	0.206	NS	0.837

Note NS: not significant

*p<0.10. **p<0.05. ***p<0.01

Table 7.37 reveals that the relationship of OCPA and IOCM is significant with $\beta = 0.434$ and t-value = 4.888. The path coefficients between OCSA and IOCM are significant with $\beta = 0.322$ and t-value = 3.610. The relationship of OCI and IOCM is significant with $\beta = 0.288$ and t-value = 3.809. Moreover, the OCSA and OCI relationship is also significant with $\beta = 0.383$ and t-value = 2.223. In contrast, the relationship of OCPA and OCI is not significant with $\beta = -0.033$ and t-value = 0.206. Therefore, H1 to H4 are supported, whilst H5 is not supported (Table 7.38).

Table 7.38: Hypotheses Testing Result

	Hypotheses Statement	Result
H1	Organic certification on product attributes has a positive relationship with importance of organic certification in food retails	Supported
H2	Organic certification on Sustainability attributes has a positive relationship with importance of organic certification in food retails	Supported
H3	Organic issue has a positive relationship with importance of organic certification food retails	Supported
H4	Organic certification on sustainability attributes has a positive relationship with organic issue	Supported
H5	Organic certification on product attributes has a positive relationship with organic issue	Not Supported

Coefficient of Determination (R^2 Value)

The coefficient of determination (R^2 value) measures the predictive accuracy of the model and is mostly used when to evaluate the structural model. The R^2 values range from 0 to 1 with higher levels indicating higher levels of predictive accuracy. In marketing research, R^2 values of 0.75, 0.50 or 0.25 for endogenous latent variables can, as a rough rule of thumb, be respectively described as substantial, moderate or weak (Hair et al., 2011; Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014; Sarstedt, Ringle, Smith, et al., 2014), while in other disciplines, R^2 value of 0.20 is considered high. In addition, the rule of thumb for acceptable R^2 values is difficult to provide because it depends on the model complexity and the research discipline. As IOCM R^2 value of 0.68 is considered moderate and OCI R^2 value of 0.11 is considered weak.

Effect Size f^2

The effect size f^2 allows assessment of an exogenous construct's contribution to an endogenous latent variable's R^2 value. It also helps to determine a substantial effect on the interest construct with the exogenous construct (Hair et al., 2014). Therefore, the information that f^2 provides is important with respect to the effect of the exogenous construct in explaining the variation of the endogenous constructs. The effect size is calculated by the following formula:

$$f^2 = \frac{R_{\text{included}}^2 - R_{\text{excluded}}^2}{1 - R_{\text{included}}^2}$$

Table 7.39 presents the f^2 effect sizes by using the given formula. The f^2 effect sizes were interpreted by following the guidelines that the f^2 values of 0.02, 0.15 and 0.35 indicate an exogenous construct's small, medium or large effect, respectively, on an endogenous construct (Hair et al., 2014; Hair et al., 2011). The result implies that the effect of organic certification on product attributes has the highest effect size on importance of organic certification in food retail ($f^2 = 0.30$), followed by organic certification on sustainability attributes and organic certification issue with values of $f^2 = 0.14$ and $f^2 = 0.19$ respectively. The effect of organic certification on sustainability attributes has a small to medium effect on

organic certification issues ($f^2 = 0.08$) followed by organic certification on product attributes ($f^2 = -0.009$).

Table 7.39: The Effect Size f^2

IOCM			OCI			
	β	f^2	Effect Level	β	f^2	Effect Level
OCPA	0.434	0.30	Medium	-0.033	-0.009	Small
OCSA	0.322	0.14	Small to medium effect	0.383	0.08	Small to medium effect
OCI	0.288	0.19	Small to medium effect			

Blindfolding and Predictive Relevance Q^2

The next evaluation of structural model is to examine the Stone-Geisser's Q^2 value as it is an indicator of the model's predictive relevance. The blindfolding procedure was used to obtain the Q^2 value and this technique reused a sample that omits every data point of a given distance (d^{th} distance) in the endogenous construct's indicators and estimates the parameters with the remaining data points. The PLS-SEM algorithm was used to treat the omitted data points as well as missing values and predictive omitted points. In order to measure any variation , the predicted values are compared with the actual value of the omitted data point (Hair et al., 2014). The results of the Q^2 are presented in Table 7.37 using the given formula.

$$q^2 = \frac{Q^2_{\text{included}} - Q^2_{\text{excluded}}}{1 - Q^2_{\text{included}}}$$

Hair et al. (2014, p. 184) suggested that the values of 0.02, 0.15 and 0.35 indicate small, medium or large predictive relevance of exogenous constructs for a certain endogenous construct. Consequently, Table 7.40 reveals the predictive value of organic certification on product attributes and organic certification on sustainability attributes. Organic certification issue for importance organic certification in food retail were small ($q^2 = 0.08$, $q^2 = 0.05$ and $q^2 = 0.06$ respectively). Meanwhile, organic certification on product attributes and sustainability attributes had a small predictive impact on organic certification issue ($q^2 = -0.006$ and $q^2 = 0.03$).

Table 7.40: The Predictive Relevance Q²

IOCM			OCI		
	β	q^2	Effect Level	β	q^2
OCPA	0.434	0.08	Small	-0.033	-0.006
OCSA	0.322	0.05	Small	0.383	0.03
OCI	0.288	0.06	Small		

The Mediating Effects Analysis

The purpose of mediating effects analysis is to determine the degree to which indirect effects of the construct through the mediating variable modify the hypothesized direct paths. In this study, OCI were hypothesized to mediate the relationship between OCPA and IOCM; OCSA and IOCM. The objective is to identify significant path coefficients as well to know significant and important indirect effects of relationships.

Constructs connected by a single line are considered as direct effects relationships and constructs that pass through another constructs are called an indirect effects relationship. Therefore, the bootstrapping procedure was applied in order to determine the direct and indirect effects of the constructs. According to Hair et al. (2014), the direct and indirect effects between exogenous and endogenous constructs must be significant in order to assess the mediating effects before determining the strength of the constructs mediation. Table 7.41 demonstrates the mediating analysis for OCPA to IOCM and OCSA to IOCM that are mediated by OCI. The direct effects of OCPA and OCSA to IOCM are significant, however indirect effects of OCPA to IOCM are not significant compared to OCSA. This means that some of the direct effect relationships of OCSA to IOCM are absorbed by the OCI mediator.

Table 7.41: The Mediating Effects Analysis

	Direct Effect	t Values	Indirect Effect	t Values	Mediating
OCI → IOCM	0.288	3.809			
OCPA → IOCM	0.434	4.888	-0.009	0.203	No
OCPA → OCI	-0.033	0.206			
OCSA → IOCM	0.322	2.223	0.110	1.865	Yes
OCSA → OCI	0.383	2.223			

The strength of OCI mediates the relationship between OCSA and IOCM and needs to be determined by using the Variance Accounted For (VAF). When the outcomes of VAF has more than 80%, it indicates a full mediation. For VAF that more than 20% and less than 80% can be characterized as partial mediation. While, the VAF less than 20% can conclude that no mediation exists (Hair et al., 2014). The VAF can be calculated as below:

$$\text{VAF} = \text{Indirect Effect} / \text{Total Effects}$$

The VAF between OCSA and IOCM via OCI is 25%. This indicates the VAF is partially mediated since it larger than 20% but smaller than 80%. Based on the results H6 was not supported, whilst H7 was supported.

7.3 Chapter Summary and Conclusions

The findings of the descriptive analysis showed that the retailers involved in this study have perceived the retail attributes primarily in terms of providing product variety, meeting the requirements of related certification standards for food products and a hygienic working environment as a very important attributes in their retail outlets. For product attributes, the retailers perceived that product safety and good quality as well labelling and certification are very important when selling the products to the consumers. Regardless of sustainability attributes, the priority initiatives that retailers implement are using environmental friendly equipment, selling environmental products and training employees for social and environmental issues.

PLS-SEM analysis was used to analyse the perception of and attitude towards organic certification. Four constructs were analysed: organic certification on products attributes (OCPA), organic certification on sustainability attributes (OCSA), organic certification issue (OCI) and the importance of organic certification on food retailing in Malaysia (IOCM). A two-step process of PLS-SEM assessment was conducted in order to assess the measurement models and the structural model.

The result of the structural model path coefficients reveals the relationships of OCPA and IOCM; OCSA and IOCM; OCI and IOCM; OCSA and OCI were significant, whilst the relationship of OCPA and OCI were not significant. Moreover, hypotheses testing demonstrated that H1, H2, H3, H4 and H7 was supported, and H5 and H6 was rejected (Table 7.42).

Table 7.42: Summary of Hypotheses

	Hypotheses Statement	Result
H1	Organic certification on product attributes has a positive relationship with importance of organic certification in food retails	Supported
H2	Organic certification on Sustainability attributes has a positive relationship with importance of organic certification in food retails	Supported
H3	Organic issue has a positive relationship with importance of organic certification food retails	Supported
H4	Organic certification on sustainability attributes has a positive relationship with organic issue	Supported
H5	Organic certification on product attributes has a positive relationship with organic issue	Not Supported
H6	Organic certification issue mediates the relationship between organic certification on product attributes and the importance of organic certification on food retailing in Malaysia	Not supported
H7	Organic certification issue mediates the relationship between organic certification on sustainability attribute and the importance of organic certification on food retailing in Malaysia	Supported

In order to further explain Malaysian retailers' perception of and attitude towards organic certification, Chapter Eight will highlight on the discussions with respect to the findings. In conclusion, this chapter reiterates that organic and food certification is important in food retailing. Malaysian food retailers perceived that organic and food certification is not just only to ensure the safety and quality of organic and food products but it is more on the trustworthiness as well the credibility that determine the effectiveness of quality assurance schemes particularly in Malaysia. This chapter confirmed the interview findings that attributes such trust, credibility and safety of organic and food certification is significantly important in food retailing. Moreover, ANOVA findings clearly noted that the food retailers perceived food certification is very important to increase consumers' confidence and satisfaction when coming or buying at their retail outlets. Similar to organic certification that focus on product and sustainability attributes of the organic food products as it claims to be a healthy, environmental friendly and premium. However, organic certification is an issue to Malaysian food retailers as this will affect the development of organic retailing.

CHAPTER EIGHT

DISCUSSION

8 Discussion

This chapter discusses the findings from the qualitative (Chapter 6) and quantitative (Chapter 7) research in relation to the relevant research literature. In general, the participants in this study emphasised that organic and food certification is very important to Malaysian food retailing, however the responsibility to have a better implementation and enforced set of regulations that surround certification is regarded as requiring a higher commitment from all interested parties. In overall, Malaysian food retailers believed that food products that claim organic status need to demonstrate that they possess a quality assurance scheme that can determine such status as consumers are becoming more aware and conscious of the benefits of such status when they are consume organic food products.

8.1 Food certification and standards

In the qualitative findings the participants claimed that food safety and quality are important to food products including organic. They reasoned that consumers are now concerned with the safety and quality of food products and particularly for organic that has been perceived as being safe for consumption. Safety and quality of food products achieved the highest mean (6.38) under perceptions of and attitude towards food products in their own food retail outlets in relation to product attributes (Table 7.4), while retailers' provision of certified food products had a mean score of 6.09 (Table 7.3) under the category of retailers' perceptions of and attitude towards retail attributes. This research reinforces that food certification is important in the food supply chain as the demand for the safety and quality of food products is one of the factors for manufacturers and food retailers sourcing the food products in the food global market (Chen et al., 2015; Trienekens & Zuurbier, 2008). Although such findings have been noted elsewhere, for example in Marques Vieira, Dutra De Barcellos, Hoppe, and Bitencourt da Silva (2013), it is important to note that this is one of the first times that this is reported in the Malaysian context.

It is also important to understand that the concept of organic in the food supply chain is regarded as having an emphasis on safety and quality and the satisfaction of accepted organic standards. Although, given regional and national variations in approaches and regulations

(Siderer et al., 2005; Xie et al., 2011; Zakowska-Biemans, 2011b), there is no single definition that satisfactorily defines all organic food products the findings in the interviews and the survey demonstrated that organic food products are regarded by Malaysian retailers and associated stakeholders as being organically produced without using any chemical substances or illegal ingredients. Such a position is related to the organic standards highlighted in Chapter Two. Given that there is no international standardization or harmonization for organic agriculture due to the differences between how organizations and governments define what is an organic food products and what certification process it needs (Siderer, 2005), organic food products are difficult to trade in the international market. Nevertheless, Malaysia imports numerous organic brands into the country, with consequent difficulties for retailers and consumers, as is discussed further below.

The importance of organic certification for organic food products attributes is that it indicates the safety and the quality of organic food products. It is important for food products that are claimed to be organic to carry a valid certification that indicates they have been produced organically according to a transparent and appropriate regulatory process. During the interviews, most of the participants agreed that carrying organic certification determined the quality and the safety of the organic food products. It was also strongly suggested that certification does not only imply quality attributes for organic food products but that it is important for other types of food certification as well when determining the safety and quality of food products, for example halal, which already has an established certification programme in Malaysia (see also Marzuki, Hall, & Ballantine, 2012a, 2012b). The findings from the survey reported in Chapter Seven showed that food retailers' perceived halal certification as the most important in indicating safety and the quality of food products compared to other types of food certifications in Malaysian food retailing. This is not surprising given that the population is dominantly Muslim. However, the importance of certification is also supported in a wider context by Prabhakar, Sano, and Srivastava (2010), who argued that the implementation of food certification is a requirement in the Asia-Pacific food supply chain system that needs to be fulfilled by *any* food products.

Previous research suggested that food safety, health, animal welfare, environmental concerns and a better taste are important factors that influence consumers purchasing of organic food products (Aarset et al., 2004; Hemmerling et al., 2015). This study has also found that some of the factors perceived by retailers as influencing consumers when buying organic food products are food safety and quality. Participants from both public and private retail-related

organizations placed great emphasis on consumer's concerns over food safety and quality to an extent that outweighed some of the other factors that have been reported in the literature. Respondents explained that being safety conscious influences consumers to choose organic rather than non-organic food products.

The concept of food certification is designed to protect consumers when purchasing food products. This also implies that certified organic food products are not only designed to protect consumers from perceived harm but also to gain consumer trust and increase consumers' confidence. Indeed, a participant from a public organization stated, "*Yes, by displaying the certificate, consumers will feel more confident with that [product]*" (*Assistant Officer, public organization*) (*Translated from Bahasa*). The present study therefore supports the findings of Voon, Sing and Agrawal (2011), as well as Liang (2016), in their investigation of purchasing organic food products, who reiterated the importance of organic certification in the context of trustworthiness given that consumers and retailers cannot access all producers directly to evaluate the process of organic production and therefore reduce perceived risks.

The ANOVA results of other food certifications in Chapter Seven (see Table 7.24) also indicated that food retailers perceived that the trust attribute is very important compared to other attributes. Food retailers perceived that the purpose of food certification is to increase consumers' confidence when making a purchasing decision as well as to have a positive impact on consumers' satisfaction when they buy the food products. The analysis of ANOVA also indicated that there were statistically significant responses to attributes from different types of food retail format. The specialty organic shop rated most of halal, fair trade, MyGap and MSC certification in terms of 'indicates food quality', 'indicates food safety', 'indicates trust', 'indicates authenticity' and 'cover all aspects of food production, processing, transportation and retailing' as more important than hypermarkets and supermarkets. This is an important finding which has not previously been identified in the Malaysian and Asian context, as specialty organic shops perceive these food certifications are almost as important as organic certification in many cases, and in the case of halal even more important. Although it is not a focus of the present study, the differences between retail outlets also potentially indicates an area of future research with respect to the role of the outlet category itself as reinforcing the value of certification for consumers as well as retailers.

The ANOVA findings (see Table 7.25) also revealed that the purpose of food certification in general is perceived as ‘increases confidence levels among consumers when making a purchase decision’, ‘has a positive impact on consumer satisfaction’ and ‘provides information to consumers before they purchase the product’. These three items had the highest rankings of the 102 Malaysia food retailers. However, the result is significantly different for food retail formats and the majority of the purpose of food certification attributes were generally more important for hypermarkets as compared to supermarket and specialty organic shop. The reason for these findings can be explained given that the purpose of food certification is very important to hypermarkets because of the variety and assortment of the food products that they sell is so much larger than supermarkets and specialty organic shops. Thus, they need to ensure that the food products in their stores are properly certified from recognized certification bodies in order to be assessed by customers as being reputable in relation to other substitute products that may be available.

Consumers lack of trust in relatively unknown organic certifications or food products that are labelled with the word “organic” and without certification logo (Janssen & Hamm, 2014). In relation to this study, the research suggests that retailer stakeholders believe that the involvement of the government is important to increase the level of consumer trust on organic products and certification. They believed that in the Malaysian context, government is responsible for verifying or validating organic certification due to different numbers of organic certification that can be found in the global food market. The overall trust in organic certification processes is also viewed by the participants from the public and private retail related organizations as depending on how much consumers trust government regulations and enforcement.

