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**A STUDY ON CONSUMERS AWARENESS AND CONSUMPTION
PATTERNS OF GREEN FOOD AMONG STUDENTS IN UNIVERSITI
UTARA MALAYSIA**

By

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**Research paper submitted to
School of Business Management
Universiti Utara Malaysia
In partial fulfilling of requirement for Master of Science (Management)**

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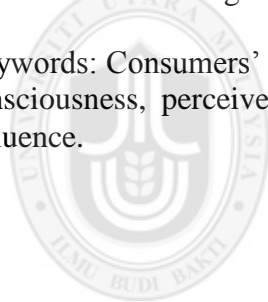
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ABSTRACT

Food is the basic need to all human being in world and they have the right to consume and choose the safe products. Health consciousness, food safety, and environment consciousness are the main reasons why the consumers progressively aware about the products they consume. Since the nature is getting worst due to environment problem, it has become public concern to introduce green concept in many countries. In Malaysia, the concept of green food still new to consumers, however the demand of the product is increase time by time. The objective and aim of the research is to identify the consumers' awareness and green food consumption patterns among Undergraduate students in Universiti Utara Malaysia. Even the awareness of food quality and eating patterns could influence students mentally and physically. The research is focus on students because they are possessed important towards the environment and showing their responsibilities. Accordingly, this paper aims to discuss eating consumption practices among university students and their perception of proper feeding practices .The research used questionnaire and 400 respondents are needed to complete the data survey. In this way, it can help the policy makers to manage in formulating and implement the strategies to enhance the knowledge among the consumers especially the students. The implications of the theoretical and managerial as well as the recommendation are discussed in the study.

Keywords: Consumers' awareness, consumption patterns of green food, environment consciousness, perceived consumer effectiveness, health consciousness and social influence.

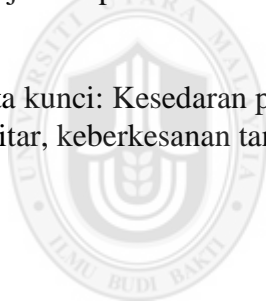


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ABSTRAK

Makanan adalah keperluan asas kepada semua manusia di dunia dan berhak untuk memilih dan menggunakan produk yang sihat. Kesedaran kesihatan, keselamatan makanan dan kesedaran terhadap alam sekitar antara sebab utama mengapa pengguna secara progresif sedar akan kepentingan produk yang mereka guna. Masalah alam sekitar kini menjadi semakin teruk, dan ia telah menjadi sebab untuk memperkenalkan produk dan konsep makanan hijau di serata dunia. Di Malaysia, konsep makanan hijau masih baru kepada pengguna dan bagaimanapun permintaan terhadap produk ini meningkat dari semasa ke semasa. Objektif dan tujuan kajian ini dijalankan adalah untuk mengenalpasti kesedaran terhadap corak pengambilan makanan hijau dalam kalangan pelajar siswazah di Universiti Utara Malaysia. Malah kesedaran tentang kualiti makanan dan pola makan juga mempengaruhi mental dan fizikal seseorang pelajar. Kajian ini memberi tumpuan kepada pelajar kerana mereka memiliki kesedaran dan tanggungjawab yang tinggi terhadap alam sekitar. Sehubungan dengan itu, makalah ini bertujuan membincangkan amalan pemakanan dalam kalangan pelajar universiti dan persepsi mereka terhadap amalan pemakanan yang betul. Kajian ini menggunakan soal selidik dan seramai 400 responden diperlukan untuk melengkapkan kaji selidik ini. Dengan cara ini, ia boleh membantu pihak berwajib untuk menguruskan dalam menggubal dan melaksanakan strategi untuk meningkatkan tahap pengetahuan dalam kalangan pengguna terutamanya para pelajar. Implikasi teori dan pengurusan serta cadangan dibincangkan dalam kajian ini.

Kata kunci: Kesedaran pengguna, corak pengambilan makanan hijau, kesedaran alam sekitar, keberkesanan tanggapan pengguna, kesedaran kesihatan dan pengaruh sosial.