Chapter Four highlighted that most of the organic food products in Malaysian food retailing are imported from different countries and it is important for imported organic food products to provide a valid certification that determines the credibility of the organic certification (Organic Monitor, 2006). The present study suggests that having a credible organic certification is important for organic food products that focus on the safety and quality as well as for consumers' trust when they want to purchase organic food products. Participants from food retail believed that certification is a channel to reduce the information asymmetries of organic food products. *“Well I think is very clear it is said that if it certified then it is organic right? And if not it does not have a [certificate] of course it is not certified then the consumers will be doubtful if that product is genuinely organic or not”* (General Manager,

food retail). In keeping with the findings of this study, Liang (2016) also claims that the mechanisms of quality assurance such as organic certification and labelling may reduce the extent of information asymmetry.

Prabhakar et al. (2010) found that food safety in Asian countries such as India, China, Korea, Bangladesh, Indonesia and Thailand has become significant issues due to the inappropriate use of chemical substances and pesticides that results an adverse chemical substances in food products. Therefore, it is perhaps no great surprise that interview participants aimed to assure that traceability is one of organic and food certification key purposes in order to trace back the food products to see in case there are any suspicious activities or consumer complaints and it is important that the requirements for food certifications programs and the food supply chain are monitored. In the survey findings, Malaysian food retailers agreed that other types of food certification cover other significant aspects of food production, transportation and retailing (see Table 7.24).

Generally, farmers who intend to market their products as organic need to obtain organic certification from recognised certification bodies that requires them to go through procedures before obtaining the certification. Participants from public organizations felt that ASEAN countries accepted organic food products that possess Malaysian organic certification. In addition, organic certification acceptance is important because it is determined by the level of enforcement in particular countries and this is regarded as influencing their credibility in gaining trust from the consumers and stakeholders. Prior research has noted that most of imported organic food products are certified by international certification bodies in Europe, the US and Japan (Xie et al., 2011). Thus, to export the organic food products to other countries requires organic certification that have equivalence to other organic regulations as there are countries that only accept certain certification to be categorised as organic food products and therefore be sold at a premium price.

This research has found that food retailers perceived that food certification ‘helps gain better market access’ and ‘helps coordination in the retail supply chain’ as being important to food retailers. In addition, the result of the ANOVA in Chapter Seven shows that there are significant responses to attributes from different types of food retail format. These attributes were perceived to be more important to hypermarkets compared to supermarket and specialty organic shop. This finding also indicated that certified food products are important to both overseas and local food producers and manufacturers who provide their food products to

Malaysian food retailers as well as ensuring the efficiency of the food supply chain system by following the requirements of food standards.

In addition, effective communication of certified food products status is important in value-added marketing (Botonaki et al., 2006). It appears from the interviews that the effectiveness of the logo and labelling on organic food products will determine the credibility of organic certification. This research has also found that other types of food certification is important for communicating with consumers when buying the food products. However, respondents suggested that communication with consumers can be ineffective when they lack of knowledge or awareness regarding organic certification given that many different forms of organic certification can be found in Malaysian food retailing. Indeed, one of the participants from food retail stated, *"It is effective if the messaging and the symbol that is used is well known. It is not the system itself [that] does the checking but the consumer only know if the message goes out"* (Director, private organization). Sangkumchaliang and Huang (2012) reinforced that the types and quality of information, such as certification and labeling of organic food products, are affected by the level of consumer knowledge.

Other forms of food certification also have an influence on food product sales. Participants from public organizations that have expertise in halal explained that food products that carry a halal certification has positively impacted the sales of the food products. In Malaysia, halal certification is considered to have a huge influence on consumers' behaviour because a majority of consumers in Malaysia are Muslims. Moreover, every food product needs to have halal certification even if the food product is also certified organic. One of the participants from food retail believed that one of the Malaysian consumers' push factors when buying food products is the halal certification. This finding is also supported by the research of Marzuki (2012) who found that restaurant managers in Malaysia believed that halal certification is very important to both Muslims and non-Muslim consumers.

This also explained why halal certification has the highest mean values when it is compared to other food certifications in Chapter Seven. Indeed, an Assistant Director from a public organization stated, *"Halal certification have huge influence on consumers purchasing decision because they consider halal certification to be their main reference to purchase the food products. It is important for food products to carry halal certification even though the food products have other food certifications such as GMO (Genetically Modified Organism) and GMP (Good Manufacturing Practice)"*. This is an important finding, as it clearly

indicates that manufacturers or retailers that want to sell any food products in Malaysia are also recommend to obtain halal certification for organic certified food products.

8.2 Organic and Food Certification in Malaysian Food Retailing

The development of modern food retailing provides for a greater range of fresh and processed food product assortments (Terano et al., 2014). Nilsson, Gärling, Marell, and Nordvall (2015) explained that the concept of new modern food retailing give consumers the opportunity and options to select the food products that they preferred and also increases competition in the global food market. In Chapter Four, Terano et al. (2014) highlighted that modern food retail formats in Malaysia are positively accepted by Malaysian consumers as their main channel to purchase food products. The availability of large food product assortments is one of the main reasons Malaysian consumers prefer to go to modern food retail stores that give consumers greater availability and convenience in making food products choices (Mohd Roslin & Melewar, 2008).

Providing a variety of food product assortments gives more choices to consumers and consumers tend to have higher levels of satisfaction with food retail outlets that have large food product assortments (Hoch et al., 1999; Lang & Hunt, 2014). Moreover, consumers are able to select different food products or combine them based on their preferences (Lang & Hunt, 2014; Simonson, 1999; Sloot & Verhoef, 2008). This research has found that providing a variety food products is regarded by respondents as very important in food retailing (see Table 7.3) and provides advantage to food retailers in catering to the heterogeneous tastes of consumers (Olsen & Skallerud, 2011). This is also supported by Broniarczyk (2006) who suggested that providing large food product assortments gives impacts and maximises search opportunities for food products. This finding therefore supports a number of previous studies that found that one of the success factors in food retail strategy is to provide large product assortments (Briesch et al., 2009; Lang & Hunt, 2014; Sloot & Verhoef, 2008).

With consumers becoming more concern about the safety and quality of food products, many food retailers are interested in providing organic food products (Hemmerling et al., 2015; Jones & Clarke-Hill, 2001). As such, organic food products must have valid certification from recognize certification bodies. The participants believed that organic certification needs to be displayed by food retailers as it is their role to ensure that the organic food products in their outlets carry a valid certification. In addition, the Department of Agriculture Malaysia

(DOA) is responsible for checking the farmers that produce organic foods meet the required standards before they are awarded with the organic certificate.

Although organic certification is important in order to ensure the safety and quality of organic food products, building trust in certification, including with the inspection bodies, is also important as it helps to prevent any fraud or misuse of certification and labelling on organic food products (Munteanu, 2015). Findings from the survey showed that Malaysian food retailers perceived organic certification as a signal of trust in the related local authority in approving local and international organic food products. As highlighted in Chapter Four, organic certification is a mandatory requirement for ensuring food products can be marketed as organic in Malaysia. This situation applies to imported products as well that need to comply with Malaysian standards. This situation is supported by Janssen and Hamm (2014) who argued that an effective certification and labelling system is required in order to have high levels of trust as well as to develops confidence levels among consumers and food retailers. As noted in Chapter Two, the level of consumers' confidence and trust is especially related to distribution, certification and labelling concerns (Essoussi & Zahaf, 2008).

The concept of organic and food certification in food retailing has an emphasis on food safety and quality. Specifically, food products that can be considered as credence products have potential to increase information asymmetries and misbehavior in the food supply chain (Anders et al. 2010). In this study, the participants in the interview felt that the most important means to reduce or minimize the information asymmetries of organic food products in food retailing is to have a credible certification process and label. As highlighted in Chapter Three, the main reason organic certification is important in food retailing is that credible quality signalling is a major element relating to consumer trust and coordination of food retailing. Indeed, information asymmetries and misbehaviour that can cause increasing transaction costs must be minimized or avoided (Anders et al., 2010; Janssen & Hamm, 2012a).

The PLS-SEM results also confirmed that product attributes were significantly associated with the importance of organic certification in Malaysia food retailing. In terms of path coefficients and statistical significance, they are much greater than sustainability attributes. This particular finding is important for food retailers as they perceived that organic certification is a major factor in determining organic food products attributes that are more related to the production, safety and quality of the food products. Due to the credence

attributes, organic certification is an instrument that can help to verify the status of the organic food products.

However, organic certifications on the basis of product attributes were not significantly associated with organic certification issues. The reason of these insignificant relationships was because the food retailers perceived that to claim the food products to be organic it has to be certified from recognized certification bodies. By doing this, food retailers can prevent any misuse and mislabel by producers or manufacturers who want to sell organic food products without any valid certification. In addition, supporting organic food products that carry organic certification will ensure that organic food products have go through the entire certification process in order to obtain a valid certification. This is particularly important for local fresh products in terms of obtaining the Skim Organik Malaysia (SOM) accreditation because the application fees are subsidized by the government in order to encourage conventional farmers to practice organic farming so as to add value to their crops.

This research has also found that most advantages of other forms of food certification to the food retailer is to ‘increase efficiency in the supply chain’ and ‘minimize retailer responsibility for the policing the safety and quality of the products sold’. Based on the ANOVA result, there are significance response attributes from different types of food retail format. Specialty organic shops rated the advantages of halal, Fair Trade, MyGap and MSC certification as being more important than for supermarkets and hypermarkets. This finding indicates that any certified food products in the food market should be able to control any misuse or mislabelling by food producers or manufacturers.

The findings in Chapter Six suggested that organic certification could help food retailers to develop product differentiation strategies as long there is a demand for organic food products due to the price being considerably higher compared to non-organic food products. Indeed, one of the participants from the interviews stated, *“I think organic and food certification can help retailers in product differentiation strategy, however the retailer needs to make sure the level of consumer purchase organic product is high because the price of organic product is expensive compare to price of normal product”* (Director, public organization) (Translated from Bahasa). As mentioned by Henson (2008) in relation to product differentiation, the development of private standards in food retailing strategies is crucial when differentiating food products and it requires the support of credible certification and branding.

To attract consumers to buy organic food products, many food retailers provide a variety of organic food products at an affordable price and with a good ambience for consumers who come to the shops (Mutlu, 2007). In addition, the growth of organic food products sales is influenced by organic food retailers' effort that encourage them to convince consumers to buy the organic food products (Shih-Tse Wang & Tsai, 2014; Yin et al., 2010). Prior research highlights that the competitiveness in food retailing has now focussed on other food product attributes that are more important than price due to the global food market becoming more oligopolistic (Busch & Bain, 2004; Hampl & Loock, 2013; Hatanaka et al., 2005).

The results of the interviews with various organic retailing stakeholders reported in Chapter Six found that organic certification was useful for producers and processors in their product differentiation strategy but that it can only help when differentiating between organic and non-organic food products. One of the participants from the interview suggested that organic certification is a regulation for producers or processor to follow while the consumers are not so concerned about the certification. Moreover, a Senior Manager from one of the established food retailers in Malaysia felt that organic food products were one of their selling strategies in order to attract the consumers and that the consumers are only interested in the food products sold in the stores and instead questioning whether food products are certified or not. However, in addition to some of the different responses from other interviewees as well as the results of the survey, the operational strategies of some food retailers need to be reconsidered because the pattern of consumers behaviour is changing and food retailers have to respond to the consumer acceptance of new modern scale retail formats (Mohd Roslin & Melewar, 2008).

Adequate management of the organic supply chain is an important issue for retailers and consumers (Hamzaoui-Essoussi et al., 2013; Lehtinen, 2012; Marques Vieira et al., 2013). With respect to transportation and storage issues, this research suggests that organic food products need to be better separated from non-organic food products as this may prevent any contamination which food retailers will be responsible for at the point of sale. Retailers should therefore monitor how organic food products are delivered to them. A director from a private retail organization insists that transportation and storage is generally handled properly by following procedures and the security of the supply chain is regarded as being dependent on how the producers and food retail manage transportation and storage. However, the findings of the interviews indicated that only one of the participants from the food retailers believed that there is no contamination during the delivery of the organic food products to

their stores and subsequent storage. Other participants from food retailers admitted that contamination could happen because of the perceived need to mix organic with non-organic food products so as to reduce transportation costs. Addressing this issue would appear to be an important issue for ensuring the robustness of Malaysian organic food standards.

Food certifications are an example of quality assurance schemes that are used consumers as a source of food product information. As noted in Chapter Three, Sans et al. (2005) concluded that the role of third party certification is to ensure that the production of food products comply with standards and adjust supply and demand by strengthening the relationship between retailers and producers. The findings in Chapter Six suggested that food retailers need to be more responsible in monitoring and verifying the validity of organic certifications on the organic food products that are available in their stores. It is very important for them to know the status of organic certification as part of their due diligence for the food products that they sell at their stores. In addition, food retailers need to depend on reliable food product information as it important for them when developing a quality differentiation strategy (Anders et al., 2010). However, one of the food retailers interviewed disagreed with the notion that the monitoring or verification of certification should be their concern. Instead, he argued that their priority is the sale of products. However, the only way to ensure that organic or other food products are certified properly is by asking the suppliers to provide a valid organic and food certification from recognized certification bodies.

The findings of this research indicated that the importance of organic certification is also related to environmental attributes, which have previously been recognised as significant in broader Malaysian society (Sinnappan & Rahman, 2011). The participants believed that organic certification indicates that the organic food products are helping to preserve the environment and that this is important for the consumers that are concerned with the environment. This finding is supported by Sirieix, Kledal, and Sulitang (2011) who similarly found that Chinese consumers perceived that organic food products makes agriculture more environmentally friendly.

This research also confirms that the importance of organic certification in Malaysia food retailing is significantly associated with sustainability attributes. This indicates that food retailers perceived that food products that are claimed to be organic are produced by farmers or producers that are concerned with environmental as well as animal welfare. In addition, Malaysian food retailers' attitudes towards organic food products and certification represents

their concern with sustainability issues, especially as Malaysian consumers become more aware of their environmental importance as well as the benefits of consuming organic foods. Organic certification is therefore not only reassuring consumers with respect to the quality and safety of organic products but is also a symbol of sustainable agriculture and healthy living, together with process related quality and the use of safe or natural raw materials (Midmore et al., 2011).

Organic food products are perceived to be expensive as they are sold at a premium compared to other conventional food products. A participant from a public retail related organization explained that the high price of organic food product is caused by the cost of production which is regarded as being considerably high. Although it has been reported that consumers who are concerned more with safety and quality would definitely buy the organic food products even if the price is twice more than conventional food products (Aryal, Chaudhary, Pandit, & Sharma, 2009; Hjelmar, 2011; Sirieix et al., 2011). As highlighted in Chapter Two, the prices of organic food products are often much higher than non-organic food products in retail outlets because the production, handling, distribution and marketing costs are more expensive (Jones & Clarke-Hill, 2001). In addition, food retailers felt that most of the people who purchase organic food products have a high income as they able to purchase at a premium price. Although, the market for organic food product is niche for retailers, the sales of organic food products can be readily increased by lowering the price where possible and attracting a wider market (see also Bezawada & Pauwels, 2013).

In relation to premium price issue, this research has found that organic food products that are sold at premium prices need to provide a valid certification or the food products will not be categorized as organic and it will be sold based on the normal price. The findings in Chapter Six also explained that in order to sell the organic food products at premium price, it is important for food retailers to display a valid certification and logo. Doing so will prevent any producers from simply setting a high price for supposedly organic food products without providing certification to the food retailers.

Previous studies identified a number of issues with respect to organic food retailing (Aertsens, Verbeke, et al., 2009; Fotopoulos et al., 2003; Hemmerling et al., 2015; Hughner et al., 2007). This present research also found that there are several issues related to organic certification in Malaysia. In Chapter Six, the findings of this study indicated that some Malaysian producers claimed their food products are organic without providing certification

and misused the organic logo by putting it on food products that are not organic. As a participant from a public organization described, “*In my opinion, if the retailer wants to sell organic product they need to get certification because nowadays a lot of fraud happens related to labelling*” (*Executive Officer, public organization*) (*Translated from Bahasa*). Indeed, a number of food retailers have expressed their concerns on the misconducts and misused of organic certification and logo. Similarly, the Organic Monitor (2006) stressed that organic food products without certification can cause more confusion in Malaysian food retailing.

The PLS-SEM analysis confirmed that the importance of organic certification for food retailing in Malaysia is affected by organic certification issues (in terms of path coefficients and statistics significance). This statistical finding is in line with the interview findings as the issues of organic certification and food products cover production, supply chain and the availability of organic food products. This information indicates that Malaysian food retailers perceived that these issues can affect the credibility and trust of organic certification particularly Malaysia’s own certification Skim Organik Malaysia (SOM).

Generally, organic food products can be found in specialist shops and supermarket chains in Malaysia and there are also traditional retail shops and wet markets that sell organic food products but still the credibility of organic status cannot be determine without organic certification (Stanton & Emms, 2011). Aryal et al. (2009) agreed that it is difficult to determine the status of organic food products without appropriate mechanisms and quality assurance schemes. Although there is a suggestion that the food retailers should monitor the certification of organic food products that come into their stores, some participants from private organizations felt that some of the food retailers are not sufficiently ethical in their behaviours, for example by not displaying the organic certification and displaying expired certification.

During the interviews, the participants shared similar opinions that there is a lack of enforcement on organic food product and certification because the Department of Agriculture Malaysia (DOA) does not have direct responsibility for enforcement in production and retail. A participant from a public organization described the situation, “*From the aspect of enforcement, the Department of Agriculture does not have any enforcement directly. We only depend on other agency to enforce under their act*” (*Assistant Officer, public organization*) (*Translated from Bahasa*). As it currently stands the responsibility for the enforcement of

organic status and certification is under the Ministry of Health Malaysia and any complaint or issues requires the Ministry to take a necessary action. The unusual nature of this role is also noted by Organic Monitor (2006) and Stanton et al. (2011) as highlighted in Chapter Four. Indeed, other research has also noted that the government agencies are not doing a proper job when certifying food products (Aryal et al., 2009).

This research suggests that a better and more appropriate decision-making process for enforcement is needed from the government in order for them to assist producers, retailers and consumers to understand the importance of organic certification and organic food products. The findings in Chapter Six found that the capability of Department of Agriculture inspectors has become a major concern to farmers because some of them lack of experience on how to evaluate or audit the farms. The effects of organic certification on sustainability attributes are also significantly related to the issues of organic certification because food retailers may be concerned with the organic food products that are specifically claimed to be environmental friendly as there is a lack of enforcement in monitoring organic production. Hence, it affects the importance of organic certification in Malaysian food retailing as a whole.

Another issue with respect to organic certification is the difficulties of producers to apply for organic certification. A Director from a relevant public organization admitted that it is not easy for producers to obtain the organic certification due to the stringent application procedure that is required to meet the requirements. Similarly, some of the farmers have struggled to obtain the certification for claiming the organic status and sell it in food retail outlets (Lina, 2008). One interesting finding from the interviews was when a manager from a food retailer noted that there is no regulation or guideline to certify for organic poultry products. This a setback for Malaysian organic retailing especially for producers that want to sell the organic poultry products in the food retail stores because they do not have any certification to verify it. Ironically, in an earlier study, Shaharudin et al. (2010) found that the demand of organic poultry is increasing in Malaysia due to consumer concern over the use of antibiotics and vaccines in poultry and cattle production. It is therefore ironic that overseas chickens may be able to receive organic certification to meet such demands while Malaysian ones cannot.

Participants in the interviews also explained that some of the issues that food retailers faced in providing organic food products arise because Malaysian consumers lack of knowledge

and awareness organic food products. Instead of reading the labels, participants argued that Malaysian consumers believe that the word "natural" means organic. In addition, the participants felt that organic certification exists to help consumers know the difference between organic and natural food products. Abrams, Meyers, and Irani (2010) and Gifford and Bernard (2011) in their investigation of the organic and natural terms reiterated that the terms create confusion due to being perceived similarly. While in another study, Australian consumers perceived there are no differences between organic and natural (Lockie, 2006). Voon et al. (2011) also agreed that there is lack of awareness among Malaysian producers, retailers and consumers regarding the organic concept. Thus, the definition of organic may need to be revised and standardized in the Malaysian context in order for all stakeholders to have a clearer understanding of the organic term (Hemmerling et al., 2015; Klintman, 2006).

Furthermore, imported organic food products in Malaysia are not strictly regulated with respect to the use of the terms 'organic' and 'organically produced' and, as a result, it is difficult to validate the status of imported organic food products without any proper certification or documentation to determine the accuracy of their organic status. As a result, consumers are sometimes confused and therefore reluctant to purchase food products that are labelled as organic but there is no valid organic logo (Voon et al., 2011). Indeed, one of the participants from the interview stated "*For me, consumers cannot just simply buy any organic products based on what other people said because it may not have a label or certificate. Thus, it is why certification is matters*" (*Assistant Officer, public organization*). Voon et al. (2011) found that the level of Malaysian consumers knowledge on organic food products is still low and that they rely more on food product labels and the media instead of organic certification. The results of the present study suggests that, from the perspective of retail stakeholders, little has changed in the subsequent five years.

Lockie, Lyons, Lawrence, and Grice (2004) suggested that education and cognitive resources are useful and important to assist consumers overcome insufficient understandings of organic food products. Generally, research has shown that consumers have difficulties in understanding the complexities of the organic concept and particularly organic farming practices and food quality (Yiridoe, Bonti-Ankomah, & Martin, 2005). Confusions between the words 'organic' and 'natural' have led most of the participants to suggest that there is a need for educational campaigns in Malaysia to help increase awareness and knowledge among consumers. However, unless there is a sustainable education campaigns complimented by improved certification processes, the participants were unsure as to whether

the campaign would help consumers to know the differences between food products described as either organic or natural. Participants from private organizations did suggest that either producers or retailers have to clarify which products that organic and natural. Indeed, organic food campaigns can work. One of the participants from food retail noted that the campaign they did for encouraging consumers to purchase organic food products had shown significant impacts on sales at their premium outlets compared to the other outlets. This research is supported by a previous study in Denmark that reported an increase in the consumption of organic food products with more than 80% of organic food products in the country being sold through food retail (Hjelmar, 2011).

There was a suggestion coming from the participants that all people in the food supply chain system should take responsibility to educate and increase consumers' knowledge and awareness. Indeed, a participant from food retail stated, "*All the parties; agencies government, producers and retailers need to be responsible for educating consumers*" (*Manager, food retail*) (*Translated from Bahasa*). However, from the interviews one of the participants from the food retailers felt that they would only do a campaign to encourage the consumers to adopt a better eating habit and lifestyle. In contrast, Hjelmar (2011) explained that one of the reasons for the increased consumption of organic food products in Denmark is because the Denmark government has taken initiatives to promote the organic food products by doing campaigns together with food retailers. Thus, ideally consumer education programmes need to be developed or supported by food retailers in order to increase consumers' knowledge and awareness of the organic food products (Euromonitor, 2012).

Hjelmar (2011) suggested that organic food products need to be put in an area in a store that is clearly visible and easy to find as the findings of their study showed that the key factor for consumers in Denmark when to buy organic food was visibility. In addition, a broad assortment of organic food products in food retailing has a major impact on the availability of products for Danish consumers (Hjelmar, 2011). As highlighted in Chapter Four, some of the food retailers in Malaysia located the organic food products in a different area with clear signage in order to differentiate between organic and non-organic food products and explained the differences between these two food products through information leaflets and in-store posters. In addition, Organic Monitor (2006) noted that there are Malaysian food retailers that have certificates of authenticity to convince consumers on the organic production methods. Nevertheless, this research found that several participants from food retailers admitted that that their store outlets did not have a separate section for organic food

products and they put organic food products in the same section with vegetables that are labelled as “healthy”.

Participants from food retail revealed that they often have difficulty in getting organic food products that carry Malaysian organic certification due to the limited amount of certified organic land and farms. One of the food retail participant stated, *“Well today as I say the issue we have is lack of suppliers. We have about 28 stores now I cannot get organic into all my stores because the suppliers are not able to go to all stores because they are small and the supplying vegetables”* (*General Manager, food retail*). Additionally, it also difficult for the suppliers to deliver the organic food products to other food retails that are located far from the suppliers’ location. These findings were consistent with a study by Dimitri and Oberholtzer (2009) as they found that sometimes organic producers are unable to provide sufficient supply in order to meet high demand from consumers.

Nevertheless, the availability of organic food products that are located at a strategic area is important in organic food retailing because it will easier for the consumers to find and purchase it (Paul & Rana, 2012). The findings in their study indicated that the lack of organic food product availability in India is the highest barrier compared to other factors, such as the level of consumer demand. This issue was also noted by Dimitri and Dettmann (2012) that the limited number of organic food products available in average food retails has led to a limitation on the number of consumers that purchase it, rather than an overall lack of consumer interest in organic foods. Hamzaoui-Essoussi et al. (2013) and Hjelmar (2011) also suggested that food retailers need to focus on broadening their range of organic food products where possible as well as differentiate themselves with the quality and the origin of their products attributes in order to help meet consumer demand and develop both production and the market.

8.3 Summary and Conclusion

The results of this research emphasised that organic and food certification is important to food retailing when to know the status of organic or any food products in order to indicate the safety and quality have meet the requirement of organic and food standards. The majority of the interview participants regarded organic certification, including Skim Organik Malaysia (SOM), as a quality assurance scheme that is very important to verify the safety and quality of organic food products. Moreover, due to the credence attributes of organic food products, organic certification has been perceived as one alternative to communicate with consumers.

As a result, according to retailers and other stakeholders, it can gain the trust of consumers, influence consumers purchasing decisions and reduce information asymmetries. Although there is scepticism and trust issues with respect to organic certification among consumers (Janssen & Hamm, 2014), Hamzaoui-Essoussi et al. (2013) argued that adequately addressing the trust issues with respect to organic food products in Canada and France required a credible and reputable certification or labelling that can be used as communication tool that can add value to organic food products. The results of this thesis certainly support such findings in a Malaysian context.

In relation to Malaysian organic certification, there are several specific concerns and issues that were expressed by participants from private organisations and food retailers. This reflects some of the major problems faced by the Department of Agriculture (DOA) and also the government in developing appropriate regulations and implementing them. Lack of enforcement of the organic standards and regulations were identified as the main factors that led to farmers and retailers misusing or selling organic food products without providing a valid certification. This research therefore reinforces that the issues related to organic certification and food products in Malaysia need to be addressed in order to positively affect the growth of organic food products in the country. Therefore, Chapter Nine suggests the recommendations for this research and finally concludes the thesis.

CHAPTER NINE

CONCLUSION AND RECOMMENDATIONS

9 Introduction

This is the first thesis to study retailers' perceptions of organic certification in Malaysian food retailing. Although the size of the organic food market and the demand for organic food products are still in an early stage, organic certification has become an important instrument to determine organic status. The awareness among consumers of organic food products is also increasing as consumers become more concerned as to the safety of food products.

The present study therefore represents the first study of understanding retailers' perception towards organic and food certification in developing countries, particularly in the Asian context. Moreover, as noted in Chapters Two to Four, organic and other food certification is important when determining food products' attributes especially as related to the safety and quality of food products.

The development of modern food retailing has provided a greater variety of food products especially for consumers that are concerned by food safety and environmental concerns including, for example, organic food products. Nevertheless, organic and any other food products in food retailing require a credible certification processes in order to increase consumers' confidence when purchasing products. Such mechanisms are important for assuring the consumers that food products are safe from any illegal ingredients that may harm consumers (Liang, 2016). Therefore, the present study also discusses wider issues surrounding organic food products with respect to trust, credibility and knowledge.

The first section of this final chapter will provide an overview of the thesis as well as answering the research questions stated in Chapter One. Then the limitations of the study will be explained further. Next, the implications of the research are highlighted, including for relevant authorities and food retailers. Finally, conclusions are drawn.

9.1 Overview of Thesis

This study focuses on understanding Malaysian retailers' perception of and attitude towards organic and food certification. No other studies have been conducted on this issue in Malaysia despite the growing importance of organic and food certification in food retailing.

The understanding of organic and other food certification is fundamental to the food supply chain system as a guideline or programme to ensure the safety and quality of organic and other food products. Furthermore, as consumers become increasingly conscious on safety and health of the food products especially for those that claim organic status and it is very important that food retailers to ensure that organic food products have a valid or credible certification from recognized certification bodies.

In Chapter One, the concept of organic and food certification and the development of Malaysian food retail were outlined. A number of research questions were identified as to whether Malaysian food retailers perceived organic and food certification as important; to determine the attributes related to the organic concept; and also to investigate the effects of organic certification issues on the certification attributes and the importance of organic certification in Malaysian food retailing.

Chapter Two focused on the development of private standards and food certification, organic concepts and other types of food certification, especially with respect to the importance of certification and labelling to ensure consumer safety. Organic and other types of food certification share similar objectives to ensure the organic and other food products meet the requirement of food standards that encourage food retailers to focus more on food safety by monitoring the status of food products. Credence food products related to sustainable or religious requirements also need credible certification as the standards of these food products usually cannot be easily assessed or evaluated by retailers or consumers (Sogn-Grundvåg, Larsen, & Young, 2014). Hence, organic and food certification are quality assurance schemes that can reduce information asymmetries as well gain consumer trust.

Due to the power of food retailing at a global scale, Chapter Three discussed the various roles and actions of food retailers as they relate to supply and value chains and consumers and producers. Having a variety of food product assortments, including organic food products, has become an essential marketing strategy for many larger food retailers in order to attract consumers that are concerned over food safety and health. In addition, the organic market has positively grown in most markets with many food retailers providing organic or similar food products in their stores even if there are barriers that relate to such products particularly such as the premium price and consumer skepticism over organic status. Organic certification is often a major tool used by retailers to reinforce credence attributes and reduce information asymmetries for consumers.

Chapter Four examines the development of food retailing in South-East Asia, and Malaysia in particular, including the different types of food retail formats. Modern food retail has become more significant in Malaysia as the country has developed economically, this is especially the case in urban areas where supermarkets have become a very significant part of the food retail market. Malaysian food retailing has also responded to shifts in consumer demand for a greater variety of food products and changes in consumer lifestyles. The growth in organic retailing in South-East Asia and Malaysia is also regarded as a response to new consumption patterns and lifestyles although there are consumer concerns over certification processes. The significance of certification for organic attributes was therefore highlighted in this chapter although it is emphasized that past studies are very limited in quantity and scope and provide substantial justification for undertaking the present study.

A mixed-methods research approach was employed for this study and this is detailed in Chapter Five. A sequentially conducted interview and a mail survey were undertaken. Twelve semi-structured interviews were conducted with public and private organizations including retail managers. These were undertaken to help better contextualize the literature and the research questions as well as assist in developing the retailer survey. A mail survey that focused on retailer perception of organic foods and certification as well as other forms of certification was sent out to 432 retail outlets in Kuala Lumpur and Selangor. Retailers were identified from government and private registers in the two regions allowing for a census of retail outlets in these urban areas, 102 completed forms were received and subsequently analysed.

The findings of the semi-structured interviews were discussed in Chapter Six with three common themes were established. Participants perceived that the implications of organic and food certification are important in food retailing. Moreover, they believed that the attributes of organic certification are related to products and sustainability attributes. However, certification issues still remain controversial and can affect the credibility of the certification as well as the certification bodies. These were regarded as having significant implications for food retailing in Malaysia.

Data and statistics for the survey are discussed in the Chapter Seven. The chapter commences with an account of the descriptive analysis and then moves onto ANOVA analysis. PLS-SEM analysis was used to analyze Malaysian food retailers' perception of and attitude towards organic certification and consists of four constructs: organic certification on product

attributes (OCPA), organic certification on sustainability attributes (OCSA), organic certification issue (OCI) and the importance of organic certification on food retailing in Malaysia (IOCM). The PLS-SEM analysis involved two-step process in order to access the measurement and structural models. Chapter Eight discusses the findings from the interview sessions and survey and discussed the findings of the research.

9.2 Answering the Research Questions

This research undertaken for this thesis sought to answer three main questions:

1. How important is organic and food certification in Malaysian food retailing?
2. What are the relationships between organic certification attributes and the importance of organic certification in Malaysian food retailing?
3. What are the effects of organic certification issues on organic certification attributes and the importance of organic certification in Malaysian food retailing?

This section will answer the three research questions in order to provide a better understanding of Malaysian retailers' perception of and attitude towards organic certification.

How important is organic and food certification in Malaysia food retailing?

The findings of retailer perceptions towards organic and food certification in Malaysia indicated that respondents believed that certification is an important aspect to ensure the safety and quality of organic and other food products. In addition, organic and other forms of food certification are particularly important in order to increase the confidence level of consumers when buying food products. The findings from ANOVA also showed that other types of food certification such as halal, fair trade, MyGap and MSC are believed to have a positive impact on consumer satisfaction and also provide information to consumers before they purchase food products.

In the context of food supply chain, food certification is regarded as important for food products to gain market access and helps coordination in the supply chain. One of the main reasons why Malaysian food retailers perceive food certification as important is because the majority of Malaysia population is Muslim and thus there is substantial demand for food products that carry halal certification. Although Halal certification is a voluntary scheme for food producers it is strongly supported by the national government who are wanting to position Malaysia as an international halal food hub. In addition, many Muslim consumers in

Malaysia are concerned with halal status and therefore local or imported food products require either Malaysia halal certification or certification from other bodies that are recognized by the relevant government authority Jabatan Kemajuan Islam Malaysia (JAKIM). Although halal is regarded as the most important form of certification in Malaysia the results indicate significant support for organic certification by food retailers as well.