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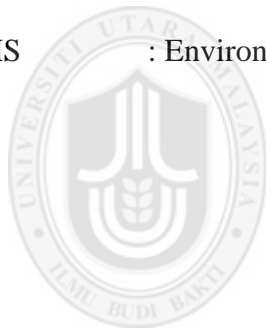
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LIST OF ABBREVIATIONS

SPSS	: Statistical Package for the Social Science
KMO	: Kaiser-Mayer-Olkin
UUM	: Universiti Utara Malaysia
GAP	: Good Agriculture Practices
MARDI	: Malaysia Agricultural Research and Development Institute
SOP	: Standard of Procedure
SALM	: Malaysian Farm Certification Scheme for Good Agricultural Practice
HTJ	: Hospital Tunku Jaafar
WHO	: World Health Organization
UMS	: Universiti Malaysia Sabah
NEP	: New Environment Paradigm
EMS	: Environment Management System



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Chapter 1

INTRODUCTION

1.1 Introduction

Currently, purchase and consume high quality of food is consumers' priority for their life. Due to interest of green product response to environment consciousness, perceived consumers effectiveness, health consciousness and social influence are extremely growing progressively. Nowadays, the consumers start to concern about their health and safe according to their food. Hence, there is various numbers of companies to be more responsive in addressing the developing of environmentally friendly product to the consumers. Green food consumption patterns are different from country to country. The changed due to rapid growth of socio-economic through increasing number of consumer's demand. Overall, green food exists in Malaysia and the concept still new to Malaysian. However the consumers aware and changed their favourite of food choice toward more healthy and nutritious life style. Since, the consumers have a strong power in purchasing and consuming food, it is necessary to concern about food safety and health consciousness. Developing country like Malaysia facing new challenge which is due to report Department of Environment (2006) found 20,702 cases water polluted sites. This is included the manufacturing industries, sewage treatment plants, and animal farms. Increasing of environmental issue show that how the consumers behave especially in consuming green food. Thus, the aim of the study is to examine the consumers' awareness and consumption pattern of green food among the consumers especially the students of UUM. The food that they consume will affect their physical, mental and perception of proper feeding practices in university. The paper begins with the past and relevant

literature review. Next, the methodology and results will be presented and concludes with a discussion, limitations and suggestion for future research.

1.2 Background of Research

Green foods consumption lifestyles are currently increasing in all over the world. In the current with the world development it can give consumer experience by changing their consumption pattern. Green food is extremely playing an important part of healthy diet since nowadays people more concern about their way of life. Green foods thus can be defined as the goods that have better quality, giving nutritious and produced sustainable development principle (Liu, 2013). According to Lee (2009), consumption of green concept can be recyclable, beneficial to the environment and concern on natural world. The consumers have to start being responsible and realize their consumption will give the huge impact toward the environment (Vazifehdoust, Taleghani, Esmailpour, Nazari & Khadang, 2013). Thus, it is necessary to consumers to have much knowledge about green product indeed. The facts on green food will encourage people to change their purchasing style and behaviour to green consumption later (Phuah et al., 2011).

As Malaysia is moving towards becoming a developed country where the population are increase by the time. Malaysia is getting educated and will be concerned with the environment, food safety and animal welfare. The change to go green was along with the change in consumer preferences, standard of living, improved quality in agriculture and marketing in order to encourage society to increase the demand of green food products. According to Rubin (2010), green food can be categorized wheatgrass and cereal grasses such as barley, oats as well as spinach, celery and

parsley. The green food especially will induce to high food quality and well known in worldwide (Yu, Gao, Zeng, 2014). The production of green product in dimension of food quality can be explained in terms of nutritious, natural and environmental friendly.

In addition, some companies nowadays have already adopted green marketing which includes the variability of demand and consumer perception of green products (Gurau et al., 2005). Green marketing is one of method that involved all activities that designed to generate any exchange in order to satisfy the human needs or wants with minimal unfavourable impact on the natural environment. This is to satisfy the consumers and having strong relationship with them (Tan and Lau, 2010). The green marketing also preserves the natural environment and provides advantages to public in more maintainable way (Welford, 2000). As result, the industries should understand the consumer's behaviour and increase the level of awareness including the intention toward green product consumption.

Malaysia government is strongly involved and support the promoting of green foods. The government was launched the good agricultural practices (GAP) program to enhance the development of food quality and productivity. Along the GAP platform, the government introduced Malaysian Farm Accreditation Scheme which focuses on the fresh fruit and vegetables industry. This scheme to convince the yield products are safe, high quality and suitable to consume. Plus, other incentive that Malaysia try to exposed include introducing Malaysia Organic Scheme which provides guideline on the production, processing, labelling and marketing the products based on

Malaysia Standard requirement (Golnaz et al., 2011). The scheme will give benefits to other parties like consumers, producers and workers to become more alert on the natural environment. On other hand, Malaysia government also promoting green product concept through establish of the Malaysian Green Technology Policy which emphasize on the vision of “Green Malaysia”. This will help the nation to overcome the environmental issue and maintain the integrity of national environment development. Not only that, recently the hypermarket nowadays like Tesco, Jusco and Carrefour applied and adopted the program of “No Plastic Bag” during weekend in order to give support and reduce the use of plastic.