Food certification is therefore important in Malaysia food retailing as a means of communicating with consumers. The interview findings suggested that food certification is an instrument that acts as communication tool which assists consumers in making decisions when purchasing as well as being a means of ensuring the safety and quality of the food products. However, for organic food products, effective communication of organic attributes is perceived to be related to the level of consumers' awareness and knowledge. This is supported by Sangkumchaliang and Huang (2012) who stressed that the consumers knowledge level is based on the types and quality of information they are exposed to. Therefore retailers as well as government stakeholders are aware that a lack of consumer knowledge can affect the effectiveness of communication via organic certification and are interested in finding ways to improve consumer understanding of organic food products in Malaysia as well as the role of certification bodies.

What are the relationships between organic certification attributes and the importance of organic certification in Malaysia food retailing?

Chapter Four indicated that organic certification has several attributes in relation to product characteristics and sustainability. Among them are trust, credibility, food safety and quality. It is clearly stated in the interview findings that trust and credibility are important to organic food product attributes as they can increase consumer confidence when purchasing. Although organic certification indicates trust and credibility, the involvement of the government in the certification process is regarded as increasing the level of consumer trust and confidence. Therefore, in Malaysia, the national government is regarded as being responsible for the verification and monitoring of the status of organic food products especially for imported foods given the many different organic certifications that exist throughout the world. Retailers and other stakeholders believed that a valid or credible organic certification process can help prevent any fraud and misuse of organic certification and labelling including with respect to traceability.

Interview findings in Chapter Six indicated that organic certification is perceived to determine the safety and the quality of the organic food products attributes. Food safety and quality are factors that strongly influence consumers when buying organic food products. Participants from both public and private sector organizations agree that consumers who are concerned over food safety issues are more likely to purchase organic instead non-organic food products. The PLS-SEM findings showed that there is a significant relationship between organic certification with respect to product and sustainability attributes and the importance of organic certification in Malaysia food retailing. The findings also indicated that organic certification in relation to product attributes such as organic production and the safety and quality of the organic food product is more important in Malaysian food retailing in comparison to sustainability attributes.

Interview participants believed that organic food products are related to sustainability and that certification can influence consumers who are concerned with sustainability as organic food products are regarded to be helping to preserve the environment. This also supported by the survey findings in which Malaysian food retailers perceived the importance of organic certification is significantly associated with sustainability attributes. Organic certification is regarded as being symbolic of sustainable agriculture and healthy living with strong relations to safety process, the use of natural raw materials, and concern for animal welfare (see also Midmore, Francois and Ness, 2011). Although such findings may be fairly standard and expected in developed countries, this is one of the few studies to examine such relationships in a developing country setting with retailers.

Similar to other food certification findings in Chapter Seven, Malaysian food retailers felt that food certification attributes are related to trust, food safety and quality. Trust is perceived as the most important attribute of food certification by Malaysian food retailers. As may perhaps be expected, compared to other types of food retail format, specialty organic shops in Malaysia perceived food certification attributes are more important than hypermarkets and supermarkets. In the context of Malaysia food retailing, halal certification has been perceived by Malaysian food retailers are more important compared to other forms of food certifications because the majority population in Malaysia is Muslim. Nevertheless, organic and other forms of food certification are important in Malaysian food retailing because food products that have credence attributes, such as organic and halal, require quality assurance schemes that can reduce or minimize information asymmetries.

Organic food products sold at a higher price compared to non-organic food products in part because of the costs of organic production. Any food products that claim organic status need to provide a valid organic certification in order to be sold at a premium price. Although the price is premium, Malaysian food retailers explained that consumers that purchase organic food products are high income and living in urban areas as well as being health conscious.

What are the effects of organic certification issues on organic certification attributes and the importance of organic certification in Malaysia food retailing?

Several issues were raised by interview participants in relation to Malaysian organic certification. The findings in Chapter Six and Seven highlighted that lack of government enforcement has become a significant issue for Malaysian organic certification from the perspective of food retailers. From the interviews, Malaysian food retailers were concerned about cases of some of Malaysian producers misusing the organic logo and not providing valid organic certification, as it can affect their business and it makes it harder to gain trust and convince consumers to buy organic food products. As noted earlier because organic food products are credence food products, it is very important to have organic certification that is valid and from recognized certification bodies.

The PLS-SEM findings also confirmed that, given its sustainability attributes, the importance of organic certification in Malaysian food retailing is significantly affected by organic certification issues (Chapter Seven). With organic food products being perceived as environmental friendly and concerned over animal welfare, food retailers are worried that issues of organic certification can make them question whether the production of organic food is implementing the concept of sustainability or not.

Some unethical food retailers have not displayed organic certificates and some of them still displayed expired certification. Participants from private organizations were concerned with these issues due to the lack of enforcement of standards from Department of Agriculture Malaysia (DOA) as they do not have direct enforcement capacities in production and food retail. The interview findings reinforced that there are issues with DOA inspectors with some of them lacking experience and this is regarded as effecting the credibility of Skim Organik Malaysia (SOM) in particularly when auditing farms.

Most of the participants agreed that Malaysian consumers lack knowledge and awareness organic food products. They believed that consumers tend to read the labels and assume that

the word “natural” as organic. This can lead to more confusion because these words are being perceived as having similar characteristics (see also Abrams, Meyers, and Irani (2010) with respect to labelling with natural terms that can mislead consumers and create distrust towards organic food products). In addition, imported organic food products that usually carry organic certification from their origin country are also regarded as difficult to determine the validity and credibility of the certification given that the term “organic” is not strictly regulated in Malaysia even though there are domestic organic certification schemes.

9.3 Limitations of the Study

The investigation of food retailers’ perceptions and attitudes, more specifically those elements pertaining to organic and food certification in food retailing, are still in their infancy. In the previous chapter, it was noted that there is a limited academic literature that focuses on the Malaysian perspective. Nevertheless, this situation has encouraged the author to conduct this present study in order to develop and in depth understanding of the implications associated with organic and food certification. The research that has been conducted found that the perception of and attitude of Malaysian retailers towards organic and food certification offers some interesting insights. Based on the analysis from qualitative and quantitative, the author believes that the participants understand and have good knowledge of quality assurance schemes with respect to organic food products and procedures, as well as recognising the importance organic certification.

The limitations of the study primarily relate to the conduct of interviews and the mail survey. Some limitations have been faced by the author as a result of the lengthy period of data collection. The generation of data from both interviews and survey took around five months following several barriers in terms of time availability of interviewees and follow-ups to the survey as a result of a poor early response rate. In the case of data collection for interview sessions it was difficult to get the participants to participate as most of them had busy schedules and also required approval from public organization and food retailers with respect to their participation.

The response rate was not as high as was initially sought and the author then undertook follow ups by telephone and/or email contact as well as visits to food retail outlets. Some of the food retailers required approval before distributing the survey to managers. In some cases, the manager, assistant manager or supervisor were not present and the author needed to come back again in order to invite them to answer the survey question. The greatest challenges the

author faced was that many food retailers did not want to cooperate and did not want to answer the survey.

9.4 Research Implications

Organic principles are designed to provide healthy food products as well protecting the environment (Padel et al., 2009; Willer & Lernoud, 2016). Therefore, organic and related food certification has now become subject to assurance schemes with the purpose of ensuring the safety and quality of organic and other food products. The increasing consumer awareness of sustainable foods (Muller & Gaus, 2015; Sackett et al., 2016) and the benefit and importance of the organic concept (Liang, 2016; Valeria Da Veiga., Glauco, Marcelo Da Silva., Edson, & Jean Philippe, 2015) is a clear indicator for development of organic market.

This research has clear implications for organic and related food certification with respect to food retailing. As previously discussed, a number of academic studies have been conducted on organic and food certification have focused on consumer and producers (see chapter One). However, there has only been a limited focus on food retailers in relation to their perception of and attitude towards organic and food certification. This research therefore provides a better understanding of the importance of organic and related food certification in relation to product and sustainability attributes. This suggests that an improved understanding of food certification may help food retailing contribute more effectively to ensuring the safety of food products, particularly organic, and to influence consumers to purchase organic food products. Therefore, a major contribution of this dissertation lies in the weaving together of the organic and related food certification and food retailing in a developing country such as Malaysia which not been covered in any previous literature. This is the first thesis to examine food retailers perceptions of organic foods in a developing country context and, therefore, in Malaysia. However, in addition to issues of governance, it has also sought to understand the relationships that may exist between organic certification and other certification schemes. In the Malaysian context this is especially important with respect to halal but also other schemes as well that are increasingly promoted. This study therefore adds too and enriches our knowledge by understand how important organic and food certification is to food retailers and not just for producers and consumers. In the Malaysian context, this research also contributes to a better understanding of organic and related certification as well as Malaysian food retailing.

Due to changes in demographics and the wider society, the Malaysian food retailing industry has developed substantially in recent years with many modern food retail format emerging. Many varieties of food products have been provided by food retailers in order to give greater choice to consumers, especially for those who are concern with food safety and the environment. As a result, organic food products can be found at most food retail stores as well as specialty organic shops. In addition, the Malaysian government encourages local farmers and producers to produce organic food products and the Skim Organik Malaysia (SOM) has been introduced to certify local organic food products in order to help local farmers and producers without using foreigner certification bodies. However, knowledge of the importance of Malaysian organic certification in food retailing is lacking. This research is the first empirical study that explores the importance between organic certification and food retailing and will hopefully provide a springboard for greater studies of the topic and may draw greater attention of Malaysian marketing researchers as well retailing scholars and practitioners to the field of retailing (see also the conceptual framework in Chapter Four).

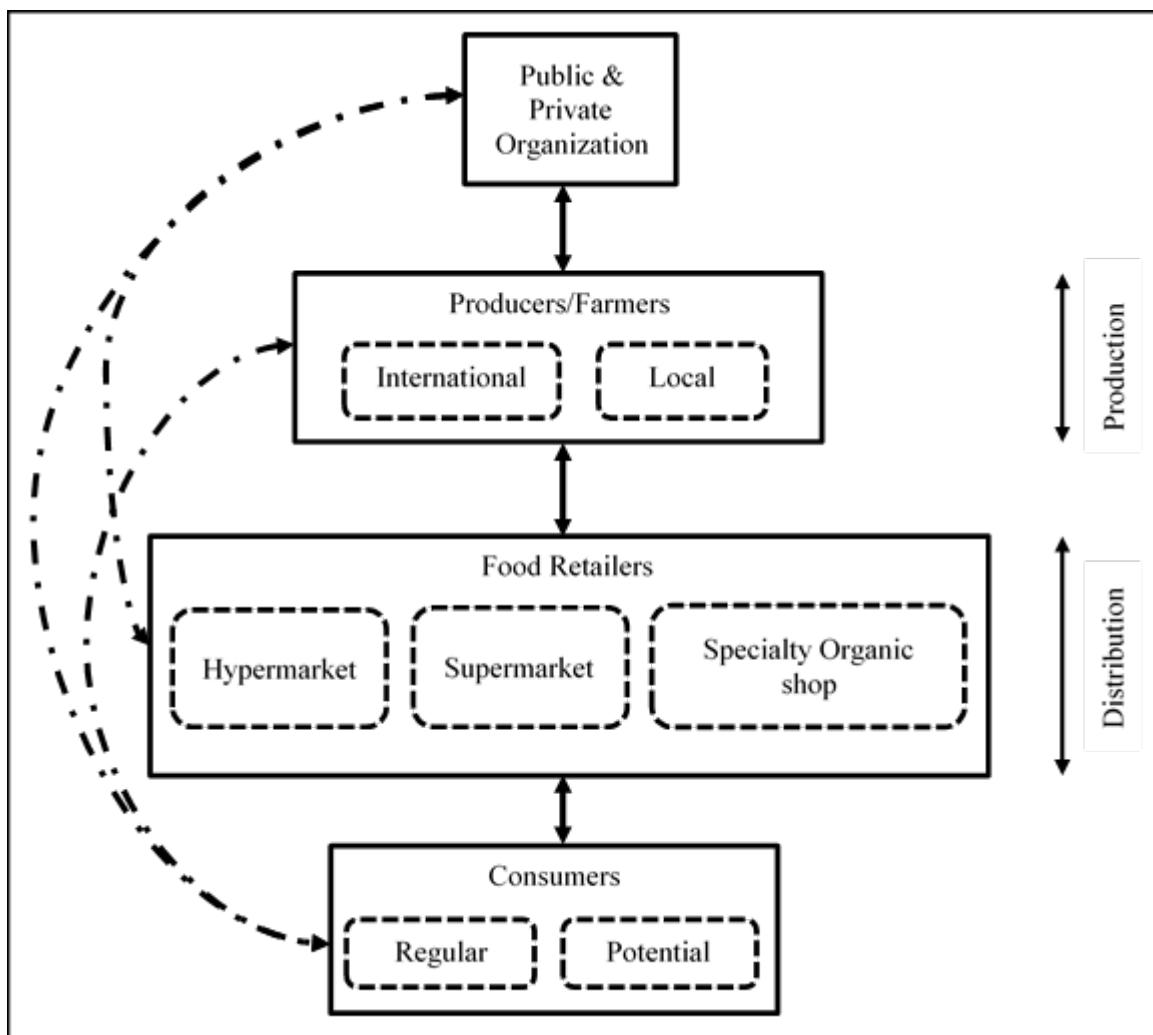
As such, this study is very significant for developing countries, especially rapidly developing economies such as Malaysia, by providing important information to local organizations and authorities with respect to retailer's perception of organic food products, which is a part of the food supply chain that has hitherto been substantially neglected. Food retailers must be aware of the validity and credibility of organic certification on every food product that claims to be organic. This study provides the significant findings that all participants involved in this study perceived the importance of organic and food certification based on their knowledge and experience in their field. However, respondents felt that consumers required greater education on the concept in order to not only encourage consumption of organic products but also to help give consumers greater confidence in their purchasing. Such improvements in relation to knowledge of organic food product and certification, based on the issues identified in Chapters Six and Seven are significant for both promotion of domestic Malaysian organic food products as well as purchase of imported products.

9.5 Recommendations for Malaysian Food Retailing

This study highlighted that food retailers perceived organic and food certification as important and thus had a positive impact towards the Malaysian food retailing. The analysis and findings of the study have strongly recommended that the government, private organization, producers, and retailers need to work together with respect to organic food

products and certification. All of them need to be more responsible and aware of the rising trend in organic demand from consumers, many of whom are interested in understanding more about organic certification (Chapter Six). Stakeholders must effectively communicate to each other in monitoring the organic food products produced, sold, exported and imported as there are many food products that are claimed to have organic status and the different types of organic certification have become an issue in Malaysian food retailing. In addition, organic certification covers the whole process from production through to retailing and food retailers must ensure that organic food products in their stores are following and carry valid organic certification. Without any proper monitoring by food retailers, or even by the authorities, organic certification issues will never be overcome. Figure 9.1 suggests several recommendations that may improve Malaysia's organic retailing in relation to organic food products and certification. Moreover, food retailers should indeed be active and aware of this growing organic market segment.

Figure 9.1: Recommendations of Flow Chart to Improve Organic Certification and Products



9.5.1 Enforcement

The Department of Agriculture (DOA) and private organization must work together by conducting regular inspections and monitoring the production of organic from local producers or farmers (Figure 9.1). The results of this research reinforces the need to ensure that producers or farmers that carry Skim Organik Malaysia (SOM) certification are valid and consistent with following Malaysian organic regulations. International organic food products also need to be monitored and, most importantly, certification should be verified with the country of origin in order to ensure the credibility of the organic certification by ensuring that it has equivalence with Malaysian organic regulations as well as that of other countries. Although the organic market in Malaysia is still a niche market compared to halal, there should be a direct enforcement from the DOA because consumers are beginning to be aware of the benefits of organic food products and SOM is developed by DOA, hence direct enforcement is needed to avoid any fraud or misused certification.

The results of this study highlighted that the issue of enforcement is very critical and the DOA must accommodate this situation by providing improved education and training to all inspectors of the Department of Agriculture as this can make them better prepared and more competent when auditing organic farms. It also to ensure the producers who receive the Skim Organik Malaysia (SOM) are reliable and to show the credibility of SOM. Organic certification for poultry products also need to be developed by DOA as there are Malaysian producers that sell “organic” poultry without official organic certification. Thus, it is difficult for them to sell the poultry as organic on an equivalent basis with other certified products even if the process is appropriate.

Public and private organizations also need to better communicate and advise food retailers (Figure 9.1) with respect to monitoring and updating the status of organic food products they sell as this will help ensure that the organic status of food products is current. Although there are no specific regulations on organic foods that food retailers have to implement they are responsible for displaying valid organic certification in order to avoiding any confusion among consumers that want to buy organic food products. Greater clarifications on organic products could also be assisted if food retailers were encouraged to set aside a separate section for organic food products as this would make it easier for consumers to find organic food products even if food retailers only provide limited organic food products (Abrams et al., 2010). Finally, the regulations with respect to use of the words “organic” and “natural”

(*semula jadi*), the authorities need to be more stringent so as to reduce confusions among consumers as well as some retail staff (Hamzaoui-essoussi & Zahaf, 2012).

9.5.2 Education

Based on the interview findings in Chapter Six, there is a suggestion that public and private organizations, for example Department of Agriculture, Organic Alliance Malaysia and Centre for Environment, Technology and Development Malaysia (CETDEM), producers and food retailers, work together in educating the consumers and other stakeholders, such as producers and wholesalers, on the organic concept as well as organic certification (Figure 9.1). This may be done through educational campaigns and talks on the importance of organic and food certification. These activities should become regular activities and would complement any regulatory roles of relevant government and non-government organizations. However, any campaigns need to be undertaken cooperatively between stakeholders instead of separately and the purpose of the campaign can not only to increase consumers' awareness of organic food products but, particularly from producer and retailer perspectives, also to encourage them to purchase the organic food products. Such a campaign can also help consumers to differentiate between "organic" and "natural". Food retailers and need to train and deliver information to their employees in order to increase their product knowledge levels so that they can better explain organic food products and differentiate them from other product categories.

9.5.3 Marketing Strategy

Organic certification has a number of attributes including trust, credibility, food safety and quality, environmental friendly and healthy sources which can be highlighted as part of a marketing strategy. Organic food products that carry SOM or equivalent organic certification can be effective promotion tools to influence and convince consumers to purchase organic food products. Although the price of organic food products is a major barrier in organic retailing, improved cooperation between different stakeholders may be able to reduce the price of organic food products. Supporting organic producers by improving innovation processes and brand building may also help them to reduce costs. In fact, one of the initiatives the DOA has taken is to waive the application fees when applying for SOM and this can be a first step to reduce the price of organic food products. Such measures may also encourage greater commitment to organic certification from producers who are seeking to

add value to their products. Diversified in distribution channels can also encourage improved efficiency in food retailing that may reduce the market price of organic food products (Yin et al., 2010).

The present study reinforces the notion that organic food products should also be promoted via various channels so as to strengthen the enforcement of organic food production by reducing information asymmetry. According to Yin et al. (2010), using various channels to promote organic food products is an appropriate means to develop understanding on the organic concept and may be particularly appropriate for the development of the Malaysian domestic market.

One of the strategies food retailers can do to maintain regular organic consumers (Figure 9.1) is to use recognized organic certification that are equivalent to SOM. Food retailers should promote the organic food products that carry SOM to organic consumers so as to help ensure the credibility of SOM in relation to international organic certification schemes. In addition, it is important to convince Malaysian consumers to buy local organic food products so as to show their support and trust in local organic food products. If this was to occur then it is expected that the demand of organic food products would increase and encourage food retailers to provide a greater variety of organic food products.

The results of this research suggest that clear signage or separate section for organic food products in food retailers may also have a significant impact on consumers. It is important for food retailers to have clear signage and a separate section because it can attract potential organic consumers to locate and buy organic food products. Moreover, potential organic consumers may not know the difference between organic and natural food products, thus signage and organic certification can help potential customers differentiate between these food products and better understanding labelling.

Increasing the availability of organic food products in Malaysian organic food retailing is important to food retailers to encourage and influence Malaysian consumers to purchase organic food products. DOA together with private organizations must find and encourage more local producers and farmers to become involved in organic production. This will increase organic supply and food retailers will be able to provide more organic food products in their retail outlets as the interview findings indicate that it is difficult to provide organic food products to other outlets due to their limited supply and the location of the organic farms are sometimes far from outlets.

9.6 Recommendations for Future Research

This research is very significant for Malaysian food retailing as there are very limited academic studies on organic and food certification. The organic market may seem niche and this appears to be one of the reasons why few studies have been conducted, particularly in Malaysia and other developing countries. Nevertheless, there are many aspects that can be explored through investigating its food supply chain, and the impacts of food certification are expected to become more important in the future. For example, the study by Hamzaoui-Essoussi, Sirieix, and Zahaf (2013) highlighted that organic certification is an important source of trust as the certification can deliver information in food retailing.

To date, there is little literature on organic and food certification attributes from retailer's perspectives as most of the previous studies focused more on consumers' perception, barriers to organic food products, and willingness to purchase organic food products (Hjelmar, 2011; Hughner et al., 2007; Muller & Gaus, 2015; Voon et al., 2011). Future studies can make comparisons on food retailers' perceptions of and attitude towards organic and food certification in different locations outside of Malaysia. As highlighted in the literature review chapters, organic and other food certification has become important in South East Asia and it is therefore seen as having a major impact on retailing as well as other dimensions of the food supply chain. Therefore future research would help provide a basis for comparative understandings of organic certification and retailing in the region, which is potentially extremely significant given the development of a free trade area within the ASEAN region.

Future research should also focus on the elements of credibility and trust towards organic and food certification in relation to organic producers and consumers. Moreover, there is potentially great value in further comparing credibility and trust in organic certification with halal certification as well as the potential overlap between the concepts especially in the Malaysian food market. In Malaysia, food retailers and Islamic consumers perceived halal certification to be most important when buying food products and it will be interesting to conduct the implications between organic and halal certification in food retailing. Finally, better insights into the equivalence of different organic certification would be advantageous as this is an issue that has drawn attention not only in Malaysia but around the world (Willer & Lernoud, 2016). This is also likely to become even more of an issue in Malaysia given its desired positioning as an international food hub and increased ASEAN regional trade in food.

9.7 Conclusion

Organic food products are credence products. Organic certification is an important assurance quality scheme to ensure the validity of organic products. Organic certification is important in food retailing because it can prevent, as well reduce, the information asymmetries of organic food products. Indeed, thorough monitoring and evaluation is required for preventing any fraud with organic certification.

Many consumers appear to believe that the purpose of organic and food certification can help determine the safety and quality of the food products (Essoussi & Zahaf, 2009; Mohayidin & Kamarulzaman, 2014). It indicates that organic food products must comply the organic standards in relation to production, processing and labelling. Other food certifications must also comply with food standards and it is an increasingly significant element for food product and retail attributes especially for new modern food retail formats that provide a wide variety of food products. Many organic consumers are also more concerned with the safety of the food product rather than price (Zander & Hamm, 2010). Thus, organic and food certification can affect consumer's purchasing decision.

This research suggests that organic certification attributes are related to trust, credibility, food safety and quality, environmentally and traceability. Participants perceived that organic certification is important to ensure the safety and quality of organic food products. Participants also noted that other food certifications have importance when determining the safety and quality of food products. In Malaysia, where the majority of the population is Muslim, halal certification is perceived to be most important certification and some food retailers believe that consumers are only concerned with halal status even if food products have other types of food certification. However, this research does also suggest that organic certification is significant in its own right for some markets while there potential overlap between different certifications.

In relation to trust, the purpose of organic and food certification is very important in food retailing when gaining consumers trust. Consumers rely on food certification to help ensure that food products meet food standards and they do not have to verify the status of the food products. This has become especially significant given various food scandals (Feldmann & Hamm, 2014; Spadoni et al., 2014). Based on the findings for organic certification, the government needs to be involved in helping to increase consumer trust as the participants felt that the trust level of consumers on organic food products depend on the effectiveness of

government regulation and enforcement. As it currently stands the Malaysian government runs the relevant certification scheme but do not actively promote it and, according to some respondents, adequately police it. Consumer trust can be gained by having credible organic certification as it helps reduce information asymmetries. Every food product that claims organic status in Malaysia must obtain organic certification from recognized certification bodies so as to help reduce customer confusion and encourage purchase.

Food retailers also perceive organic certification on product and sustainability attributes as important to Malaysian food retailing. In fact, organic certification is more significant for product attributes than sustainability attributes and organic certification issues. This indicates that organic certification on product attributes are based on organic production, safety and quality due to the credence of organic food products. In relation to Skim Organik Malaysia (SOM), local producers and farmers are required to participate in the scheme if they want organic certification and they have been encouraged to do so by DOA as the application fees are currently waived by Malaysian government. Even though they believe that there are some issues with the implementation of the scheme food retailers nevertheless suggest that local fresh produce should carry SOM.

In conclusion, as with many types of food certifications, Malaysian food retailers perceive organic certification as an important attribute for organic food products in order for the market to grow positively for Malaysian food retailers as well as to increase the awareness of consumers. Organic food and certification are suitable for everyone, organic principles emphasize that people's need to consume food products that can potentially benefit their personal health but at the same time can benefit the health of the environment. It is expected that the recommendations and suggestions provided in this study will help improve the reputation of organic certification, particularly SOM, as DOA and food retailers want to convince consumers to support local organic food products. Although, the production of organic foods in Malaysia is still limited. Malaysian food retailers believed that there are more local producers and farmers that want to produce organic food products and use SOM as their documentation in selling the organic food products.

The organic concept is extremely relevant in food retailing with many food retailers providing organic food products in order to meet the demand from consumers who are concerned about their health and the environment. In order to improve Malaysian organic retailing it is imperative that all parties in food supply chain work together by promoting

organic food and organic certification. Indeed, although it would require a high commitment and effort from all the parties food retailers should be much more active in increasing the awareness of consumers towards organic food products and organic certification. Most importantly, credible quality assurance schemes supported by food retailers will give peace of mind to consumers when purchasing organic food products.

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APPENDICES

Appendix A. Information Sheet (English)

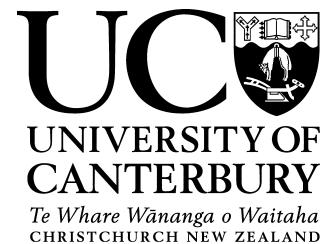
Muhammad Azman Ibrahim

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Research:

"Understanding Malaysian Retailers' Perception of and Attitude towards Organic Certification"

INFORMATION SHEET FOR RESEARCH PARTICIPANTS

My name is Muhammad Azman Ibrahim. I am a PhD student in marketing at the University of Canterbury, New Zealand and under scholarship at Universiti Teknologi MARA (UiTM), Malaysia. I would like to invite you to participate in this research on understanding retailers' perception of and attitude towards organic certification.

In order to understand retailer perceptions of food and organic certification, I would like to use the data that I collect as a part of my PhD thesis and for research-based publications and presentations.

Your participation in this research is greatly appreciated. Please read this Information Sheet carefully before deciding whether or not to participate. If you decide not to participate in this study, there is no disadvantage to you and I appreciate the time taken to consider this invitation.

The Objective of this Research

The main objective of this research is to understand retailers' perception of food and organic certification. Specifically, to answer the following questions:

1. How important are levels of trust, awareness and knowledge in attitudes towards organic certification?
2. How significant is organic certification as a retail attribute in Malaysia?
3. What is the relationship between organic certification and product attributes such as food quality, food safety, sustainability and cost?
4. What are the relationships between organic certification and other forms of food certification?

Participants' Role in this Research

If you decide to participate in this research project, you will be invited to do the following:

1. Complete this survey questionnaire on your perception of food and organic certification in Malaysia. The purpose of the survey is to better understand Malaysian retailers' perception of and attitude towards organic certification. The survey will take approximately 10-15 minutes.
2. It is preferable that the survey is answered by the Senior Manager. It can also be answered by other staff, for example Assistant Manager, Supervisor.
3. Allow me to use the results of the project for public publications such as PhD thesis, journal publications or conference presentations.

Right to Withdraw from Research

You may withdraw from participation in the research project at any time and without any disadvantage to yourself of any kind, before the data is analysed. However, once analysis of raw data starts in December 2015, it will not be possible to remove your data.

Material Collected and Use

The material collected from this research will be treated as confidential. Names of individuals will be treated as confidential and I will use pseudonyms and codes for my data analysis and all published reports in order to develop an understanding of retailers' perception and attitude towards organic food certification. Moreover, it is desired by the researchers to be able to report the findings from this research in a scholarly outlet (thesis, journal publication, conference presentation and via the University of Canterbury library database). You will have access to data gathered regarding yourself, although this will be limited to data relating to you only. You will have the opportunity to request a copy of the survey results at the conclusion of the project when the data analysis is completed.

Security of Material Provided

All the data collected for this research will be securely stored either through password protection or in my office and my supervisors' offices, held for 10 years, and destroyed after that time period. The material will only be accessed by me and my supervisors, Prof. C. Michael Hall and Associate Prof. Paul Ballantine.

Human Ethics Committee

This research has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

Your utmost consideration and participation in this research study is very much appreciated and will help contribute to knowledge and excellence for the educational and professional practices alike.

Contact Person for this Project:

Muhammad Azman Ibrahim, PhD Candidate

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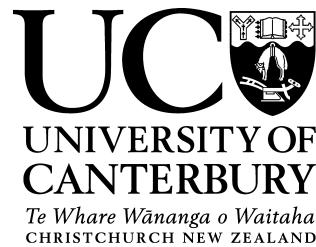
University of Canterbury
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Appendix B. Consent Form (English)

Muhammad Azman Ibrahim

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UNIVERSITY OF
CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Research:

"Understanding Malaysian Retailers' Perception of and Attitude towards Organic Certification"

CONSENT FORM FOR RESEARCH PARTICIPANTS

I have read the Information Sheet about this and understand the purpose of this research. All questions about this research have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I understand/know that:

1. This research project is designed to understand retailer's perceptions of food and organic certification as a part of the PhD dissertation of Muhammad Azman Ibrahim. The objective of this survey is to gain information about understanding Malaysian retailers' perception of and attitude towards organic certification.
2. In returning this form I agree to the use of the data provided.
3. My participation in the research project is entirely voluntary.
4. I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.
5. All data collected for the study will be securely stored with password protection or in Muhammad Azman Ibrahim and his supervisors' offices, held for 10 years, and destroyed after that time period.
6. The results of the project may be published and available in public in forms such as a PhD thesis, journal publications, conference presentations, and via the University of Canterbury library database.
7. All material will be treated as confidential and no individual names will be used.
8. Appropriate precautions will be taken to secure the data.
9. I am able to receive and request a report/summary on the findings of the study by contacting the researcher at the conclusion of the research (approximately before 30 September 2016).
10. I can contact the researcher for further information or his supervisors. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

By signing below, I agree to participate in this research project.

(Signature of Participant)

Name:

Company

Date:

Appendix C. Survey (English)

Reference No. :
Date : ___ / ___ / 2015



QUESTIONNAIRE FORM

UNDERSTANDING MALAYSIAN RETAILERS' PERCEPTION OF AND ATTITUDE TOWARDS ORGANIC CERTIFICATION

The purpose of this survey is to understand retailers' perceptions of food and organic certification. It is prepared as part of my PhD thesis at the University of Canterbury (New Zealand).

In order to make it easy for you to answers this survey, there are two different set of languages in this survey: English and Bahasa. It is important that you answer each question as thoughtfully and frankly as possible. Most of the questions can be answered by choosing one of several alternatives provided. There are no right or wrong answers.

At the beginning of each section you will find instructions for answering the questions in that section. Please read these instructions carefully then read and answer each question in the given order. All information provided by you will be strictly confidential and will be used for research purposes only.

Thank you for your participation.

Muhammad Azman Ibrahim, *PhD Candidate*

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Section A: Business Demographics

This section is about the general information on your store. Please write clearly or select your best answer. Please tick √ in the box provided

1. a. Main type of retail format: <input type="checkbox"/> Supermarket <input type="checkbox"/> Hypermarket <input type="checkbox"/> Specialty organic shop b. Could you please indicate your business with the tick either: <input type="checkbox"/> Franchise <input type="checkbox"/> Foreign owned <input type="checkbox"/> Others: _____	
2. Size (m ²): <input type="checkbox"/> <2000 <input type="checkbox"/> 2000 – 5000 <input type="checkbox"/> >5000	3. City: <input type="checkbox"/> Kuala Lumpur <input type="checkbox"/> Selangor <input type="checkbox"/> Other: _____
4. Number of employees: <input type="checkbox"/> 1 – 5 <input type="checkbox"/> 6 – 10 <input type="checkbox"/> 11 – 15 <input type="checkbox"/> 16 – 20 <input type="checkbox"/> > 20	5. Annual turnover (RM million): <input type="checkbox"/> < 0.5 <input type="checkbox"/> 0.5 – 1.0 <input type="checkbox"/> 1.0 – 1.5 <input type="checkbox"/> 1.5 – 2.0 <input type="checkbox"/> 2.0 – 2.5 <input type="checkbox"/> 2.5 – 3.0 <input type="checkbox"/> > 3.0
6. Number of years established: <input type="checkbox"/> < 3 years <input type="checkbox"/> 3 – 5 years <input type="checkbox"/> 6 – 10 years <input type="checkbox"/> > 10 years	

Section B: Perception of Your Own Retail Outlet

This section is on the perceptions of your own retail outlet. Please read the questions carefully and choose only one appropriate number using the 1 to 7 Scale ranging from Strongly Disagree (1) through to Strongly Agree (7). Please tick ✓ in the box provided.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

A. Retail Attributes

	This retail outlet ...	1	2	3	4	5	6	7
7.	... is at a convenient location							
8.	... provides a good atmosphere							
9.	... only provides certified food products							
10.	... maintains a hygienic working environment							
11.	... provides a variety of products							
12.	... ensures products are value for money							
13.	... has meet the requirement of related certification standards							
14.	... has courteous of personnel							

B. Product Attributes

	Products in this retail outlet ...	1	2	3	4	5	6	7
15.	... emphasise healthiness							
16.	... are mostly local brands							
17.	... are mostly international brands							
18.	... have different packaging in order to differentiate particular products							
19.	... are of good quality							
20.	... are an affordable price							
21.	... are safe							
22.	... have labels to provide information for consumers to help make their purchasing decision							
23.	... carry different types of food certification such as organic, halal, eco-labelling, Fair Trade and Marine Stewardship Council (MSC)							

C. Sustainability Attributes

	This retail outlet implements sustainability initiatives ...	1	2	3	4	5	6	7
24.	... by selling products that benefit the environmental							
25.	... by selling local products in order to reduce food miles							
26.	... by promoting local products instead of international products							
27.	... by getting products from the nearest supplier							
28.	... by considering the distance the food product travelled							
29.	... by training employees on social and environmental issues							
30.	... by using environmental friendly equipment							

Section C: Perception of and Attitude towards other Food Certification

This section is on your perception of and attitude towards other food certification. Please read the questions carefully and choose only one appropriate number using the 1 to 7 Scale ranging from Strongly Disagree (1) through to Strongly Agree (7). Substitute each of the different types of food certification in the gap in the question in order to record your response (Please tick ✓ in the box provided).