The green food certification consists of two grades; green food “Grade A” and green food “Grade AA” (Tan & Lau 2005). Green food “Grade A” discusses on the using of minimum chemicals and was control by the government (Lee, 2009). However, green food “Grade AA” categorized as special one that do not use any chemicals, fertilizers or pesticides ever in the production process. In China, green food has gained positive growth since it is healthy and has safe lifestyle among the consumers. Hence, they willing to pay such premium price for consume green food (Heng & Jia, 2006). Pesticide-free foods are the main priority to consumers nowadays.

1.2 Problem Statement

Malaysia is one of the fastest and developing countries in terms of carbon emission and facing the increasing of energy consumption among other countries. Hence, the government should take into consideration in creating the awareness of environment concern among the society to reduce the greenhouse level. Past research figured out

that 70% of consumers shown their concern about the environment yet they did not consume for the green products (Wong et al., 2012). It can say the consumer's intention is not reliable and not consistent. Hence, the problem statement has been build up in order to understand the engagement of consumers' awareness and consumption patterns of green food.

Each country has different view of green concept and thus they have different purchase intention style toward green foods. By addressing environmental issue, there are various strategies including green social advertising in order to communicate with community about creating awareness (Haron et al., 2010). Awareness and concern about environmental issues do not reflect in purchase behaviours (Dunlop et al., 2011). Furthermore, the past research claimed the environmental concerns are one of factor that influence consumers in consuming green food which is can maintain the nature (Gomiero, Pimentel, & Paoletti, 2011). Despite the demand of green food in Malaysia remains low, however the trend to consume green food and consumers' acceptance towards green food still high (Willer & Lernoud, 2014). Market value of green food estimate AS\$64 billion (RM230 billion) and will expand every year. All these changes in demand for safe and natural food, there are opportunities for significant growth in Malaysia industry and the consumers have the right to choose the good quality for their own consumption.

Environmental issue and problems are widely facing on total destruction (Ali et al., 2011). With the rising concern on natural, the consumers nowadays realize their purchase behaviour will give impact on nature (Abdul Wahab et al., 2011).

According to 9th Malaysian Plan (2006-2010), there are increasing in using chemical substances in agriculture field. In Malaysia, main sources of pollution include open burning activities, motor vehicles, and agriculture industries (Department of Environment Malaysia, 2006). Hence, to reduce the environment issue in developing country like Malaysia, there must increase the great and ecological production by changing the eating of consumers' consumption patterns in human behaviour and practices a good cultural. According Mc Carty and Shrum (2011), it is not easy to embark on studies that relating of understanding environment behaviour. So, there should be more studies about the consumers' awareness and their consumption on green foods.

Head of Malaysian Agriculture Research and Development Institute (MARDI), Datuk Dr Sharif Haron said, the manufacture of green food in Malaysia a bit slow compared to other Asian country. This shows negative sign in growth of agriculture in the country. Furthermore the implementation method of green food did not meet the requirement or standard of procedure (SOP). Besides, marketing problem and lack variety of green foods also become major issues. The problem will cause the Malaysian have a doubt to consume green food in daily routine since the quality of the product too vague. Currently, Malaysia has developed a number of quality assurance programmes with farm certification schemes including the fresh fruit and vegetables sector certification (SALM). However, since the scheme is managed and audited by Department of Agriculture, there is still having lack of transparency. The scheme do not received any recognition of equivalence with other countries or private sectors. The situation creates a negative perception on green food from Malaysia.

In addition, according to FreeMalaysiaToday dated July 19, 2016, Malaysian awareness of green food consumption is less due to the price factor. Head Department of Dietetic, Hospital Tuanku Jaafar (HTJ), Dr Basmawati Baharom concerned how the price of green food could be higher and it supposed to be cheaper compared to conventional products. Past research found that consumers will purchase green food if it is cheaper (Lea & Worsley, 2010). According to Zhen & Mansori (2012) mentioned the high price of any products will be one of the reason why the consumers are refuse to purchase them. Regarding the price as influential factor for green food consumption, the consumers see these products as more expensive than normal food. Price is the main element in the purchasing process and the consumers feel that green food should not be categorized as expensive product. These kinds of products quite expensive due to using high green technology and try to produce high value and best quality. This can be relating to consumer's perception and behaviour about the foods especially in terms of perceived consumer effectiveness. Generally, the perceived consumer can be explain on how the individual react towards the price factor of green food. If the foods are expensive, it might be an issue among the consumers and rather to consume normal foods in daily.