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

A. Understanding the definition of food certification							
31.	I think that _____ certification in food retail outlets indicates food quality	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council (MSC)						
32.	I think that _____ certification in food retail outlets indicates food safety	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council (MSC)						
33.	I think that _____ certification in food retail outlets indicates trust	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council (MSC)						
34.	I think that _____ certification in food retail outlets indicates authenticity	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council (MSC)						
35.	I think that _____ certification in food retail outlets covers all aspects of food production, processing, transportation and retailing	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council (MSC)						

Choose only one appropriate number using the 1 to 7 Scale ranging from Strongly Disagree (1) through to Strongly Agree (7). Substitute each of the different types of food certification in the gap in the question in order to record your response (Please tick √ in the box provided).

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

B. The purpose of food certification in general								
36.	I think that _____ certification in food retail outlets has a positive impact on consumer satisfaction	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
37.	I think that _____ certification in food retail outlets acts as a marketing strategy tool to communicate with consumers when buying the products	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
38.	I think that _____ certification in food retail outlets increases confidence levels among consumers when making a purchase decision	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
39.	I think that _____ certification in food retail outlets can be used for wide range of general food product types	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
40.	I think that _____ certification in food retail outlets provides information to consumers before they purchase the product	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
41.	I think that _____ certification in food retail outlets is important to non-safety attributes	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							

Choose only one appropriate number using the 1 to 7 Scale ranging from Strongly Disagree (1) through to Strongly Agree (7). Substitute each of the different types of food certification in the gap in the question in order to record your response (Please tick √ in the box provided).

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

C. The purpose of food certification in supply chains								
42.	I think that _____ certification in food retail outlets is important for product differentiation	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
43.	I think that _____ certification in food retail outlets helps control suppliers	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
44.	I think that _____ certification in food retail outlets helps gain better market access	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
45.	I think that _____ certification in food retail outlets helps coordination in the retail supply chain	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							

Choose only one appropriate number using the 1 to 7 Scale ranging from Strongly Disagree (1) through to Strongly Agree (7). Substitute each of the different types of food certification in the gap in the question in order to record your response (Please tick √ in the box provided).

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

D. Advantages of food certification to retailer							
46.	I think that _____ certification in food retail outlets will minimize transaction costs	1	2	3	4	5	6 7
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council						
47.	I think that _____ certification in food retail outlets will minimize financial liability	1	2	3	4	5	6 7
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council						
48.	I think that _____ certification in food retail outlets will minimize retailer responsibility for policing the safety and quality of the products sold	1	2	3	4	5	6 7
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council						
49.	I think that _____ certification in food retail outlets will increase efficiency in the supply chain	1	2	3	4	5	6 7
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council						

Section D: Perception of and Attitude towards Organic Certification

This section is on your perception of and attitude towards organic certification in Malaysia. Please read the questions carefully and choose only one appropriate number using the 1 to 7 Scale ranging from Strongly Disagree (1) through to Strongly Agree (7). Please tick √ in the box provided.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

A. Understanding the definition of organic certification

	I think organic certification ...	1	2	3	4	5	6	7
50.	... indicates the product has been produced organically							
51.	... indicates food product quality							
52.	... indicates food product safety							
53.	... indicates healthy food products							
54.	... indicates better taste							
55.	... indicates sustainability							
56.	... indicates concern for animal welfare							
57.	... indicates environmental concern							

B. The purpose of organic certification

	I think organic certification ...	1	2	3	4	5	6	7
58.	... adds value to retail outlets							
59.	... acts as a signal of trust to the related local authority in approving local food products							
60.	... acts as a signal of trust to the related local authority in approving international food products							
61.	... is for healthy living							
62.	... increases consumer confidence							
63.	... helps the consumer to differentiate between organic and non-organic products							
64.	... gains consumer trust							
65.	... increases consumer knowledge on organic products							
66.	... justifies the premium price							

C. Organic certification issue

	I think organic certification ...	1	2	3	4	5	6	7
67.	... will lead to higher product prices							
68.	... can easily confuse consumers if there are many organic certifications and logos							
69.	... is cheaper to obtain for local certification than international certification							
70.	... will lead food suppliers to misuse the organic certification/labels							
71.	... lacks enforcement from regulatory authorities							

Choose only one appropriate number using the 1 to 7 Scale ranging from Strongly Disagree (1) through to Strongly Agree (7). Please tick ✓ in the box provided.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

D. Organic certification in Malaysia

	I think organic certification ...	1	2	3	4	5	6	7
72.	... will increase Malaysian consumers' awareness towards organic food							
73.	... needs to have mandatory organic standards to prevent non-certified products being marketed as organic							
74.	... has mandatory organic standards to prevent non-certified products being marketed as organic							
75.	... in this outlet carries "Skim Organik Malaysia" certification on all organic products							
76.	... in this outlet carries "Skim Organik Malaysia" certification on some organic products							
77.	... in this outlet does not carry "Skim Organik Malaysia" certification on organic products							
78.	... in this outlet only carries international organic certification and logos on all organic products							
79.	... and organic products from other countries is better than Malaysia organic certification and products							
80.	... and organic brands from other countries is better than Malaysia organic certification and brands							
81.	... from other countries has similar standard with Malaysia							

Section E: Respondent's Profile

Please tick (✓) where information is applicable.

82. Age

- Below 21 years
- 21 – 30 years
- 31 – 40 years
- 41 – 50 years
- 51 years and above

83. Gender:

- Male
- Female

84. Position:

- Senior Manager
- Assistant manager
- Supervisor

85. Educational Background:

- PhD
- Masters Degree
- Bachelors Degree
- Diploma
- Certificate
- Secondary school
- Other: _____

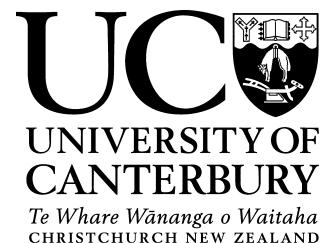
THANK YOU FOR YOUR COOPERATION AND PARTICIPATION IN THIS SURVEY

Appendix D. Information Sheet (Bahasa)

Muhammad Azman Ibrahim

PhD Candidate

Department of Management, Marketing & Entrepreneurship
College of Business & Law
Mobile: +64 210437836, Mobile: +60 19 6102436
Email: muhammad.ibrahim@pg.canterbury.ac.nz



Tajuk Penyelidikan:
“Memahami Persepsi dan Sikap Peruncit di Malaysia terhadap Sijil Organik”

BORANG INFORMASI BAGI PENGLIBATAN PENYELIDIKAN

Saya Muhammad Azman Ibrahim merupakan calon PhD (Pemasaran) University of Canterbury, New Zealand dan merupakan pelajar tajaan biasiswa Universiti Teknologi MARA (UiTM), Malaysia. Demi memahami persepsi peruncit dan sijil organik, saya ingin menggunakan data yang telah dikumpul oleh saya untuk sebahagian dari tesis PhD serta penerbitan dan pembentangan yang berunsurkan ilmiah.

Lanjutan daripada itu, saya dengan rasa rendah hati memohon jasa baik anda untuk terlibat secara langsung bagi menjayakan kajian tersebut. Penglibatan anda amatlah dihargai dan sila baca Borang Informasi ini dengan teliti sebelum mengambil sebarang keputusan. Sekiranya anda tidak ingin terlibat dengan kajian ini, tiada implikasi negatif terhadap anda dan saya menghargai masa anda untuk mempertimbangkan tawaran ini.

Objektif Kajian

Secara umum, objektif kajian ini adalah untuk memahami persepsi peruncit terhadap makanan sijil pemakanan organik. Secara spesifik, kajian ini bertujuan untuk:

1. Untuk mengukur bagaimana kepentingan, kepercayaan, kesedaran dan pengetahuan memberi impak melalui sikap terhadap sijil organik?
2. Sejauh mana keberkesanan sijil organik terhadap peruncit di Malaysia?
3. Apakah hubungkait di antara sijil organik dan ciri – ciri produk seperti kualiti makanan, keselamatan makanan, kemampunan dan kos?
4. Apakah hubungkait di antara sijil organik dan sebarang bentuk sijil pemakanan yang lain?

Peranan Calon yang terlibat dalam penyelidikan

Sekiranya anda telah mengambil keputusan untuk terlibat dalam projek kajian ini, anda dijemput untuk meneliti dan mengikuti beberapa perkara berikut:

1. Terlibat dengan soal kajiselidik tentang pandangan anda terhadap sijil pemakanan organik di malaysia. Objektif soal kajiselidik ini dijalankan adalah untuk memahami secara mendalam persepsi peruncit terhadap pensijilan serta peranannya bagi pembangunan peruncitan negara. Soal kajiselidik ini dijangka mengambil masa 10-15 minit.
2. Ia adalah lebih kajian ini dijawab oleh Pengurus. Ianya juga boleh dijawab oleh Penolong Pengurus, Penyelia, Pekerja atau lain-lain.
3. Saya memohon kebenaran untuk menggunakan keputusan kajian melalui penerbitan awan seperti tesis PhD, penerbitan jurnal dan pembentangan konferensi.

Hak untuk menarik diri

Anda boleh menarik diri pada bila – bila masa tanpa dikenakan caj penalti sebelum keputusan dianalisa. Walau bagaimanapun, data tersebut tidak dapat ditarik balik sebaik sahaja analisis data bermula pada Disember 2015.

Penggunaan Data dan Informasi

Data dan informasi yang diperolehi dijamin sulit. Nama – nama individu yang terlibat tidak akan didedahkan dan saya akan menggunakan *pseudonyms* dan kod bagi menganalisa data serta kesemua laporan yang bakal diterbitkan bagi memahami persepsi dan sikap peruncit terhadap sijil pemakanan organik. Selanjutnya, adalah hasrat penyelidik untuk menggunakan hasil penyelidikan melalui penerbitan ilmiah (tesis, penerbitan jurnal, pembentangan konferensi dan melalui penyimpanan pangkalan data Perpustakaan University of Canterbury). Anda berpeluang mendapatkan maklumat mengenai diri anda, dan ianya terhad terhadap maklumat yang telah diberikan dan berkaitan dengan diri anda sahaja. Anda juga layak mendapatkan hasil keseluruhan penyelidikan.

Privasi Data dan Informasi

Kesemua maklumat yang dihasilkan melalui kajian ini akan tersimpan secara rahsia melalui kata laluan khas atau berada di pejabat saya dan Penyelia saya, Prof. C. Michael Hall serta Assoc. Prof. Paul Ballantine selama 10 tahun dan akan dimusnahkan selepas tempoh yang dinyatakan.

Ahli Jawatan Kuasa Etika Universiti

Penyelidikan ini telah mendapat perakuan dan penilaian Ahli Jawatan Kuasa Etika University of Canterbury dan sebarang malumbalas bolehlah menghubungi alamat berikut: Pengurus Ahli Jawatan Kuasa Etika University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

Pertimbangan dan penglibatan anda untuk kajian ini amatlah dihargai dan secara langsung membantu untuk menjana dan memangkin pengetahuan bagi kemantapan di kalangan pendidik dan profesional.

Butir-butir Diri yang Terlibat Dengan Projek ini:

Muhammad Azman Ibrahim, PhD Candidate

Department of Management, Marketing & Entrepreneurship
College of Business & Law,
University of Canterbury
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Web: www.mang.canterbury.ac.nz

Prof. C. Michael Hall

Department of Management, Marketing & Entrepreneurship
College of Business & Law,
University of Canterbury
Private Bag 4800, Christchurch 8140, New Zealand
Tel: +64 3 364 2987, ext. 8612

Email: Michael.hall@canterbury.ac.nz

Prof. Paul Ballantine

Department of Management, Marketing & Entrepreneurship
College of Business & Law
University of Canterbury
Private Bag 4800, Christchurch 8140, New Zealand
Tel: +64 3 364 2987 ext. 3622, Fax:
Email: paul.ballantine@canterbury.ac.nz

Appendix E. Consent Form (Bahasa)

Muhammad Azman Ibrahim

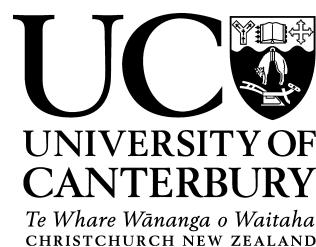
PhD Candidate

Department of Management, Marketing & Entrepreneurship

College of Business & Law

Mobile: +64 21 043 7836/ +64 19 6102436

Email: muhammad.ibrahim@pg.canterbury.ac.nz



UNIVERSITY OF
CANTERBURY

Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Tajuk Penyelidikan:

“Memahami Persepsi dan Sikap Peruncit di Malaysia terhadap Sijil Organik”

BORANG PERAKUAN TERHADAP PENGLIBATAN DALAM PENYELIDIKAN

Saya telah membaca Borang Informasi dan memahami tujuan penyelidikan dijalankan. Kesemua solan berkaitan penyelidikan telah dijawab mengikut kepuasan saya. Saya faham dan sedia maklum bahawa saya boleh untuk mendapatkan maklumat lanjut berkaitan penyelidikan pada semua peringkat.

Saya faham/maklum bahawa:

1. Penyelidikan ini bertujuan untuk memahami persepsi peruncit sijil pemakanan organik bagi memenuhi sebahagian dari penyelidikan di peringkat PhD calon bernama Muhammad Azman Ibrahim.
2. Dengan kembalinya borang ini menunjukkan saya bersetuju dengan penggunaan data yang disediakan.
3. Penglibatan saya dalam kajian ini adalah secara sukarela.
4. Saya boleh menarik diri tanpa dikenakan caj penalti. Penarikan diri saya juga melibatkan semua informasi yang telah diberikan kepada calon dan konteks ini wajar dipakai.
5. Kesemua maklumat utama yang dihasilkan melalui kajian ini akan tersimpan secara rahsia melalui kata laluan khas atau berada di pejabat Muhammad Azman Ibrahim dan Penyelia beliau selama 10 tahun dan akan dimusnahkan selepas tempoh yang dinyatakan.
6. Keputusan penyelidikan akan diterbitkan melalui tesis PhD, penerbitan jurnal, pembentangan konferensi dan melalui simpanan pangkalan data University of Canterbury.
7. Kesemua maklumat adalah sulit dan nama – nama individu yang terlibat tidak akan didedahkan.
8. Langkah – langkah yang sewajarnya akan diambil bagi memastikan privasi data terjamin.
9. Saya boleh mendapatkan laporan hasil dapatan kajian dengan menghubungi penyelidik pada peringkat rumusan kajian sebelum (30 September 2016).
10. Saya boleh menghubungi penyelidik untuk maklumat lanjut. Sebarang pertanyaan, saya boleh menghubungi Pengerusi Ahli Jawatan Kuasa Etika University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

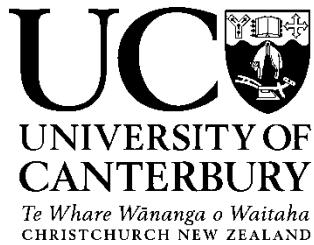
Dengan menandatangani borang ini, saya dengan ini bersetuju untuk terlibat secara langsung dengan penyelidikan yang telah dinyatakan.

(Tandatangan Calon)

Nama:

Syarikat:

Appendix F. Survey (Bahasa)



Reference No. :

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Date : ___ / ___ / 2015

BORANG KAJISELIDIK

MEMAHAMI PERSEPSI DAN SIKAP PERUNCIT DI MALAYSIA TERHADAP SIJIL ORGANIK

Tujuan kajian ini adalah untuk memahami tentang sijil organik dan pemakanan berkenaan dengan persepsi peruncit. Ianya adalah sebahagian daripada tesis PhD saya di University of Canterbury (New Zealand).

Bagi memudahkan anda menjawab kajian ini, dua jenis bahasa telah disediakan: English dan Bahasa Melayu. Ianya adalah penting untuk anda menjawab setiap soalan dengan secara teliti dan telus. Kebanyakan soalan boleh dijawab dengan memilih salah satu daripada beberapa pilihan jawapan yang disediakan. Tiada jawapan yang betul atau salah.

Arahan untuk menjawab soalan-soalan ada boleh dapati di setiap awal bahagian seksyen tersebut. Sila baca arahan tersebut dengan teliti dan jawab setiap soalan yang disediakan. Semua maklumat yang anda berikan adalah sulit dan akan digunakan untuk tujuan penyelidikan sahaja.

Terima kasih atas kerjasama anda.

Muhammad Azman Ibrahim, *PhD Candidate*

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Bahagian A: Demografik Perniagaan

Bahagian ini adalah mengenai maklumat am tentang kedai anda. Sila tulis dengan jelas atau pilih jawapan yang terbaik anda. Sila tandakan didalam kotak yang disediakan

1. a. Jenis-jenis format runcit: <input type="checkbox"/> Pasar raya <input type="checkbox"/> Pasar raya besar <input type="checkbox"/> Kedai organik b. Bolehkah anda nyatakan perniagaan anda dengan tandakan sama ada: <input type="checkbox"/> Francais <input type="checkbox"/> Syarikat milik luar negara	2. Saiz (m^2): <input type="checkbox"/> <2000 <input type="checkbox"/> 2000 – 5000 <input type="checkbox"/> > 5000	3. Bandar: <input type="checkbox"/> Kuala Lumpur <input type="checkbox"/> Selangor <input type="checkbox"/> Others: _____
4. Jumlah pekerja: <input type="checkbox"/> 1 – 5 <input type="checkbox"/> 6 – 10 <input type="checkbox"/> 11 – 15 <input type="checkbox"/> 16 – 20 <input type="checkbox"/> > 20	5. Perolehan tahunan (RM juta): <input type="checkbox"/> < 0.5 <input type="checkbox"/> 0.5 – 1.0 <input type="checkbox"/> 1.0 – 1.5 <input type="checkbox"/> 1.5 – 2.0 <input type="checkbox"/> 2.0 – 2.5 <input type="checkbox"/> 2.5 – 3.0 <input type="checkbox"/> > 3.0	
6. Jumlah tahun ditubuhkan: <input type="checkbox"/> < 3 tahun <input type="checkbox"/> 3 – 5 tahun <input type="checkbox"/> 6 – 10 tahun <input type="checkbox"/> > 10 tahun		

Bahagian B: Persepsi Terhadap Kedai Runcit Sendiri

Bahagian ini adalah mengenai persepsi kedai runcit anda sendiri. Sila baca soalan dengan teliti dan pilih hanya satu nombor sesuai yang menggunakan skala 1 hingga 7 daripada Sangat Tidak Setuju (1) sehingga Sangat Bersetuju (7). Sila tandakan ✓ dalam kotak yang disediakan.

Sangat Tidak Bersetuju	Tidak Setuju	Agak Tidak Setuju	Neutral	Agak Bersetuju	Setuju	Sangat Bersetuju
1	2	3	4	5	6	7

A. Sifat Peruncitan

	Kedai runcit ini ...	1	2	3	4	5	6	7
7.	... di lokasi yang hampir							
8.	... menyediakan suasana yang baik							
9.	... hanya menjual produk makanan yang diperakui							
10.	... mengekalkan suasana tempat kerja yang bersih							
11.	... menjual pelbagai produk							
12.	... memastikan produk berbaloi dengan nilai harga							
13.	... telah memenuhi keperluan standard pensijilan yang berkaitan							
14.	... mempunyai kakitangan budi pekerti							

B. Sifat Produk

	Produk di kedai runcit ini ...	1	2	3	4	5	6	7
15.	... memberi penekanan kepada kesihatan							
16.	... kebanyakannya ada jenama tempatan							
17.	... kebanyakannya ada jenama antarabangsa							
18.	... mempunyai pembungkusan yang berlainan untuk membezakan produk tertentu							
19.	... mempunyai kualiti yang baik							
20.	... dijual dengan harga berpatutan							
21.	... dijamin selamat							
22.	... mempunyai label untuk memberikan maklumat kepada pengguna dalam membantu membuat keputusan pembelian mereka							
23.	... mempunyai pelbagai jenis pensijilan makanan seperti organik, halal, MyGap, Fair Trade dan Marine Stewardship Council (MSC)							

C. Sifat Sustainability

	Kedai runcit ini melaksanakan 'sustainability initiatif' ...	1	2	3	4	5	6	7
24.	... dengan menjual produk yang memberi manfaat kepada alam sekitar							
25.	... dengan menjual produk tempayan dalam usaha untuk mengurangkan "food miles"							
26.	... dengan mempromosikan produk tempatan berbanding produk antarabangsa							
27.	... dengan mendapatkan produk daripada pembekal yang terdekat							
28.	... dengan mengambil kira jarak perjalanan produk itu							
29.	... dengan melatih pekerja untuk isu sosial dan alam sekitar							
30.	... dengan menggunakan peralatan mesra alam sekitar							

Bahagian C: Persepsi dan Sikap terhadap Pensijilan Makanan yang lain

Bahagian ini adalah persepsi dan sikap anda terhadap pensijilan makanan yang lain. Sila baca soalan dengan teliti dan pilih hanya satu nombor sesuai yang menggunakan skala 1 hingga 7 daripada Sangat Tidak Setuju (1) sehingga Sangat Bersetuju (7). Gantikan ruang kosong dengan setiap jenis sijil makanan yang disenaraikan dan tandakan ✓ dalam kotak yang disediakan.

Sangat Tidak Bersetuju	Tidak Setuju	Agak Tidak Setuju	Neutral	Agak Bersetuju	Setuju	Sangat Bersetuju
1	2	3	4	5	6	7

A. Memahami definisi pensijilan makanan							
31.	Saya fikir sijil _____ di kedai runcit makanan menunjukkan kualiti makanan	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council (MSC)						
32.	Saya fikir sijil _____ di kedai runcit makanan menunjukkan keselamatan makanan	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council (MSC)						
33.	Saya fikir sijil _____ di kedai runcit makanan menunjukkan kepercayaan	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council (MSC)						
34.	Saya fikir sijil _____ di kedai runcit makanan menunjukkan keaslian	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council (MSC)						
35.	Saya fikir sijil _____ di kedai runcit makanan merangkumi semua aspek makanan, pemprosesan, pengangkutan dan peruncitan	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council (MSC)						

Pilih hanya satu nombor sesuai yang menggunakan skala 1 hingga 7 daripada Sangat Tidak Setuju (1) sehingga Sangat Bersetuju (7). Gantikan ruang kosong dengan setiap jenis sijil makanan yang disenaraikan dan tandakan ✓ dalam kotak yang disediakan.

Sangat Tidak Bersetuju	Tidak Setuju	Agak Tidak Setuju	Neutral	Agak Bersetuju	Setuju	Sangat Bersetuju
1	2	3	4	5	6	7

B. Tujuan pensijilan makanan secara umum							
36.	Saya fikir sijil _____ di kedai runcit makanan mempunyai kesan positif ke atas kepuasan pengguna	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council						
37.	Saya fikir sijil _____ di kedai runcit makanan bertindak sebagai satu kaedah strategi pemasaran untuk berkomunikasi dengan pengguna apabila membeli produk	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council						
38.	Saya fikir sijil _____ di kedai runcit makanan meningkatkan tahap keyakinan di kalangan pengguna apa bila membuat keputusan membeli	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council						
39.	Saya fikir sijil _____ di kedai runcit makanan boleh digunakan untuk pelbagai jenis produk makanan umum	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council						
40.	Saya fikir sijil _____ di kedai runcit makanan memberikan maklumat kepada pengguna sebelum membeli produk	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council						
41.	Saya fikir sijil _____ di kedai runcit makanan adalah penting untuk ciri-ciri bukan keselamatan	1	2	3	4	5	6
	Halal						
	Fair Trade						
	MyGap						
	Marine Stewardship Council						

Pilih hanya satu nombor sesuai yang menggunakan skala 1 hingga 7 daripada Sangat Tidak Setuju (1) sehingga Sangat Bersetuju (7). Gantikan ruang kosong dengan setiap jenis sijil makanan yang disenaraikan dan tandakan ✓ dalam kotak yang disediakan.

Sangat Tidak Bersetuju	Tidak Setuju	Agak Tidak Setuju	Neutral	Agak Bersetuju	Setuju	Sangat Bersetuju
1	2	3	4	5	6	7

C. Tujuan pensijilan makanan dalam rangkaian bekalan								
42.	Saya fikir sijil _____ di kedai runcit makanan adalah penting bagi pembezaan produk	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
43.	Saya fikir sijil _____ di kedai runcit makanan membantu mengawal pembekal	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
44.	Saya fikir sijil _____ di kedai runcit makanan membantu pertambahan akses pasaran yang lebih baik	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
45.	Saya fikir sijil _____ di kedai runcit makanan membantu dalam penyelarasan rangkaian bekalan runcit	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							

Pilih hanya satu nombor sesuai yang menggunakan skala 1 hingga 7 daripada Sangat Tidak Setuju (1) sehingga Sangat Bersetuju (7). Gantikan ruang kosong dengan setiap jenis sijil makanan yang disenaraikan dan tandakan ✓ dalam kotak yang disediakan.

Sangat Tidak Bersetuju	Tidak Setuju	Agak Tidak Setuju	Neutral	Agak Bersetuju	Setuju	Sangat Bersetuju
1	2	3	4	5	6	7

D. Kelebihan pensijilan makanan kepada peruncit								
46.	Saya fikir sijil _____ di kedai runcit makanan akan mengurangkan kos urus niaga	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
47.	Saya fikir sijil _____ di kedai runcit makanan akan mengurangkan liability kewangan	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
48.	Saya fikir sijil _____ di kedai runcit makanan akan mengurangkan tanggungjawab peruncit untuk mengawasi keselamatan dan kualiti produk yang dijual	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							
49.	Saya fikir sijil _____ di kedai runcit makanan akan meningkatkan kecekapan dalam rangkaian bekalan	1	2	3	4	5	6	7
	Halal							
	Fair Trade							
	MyGap							
	Marine Stewardship Council							

Bahagian D: Persepsi dan Sikap terhadap Pensijilan Organik

Bahagian ini adalah persepsi anda dan sikap terhadap pensijilan organik di Malaysia. Sila baca soalan dengan teliti dan pilih hanya satu nombor sesuai yang menggunakan skala 1 hingga 7 daripada Sangat Tidak Setuju (1) sehingga Sangat Bersetuju (7). Sila tandakan ✓ dalam kotak yang disediakan.

Sangat Tidak Bersetuju	Tidak Setuju	Agak Tidak Setuju	Neutral	Agak Bersetuju	Setuju	Sangat Bersetuju
1	2	3	4	5	6	7

A. Memahami definisi pensijilan organik

	Saya berpendapat pensijilan organik ...	1	2	3	4	5	6	7
50.	... membuktikan produk telah dihasilkan secara organik							
51.	... membuktikan kualiti produk makanan							
52.	... membuktikan keselamatan produk makanan							
53.	... membuktikan produk makanan yang sihat							
54.	... membuktikan rasa lebih baik							
55.	... membuktikan 'sustainability'							
56.	... membuktikam keprihatinan terhadap kesejahteraan haiwan							
57.	... membuktikan keprihatinan terhadap alam sekitar							

B. Tujuan pensijilan organik

	Saya berpendapat pensijilan organik ...	1	2	3	4	5	6	7
58.	... mempunyai nilai kepada kedai runcit							
59.	... berfungsi sebagai tanda kepercayaan kepada pihak berkuasa tempatan yang berkaitan dalam meluluskan produk makanan tempatan							
60.	... berfungsi sebagai tanda kepercayaan kepada pihak berkuasa tempatan yang berkaitan dalam meluluskan produk makanan antarabangsa							
61.	... adalah untuk gaya hidup yang sihat							
62.	... adalah untuk meningkatkan keyakinan pengguna							
63.	... adalah untuk membantu pengguna untuk membezakan antara produk organik dan bukan organik							
64.	... adalah untuk mendapatkan kepercayaan pengguna							
65.	... adalah untuk meningkatkan pengetahuan pengguna mengenai produk organik							
66.	... adalah untuk menjustifikasi harga premium							

C. Isu pensijilan organik

	Saya berpendapat pensijilan organik ...	1	2	3	4	5	6	7
67.	... akan membawa kepada harga produk yang lebih tinggi							
68.	... boleh mengelirukan pengguna sekiranya terdapat banyak pensijilan organik dan logo							
69.	... adalah lebih murah bagi mendapatkan pensijilan tempatan daripada pensijilan antarabangsa							
70.	... akan membawa kepada penyalahgunaan sijil/label organik oleh pembekal makanan							
71.	... kekurangan penguatkuasaan dari pihak berkuasa							

Pilih hanya satu nombor sesuai yang menggunakan skala 1 hingga 7 daripada Sangat Tidak Setuju (1) sehingga Sangat Bersetuju (7). Sila tandakan √ dalam kotak yang disediakan.

Sangat Tidak Bersetuju	Tidak Setuju	Agak Tidak Setuju	Neutral	Agak Bersetuju	Setuju	Sangat Bersetuju
1	2	3	4	5	6	7

D. Pensijilan organik di Malaysia

	Saya berpendapat pensijilan organik ...	1	2	3	4	5	6	7
72.	... akan meningkatkan kesedaran pengguna Malaysia terhadap makanan organik							
73.	... perlu mempunyai piawaian organik yang mandatori untuk mengelakkan barang yang tidak diiktiraf dipasarkan sebagai organik							
74.	... mempunyai piawaian organik yang mandatori untuk mengelakkan barang yang tidak diiktiraf dipasarkan sebagai organik							
75.	... di kedai ini mempunyai pensijilan "Skim Organik Malaysia" pada semua produk organik							
76.	... di kedai ini mempunyai pensijilan "Skim Organik Malaysia" pada beberapa produk organik							
77.	... di kedai ini tidak mempunyai pensijilan "Skim Organik Malaysia" pada mana-mana produk organik							
78.	... di kedai ini hanya mempunyai pensijilan organik dan logo antarabangsa pada semua produk organik							
79.	... dan produk organik dari negara lain adalah lebih baik daripada sijil dan produk organik Malaysia							
80.	... dan jenama organik dari negara lain adalah lebih baik daripada sijil dan jenama organik Malaysia							
81.	... dari negara lain mempunyai standard yang sama dengan Malaysia							

Bahagian E: Profil Responden

Sila tandakan (✓) pada maklumat berkenaan.

82. Umur

- Bawah 21 tahun
- 21 – 30 tahun
- 31 – 40 tahun
- 41 – 50 tahun
- 51 tahun and ke atas

83. Jantina:

- Lelaki
- Perempuan

84. Jawatan:

- Pengurus
- Penolong pengurus
- Penyelia

85. Latar belakang pendidikan:

- PhD
- Masters Degree
- Bachelors Degree
- Diploma
- Sijil
- Sekolah Menengah
- Lain-lain: _____

TERIMA KASIH ATAS KERJASAMA DAN PENYERTAAN ANDA DALAM KAJIAN INI

Appendix G. Information Sheet – Interview (English)

Muhammad Azman Ibrahim

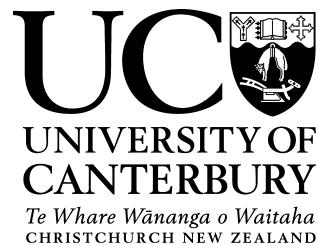
PhD Candidate

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Email: muhammad.ibrahim@pg.canterbury.ac.nz



Research:

“Understanding Malaysian Retailers’ Perception of and Attitudes towards Organic Certification”

INFORMATION SHEET FOR RESEARCH PARTICIPANTS

My name is Muhammad Azman Ibrahim. I am a PhD student in marketing at University of Canterbury, New Zealand and under scholarship at Universiti Teknologi MARA (UiTM), Malaysia. In order to understand retailer perceptions of food and organic certification, I would like to use the data that I collect as a part of my PhD thesis and for research-based publications and presentations.

In addition, I would like to invite you to participate in this research. Your participation in this research is greatly appreciated and please read this Information Sheet carefully before deciding whether or not to participate. If you decide not to participate in this study, there is no disadvantage to you and I appreciate the time taken to consider this invitation.

Participants’ Role in this Research

If you decide to participate in this research project, you will be invited to do the following:

1. Participate in an interview and discuss your perception on food and organic certification in Malaysia. The purpose of the interview is to gain a deeper understanding of retailer perceptions on certification in its own right as well as assist in the development of a national survey of retailers on this topic. The interview will take approximately 45-60 minutes and will be conducted at your company/workplace or another location of your choice.
2. Based on main interview results, I may ask for a follow-up interview, if required.
3. Allow me to use the results of the project for public publications such as PhD thesis, journal publications or conference presentations.
4. Allow me to visit your company/workplace and discuss with you when available
5. With your permission, the interview will be audio recorded.

Right to Withdraw from Research

You may withdraw from participation in the research project at any time and without any disadvantage to yourself of any kind, before the data is analysed.

Material Collected and Use

The material collected from this research will be treated as confidential. Names of individuals will be treated as confidential and I will use pseudonyms and codes for my data analysis and all published reports in order to develop an understanding of retailers’ perception and attitude towards organic food certification. Moreover, it is desired by the researchers to be able to report the findings from this research

in a scholarly outlet (thesis, journal publication, conference presentation and via the University of Canterbury library database).

You will have access to data gathered regarding yourself, although this will be limited to data relating to you only. You will have the opportunity to review the interview transcript. You will also be able to request feedback on the overall results of the study.

Security of Material Provided

All primary source materials generated during this research will be securely stored either through password protection or in my office and my supervisors' offices, held for 10 years, and destroyed after that time period. The material will only be accessed by me and my supervisors, Prof. C. Michael Hall and Associate Prof. Paul Ballantine.

Human Ethics Committee

This research has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

Your utmost consideration and participation in this research study is very much appreciated and will help contribute to knowledge and excellence for the educational and professional practices alike.

Contact Person for this Project:

Muhammad Azman Ibrahim, PhD Candidate

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College of Business & Laws,
University of Canterbury
Private Bag 4800, Christchurch 8140, New Zealand
Mobile: +64 210437836/+60 19 6102436
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Prof. C. Michael Hall

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Email: paul.ballantine@canterbury.ac.nz

Appendix H. Consent Form – Interview (English)

Muhammad Azman Ibrahim

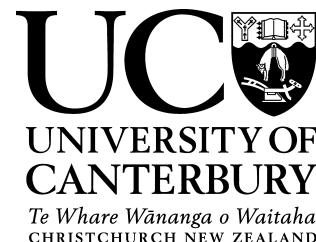
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Research:

“Understanding Malaysian Retailers’ Perception of and Attitude towards Organic Certification”

CONSENT FORM FOR RESEARCH PARTICIPANTS

I have read the Information Sheet about this and understand the purpose of this research.

All questions about this research have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I understand/know that:

1. This research project is designed to understand retailer’s perceptions of food and organic certification as a part of PhD dissertation of Muhammad Azman Ibrahim.
2. My participation in the research project is entirely voluntary.
3. I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.
4. All primary source materials generated during this research project will be securely stored with password protection or in Muhammad Azman Ibrahim and his supervisors’ offices, held for 10 years, and destroyed after that time period.
5. The results of the project may be published and available in public such as PhD thesis, journal publications, conference presentations, and via the University of Canterbury library database.
6. All material will be treated as confidential and no individual names will be used.
7. Appropriate precautions will be taken to secure the data.
8. I am able to receive a report on the findings of the study by contacting the researcher at the conclusion of the research.
9. I can contact the researcher for further information. If any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz

By signing below, I agree to participate in this research project.

(Signature of Participant)

Name:

Company:

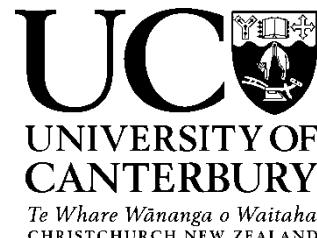
Date:

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee.

Appendix I. Interview Guide (English)

Reference No. :
 Date : ____ / ____ / 2015

Muhammad Azman Ibrahim, PhD Candidate
 Department of Management, Marketing & Entrepreneurship
 College of Business & Laws,
 University of Canterbury
 Private Bag 4800, Christchurch 8140, New Zealand
 Mobile: +64 210437836/+60 19 6102436
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 Web: www.mang.canterbury.ac.nz



Interview Guideline

1.	Definition of food and organic certification
	<ol style="list-style-type: none"> 1. What is your understanding of what organic food means? 2. Can you explain the purpose of organic and food certification?
2.	The importance of food and organic certification
	<ol style="list-style-type: none"> 1. Do you think food certification is important and why? 2. Does organic food certification is also important and why? 3. Can you explain what food certifications are you familiar with? 4. What are the factors that organic certification has that makes it different as compared to other types of food certification?
3.	The reliability of food and organic certification
	<ol style="list-style-type: none"> 1. Do you think that food and organic certification can help a retailer to develop a product differentiation strategy? 2. Does food and organic certification in the market is reliable? 3. Can you explain how organic food certification can be used as one of marketing tools?
4.	The connection of food and organic certification to consumers
	<ol style="list-style-type: none"> 1. Do you think food certification can influence consumer purchasing decision? 2. Can organic certification influence consumer purchasing decisions? 3. How much influence does organic certification have on consumer purchasing decisions? 4. Does the number of different organic certification affect consumer purchasing decisions?
5.	The reliability of the food supply chain
	<ol style="list-style-type: none"> 1. Are all producers complying with food and organic standards? 2. How do the producer and retailer comply with the organic standard? 3. Can you explain the developments of organic food products in Malaysian food supply chain?
6.	The issues and problems of food and organic certification
	<ol style="list-style-type: none"> 1. Do you have any issues or concerns regarding the number of different organic certifications? 2. What are the types of issues or problems you encounter?

	<p>3. What can you do to solve the problem?</p> <p>4. Are there any others problems that retailers may face with organic certification?</p>
7.	<p>The role of retailers in addressing issues of food and organic certification</p> <p>1. Do you ask the supplier to provide organic certification for all organic products?</p> <p>2. What should retailers do to monitor the organic products they sell?</p> <p>3. Should retailers have both international and local organic certification in the organic product that they carry?</p> <p>4. Which type of organic certification (international or local) is more effective when selling organic product?</p>

Appendix J. Information Sheet – Interview (Bahasa)

Muhammad Azman Ibrahim

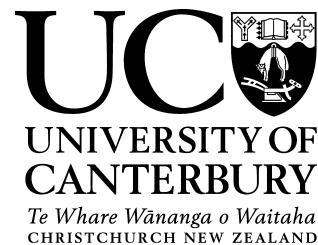
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Tajuk Penyelidikan:

“Memahami Persepsi dan Sikap Peruncit di Malaysia terhadap Sijil Organik”

BORANG INFORMASI BAGI PENGLIBATAN PENYELIDIKAN

Saya Muhammad Azman Ibrahim merupakan calon PhD (Pemasaran) University of Canterbury, New Zealand dan merupakan pelajar tajaan biasiswa Universiti Teknologi MARA (UiTM), Malaysia. Demi memahami persepsi peruncit dan sijil organik, saya ingin menggunakan data yang telah dikumpul oleh saya untuk sebahagian dari tesis PhD serta penerbitan dan pembentangan yang berunsurkan ilmiah.

Lanjutan daripada itu, saya dengan rasa rendah hati memohon jasa baik anda untuk terlibat secara langsung bagi menjayakan kajian tersebut. Penglibatan anda amatlah dihargai dan sila baca Borang Informasi ini dengan teliti sebelum mengambil sebarang keputusan. Sekiranya anda tidak ingin terlibat dengan kajian ini, tiada implikasi negatif terhadap anda dan saya menghargai masa anda untuk mempertimbangkan tawaran ini.

Peranan Calon yang terlibat dalam penyelidikan

Sekiranya anda telah mengambil keputusan untuk terlibat dalam projek kajian ini, anda dijemput untuk meneliti dan mengikuti beberapa perkara berikut:

1. Terlibat dengan sesi temubual dan memberikan pandangan anda terhadap sijil pemakanan organik di malaysia. Objektif sesi temubual ini dijalankan adalah untuk memahami secara mendalam persepsi peruncit terhadap pensijilan serta peranannya bagi pembangunan peruncitan negara. Sesi temubual dijangka di antara 45-60 minit dan akan diadakan di syarikat/organisasi anda bekerja atau lokasi lain yang dirasakan bersesuaian.
2. Berdasarkan hasil maklumbalas temubual, saya berkemungkinan akan mengadakan sesi temubual lanjutan sekiranya perlu.
3. Saya memohon kebenaran untuk menggunakan keputusan kajian melalui penerbitan awan seperti tesis PhD, penerbitan jurnal dan pembentangan konferensi.
4. Saya memohon kebenaran untuk mengadakan lawatan ke syarikat/organisasi anda bekerja sekiranya anda berkelapangan.
5. Melalui keizinan anda, sesi temubual akan direkod secara audio.

Hak untuk menarik diri

Anda boleh menarik diri pada bila – bila masa tanpa dikenakan caj penalti sebelum keputusan dianalisa.

Penggunaan Data dan Informasi

Data dan informasi yang diperolehi dijamin sulit. Nama – nama individu yang terlibat tidak akan didedahkan dan saya akan menggunakan *pseudonyms* dan kod bagi menganalisa data serta kesemua laporan yang bakal diterbitkan bagi memahami persepsi dan sikap peruncit terhadap sijil pemakanan

organik. Selanjutnya, adalah hasrat penyelidik untuk menggunakan hasil penyelidikan melalui penerbitan ilmiah (tesis, penerbitan jurnal, pembentangan konferensi dan melalui penyimpanan pangkalan data Perpustakaan University of Canterbury).

Anda berpeluang mendapatkan maklumat mengenai diri anda, dan ianya terhad terhadap maklumat yang telah diberikan dan berkaitan dengan diri anda sahaja. Anda berpeluang untuk menilai hasil sesi temubual. Anda juga layak mendapatkan hasil keseluruhan penyelidikan.

Privasi Data dan Informasi

Kesemua sumber maklumat utama yang dihasilkan melalui kajian ini akan tersimpan secara rahsia melalui kata laluan khas atau berada di pejabat saya dan Penyelia saya, Prof. C. Michael Hall serta Assoc. Prof. Paul Ballantine selama 10 tahun dan akan dimusnahkan selepas tempoh yang dinyatakan.

Ahli Jawatan Kuasa Etika Universiti

Penyelidikan ini telah mendapat perakuan dan penilaian Ahli Jawatan Kuasa Etika University of Canterbury dan sebarang malumbalas bolehlah menghubungi alamat berikut: Pengerusi Ahli Jawatan Kuasa Etika University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

Pertimbangan dan penglibatan anda untuk kajian ini amatlah dihargai dan secara langsung membantu untuk menjana dan memangkin pengetahuan bagi kemantapan di kalangan pendidik dan profesional.

Butir-butir Diri yang Terlibat Dengan Projek ini:

Muhammad Azman Ibrahim, PhD Candidate

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Email: paul.ballantine@canterbury.ac.nz

Appendix K. Consent Form – Interview (Bahasa)

Muhammad Azman Ibrahim

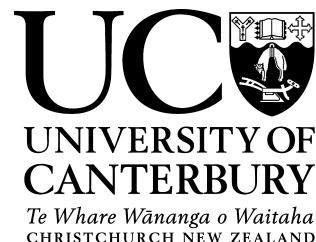
PhD Candidate

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Tajuk Penyelidikan:

“Memahami Persepsi dan Sikap Peruncit di Malaysia terhadap Sijil Organik”

BORANG PERAKUAN TERHADAP PENGLIBATAN DALAM PENYELIDIKAN

Saya telah membaca Borang Informasi dan memahami tujuan penyelidikan dijalankan. Kesemua solan berkaitan penyelidikan telah dijawab mengikut kepuasan saya. Saya faham dan sedia maklum bahawa saya boleh untuk mendapatkan maklumat lanjut berkaitan penyelidikan pada semua peringkat.

Saya faham/maklum bahawa:

1. Penyelidikan ini bertujuan untuk memahami persepsi peruncit sijil pemakanan organik bagi memenuhi sebahagian dari penyelidikan di peringkat PhD calon bernama Muhammad Azman Ibrahim. Objektif temubual ini adalah untuk mendapatkan maklumat mengenai pemahaman prosedur dan amalan pensijilan secara umum dalam membantu usaha untuk membangunkan soalan kaji selidik bagi peruncit di Malaysia.
2. Penglibatan saya dalam kajian ini adalah secara sukarela.
3. Saya boleh menarik diri tanpa dikenakan caj penalti. Penarikan diri saya juga melibatkan semua informasi yang telah diberikan kepada calon dan konteks ini wajar dipakai.
4. Kesemua sumber maklumat utama yang dihasilkan melalui kajian ini akan tersimpan secara rahsia melalui kata laluan khas atau berada di pejabat Muhammad Azman Ibrahim dan Penyelia beliau selama 10 tahun dan akan dimusnahkan selepas tempoh yang dinyatakan.
5. Keputusan penyelidikan akan diterbitkan melalui tesis PhD, penerbitan jurnal, pembentangan konferensi dan melalui simpanan pangkalan data University of Canterbury.
6. Kesemua maklumat adalah sulit dan nama – nama individu yang terlibat tidak akan didedahkan.
7. Langkah – langkah yang sewajarnya akan diambil bagi memastikan privasi data terjamin.
8. Saya boleh mendapatkan dan meminta laporan/ringkasan hasil dapatan kajian dengan menghubungi penyelidik pada peringkat rumusan kajian.
9. Saya boleh menghubungi penyelidik untuk maklumat lanjut. Sebarang pertanyaan, saya boleh menghubungi Pengerusi Ahli Jawatan Kuasa Etika University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

Dengan menandatangani borang ini, saya dengan ini bersetuju untuk terlibat secara langsung dengan penyelidikan yang telah dinyatakan.

(Tandatangan Calon)

Nama:

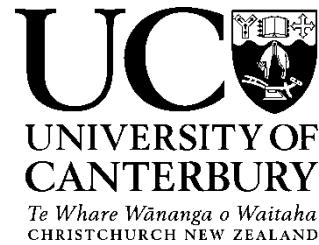
Syarikat:

Tarikh:

Appendix L. Interview Guide (Bahasa)

Reference No. :
 Date : ___ / ___ / 2015

Muhammad Azman Ibrahim, PhD Candidate
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 College of Business & Laws
 University of Canterbury
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Garis Panduan Temubual

1.	Maksud sijil pemakanan dan organik
	<ol style="list-style-type: none"> 1. Apa pemahaman anda tentang maksud pemakanan organik? 2. Bolekah anda terangkan tujuan sijil organik dan pemakanan?
2.	Kepentingan sijil pemakanan dan organik
	<ol style="list-style-type: none"> 1. Adakah anda fikir sijil pemakanan adalah penting dan mengapa? 2. Adakah pensijilan makanan organik juga penting dan mengapa? 3. Bolehkah anda terangkan sijil pemakanan apa yang anda kenal? 4. Apakah faktor-faktor yang menjadikan sijil organik berbeza berbanding dengan sijil pemakanan yang lain?
3.	Kebolehpercayaan sijil pemakanan dan organik
	<ol style="list-style-type: none"> 1. Adakah anda fikir bahawa sijil pemakanan dan organik boleh membantu peruncit bagi membangunkan pembezaan produk strategi? 2. Adakah sijil pemakanan dan organik di pasaran boleh dipercayai? 3. Bolehkah anda terangkan bagaimana sijil pemakanan boleh dijadikan sebagai salah satu alat pemasaran?
4.	Hubungan sijil pemakanan dan organik kepada pengguna
	<ol style="list-style-type: none"> 1. Adakah anda fikir sijil pemakanan boleh mempengaruhi keputusan pembelian pengguna? 2. Bolehkah sijil organik mempengaruhi keputusan pembelian pengguna? 3. Sejauh manakah pengaruh sijil organik terhadap pengguna ketika membuat keputusan untuk membeli? 4. Adakah jumlah sijil organik yang berbeza-beza mempengaruhi keputusan pembelian pengguna?
5.	Kebolehpercayaan dalam rangkaian bekalan makanan
	<ol style="list-style-type: none"> 1. Adakah semua pengeluar mematuhi piawaian makanan dan organik? 2. Bagaimanakah pengeluar dan peruncit mematuhi piawaian organik? 3. Bolehkah anda terangkan perkembangan produk makanan organik dalam rangkaian bekalan makanan?

6.	Isu-isu dan masalah sijil pemakanan dan organik
	<ol style="list-style-type: none"> 1. Adakah anda mempunyai sebarang isu atau masalah mengenai jumlah sijil organik yang berbeza? 2. Apakah jenis isu atau masalah yang timbul? 3. Apakah yang boleh anda lakukan untuk menyelesaikan masalah ini? 4. Adakah terdapat sebarang masalah lain yang mungkin dihadapi oleh peruncit mengenai sijil organik?
7.	Peranan peruncit dalam menangani isu-isu sijil pemakanan dan organik
	<ol style="list-style-type: none"> 1. Adakah anda meminta pembekal untuk memastikan kesemua produk organik mempunyai sijil organik? 2. Apakah yang perlu peruncit lakukan untuk memantau produk organik yang mereka jual? 3. Perlukah peruncit mempunyai kedua-dua sijil organik antarabangsa dan tempatan bagi setiap produk organik yang mereka jual? 4. Jenis sijil organik (antarabangsa atau tempatan) manakah yang berkesan apabila menjual produk organik?