Overweight and obesity lead to adverse metabolic effects on blood pressure, cholesterol, and insulin resistance. In general term, this means the overweight and obese people have increased risks of suffering from disease such as stroke, heart disease and cancers. It was reported that more than 10,000 people in Malaysia died each year from disease linked to hypertension like stroke, heart attack and about

6000 death due to coronary heart disease. At present, 3 millions of Malaysians are suffering from high cholesterol while another 2.1 million Malaysian have diabetes. More than 40,000 new cancer cases are reported and on daily basis, about 110 Malaysians suffer a stroke which is the country's third killer. It is clearly that Malaysia is facing critical unhealthy lifestyle related to health problem.

The most apparent reason of those health problems is unhealthy lifestyle including unhealthy eating habits, lack of physical activity and so forth. Malaysian is tending to eat high-fats foods and put the taste and convenience ahead on choosing food products. In addition, the reported say the consumers rely more on dietary supplements and do not follow the general healthy balanced eating consumption patterns as recommended by the government and other health organization.

Every year millions of people died due to diarrhoea, food borne or water borne disease. According to World Health Organization (WHO), 3 million children in developing countries die each year due to serious illness. In 2010, some 582 million people suffered from 22 different foods borne disease and 351,000 people died (The Star Online, 2015). Hence, food safety has become increasingly important over the past decades and affects their buying behaviour (Knight et al., 2007). The consumers nowadays concern about their health and safe aspects of food products (Shawn, 2004). Along the long production chain, food can be contaminated by virus, bacteria, and chemicals and sometimes from polluted water. Tainted food can causes more than 200 diseases from diarrhoea to cancers. More than 40% of people who fell ill especially children under five particularly in Africa were hardest hit

(FreeMalaysiaToday, 2015). Margaret Chan, director general of UN World Health Organization said the countries must come up with the right policies and standard for prevention and control at source.

Furthermore, more than 100 countries around the world still have no legislation to implement the policies of international food safety systems. When the country do not set the standard of policies and there is no food security, majority the people are not sure what exactly they are going to get the food in market. Eating wrong type of nutrition, having high fat in food could give the consumers heart disease, diabetes and lead to obesity. The WHO's campaign hope it will help and create awareness towards their health by having balanced diet and preparing meals hygienically. The phenomenon of food safety and green concept also affect the Malaysia consumers. Nowadays they are now looking foods which have wholesomeness, tastiness, healthier and safety for their lifestyle. Many Malaysian are begin to consume green food while care about their health (Radam et al., 2007). Past research by Abdul Rahim (2009), indicates the consumers are more likely to have a positive attitude toward green food whereas they concern about environmental and health issue and consciousness.

For the past ten years, the number of fast food restaurant and outlets were increased in Malaysia. Fast food A&W first introduced in Malaysia during 1963. The expanding development of fast food is growing and wins consumer's heart. In fact, the main customer group of fast food is among the students. As we know, the fast food might cause negative health effects include obesity, cardiovascular disease and

some cancer due to excessive portion of fast food, high content of fat, and low content of fibre. It is extremely necessary to addressing student to have better understanding of the problem associated and form a good diet and healthy meal. Student's perception towards consuming fast food because they believes the fast food are convenience and efficient. This will increase the analysis of statistical on fast food consumption. Lack of exposure in green food cause students to choose and consume fast food. Consumption pattern of fast food become a common thing among Malaysian especially the students.

The study was conducted among the students in Universiti Malaysia Sabah (UMS). A survey questionnaire was sent to 600 respondents in 2013. The result shown consumption of fast food among students is once a month which is 66.4% (392 respondents). The main factors they consume fast food was just for fun and saw the advertisement in media. Practically, 89.5% (507 respondents) have great knowledge about nutritious meal. In addition, an online survey was developed on April 2014 and sent to all students enrolled in College of Agriculture, Thailand. A total of 344 students completed the survey. The result shown 84% students consumed fast food and 54% eating at least once a week. Low cost and have a good taste were the main reasons why they prefer more on fast food. Approximately, 54.7% students spent \$5-6 per meal and hamburgers were the top choices among the students. They willing to pay more for the meal but would not select or choose nutrient option like green food. Another survey in University of Minnesota, America showed that the increasing amount of fast food is involving data from 2500 students. A review from Obesity Journal, found that younger people and single ate fast food than adult and married

couples. They also found people who dislike cooking will significantly consume fast food rather than consume healthy food.

In Sweden and Norway, these countries have banned the advertising of fast food to children especially under 12 (FreeMalaysiaToday.com April 10, 2014). In Malaysia, the advertising of fast food only banned on children's programmes and the companies of various fast foods in the country are not allowed to sponsor the event as well. Malaysia should follow the example of Sweden and Norway to ban any fast food advertising include in the newspapers, TV, radio, magazines and online media. As mentioned earlier, consumption of fast food will give the negative effect to the children. It should prevent at early stage before it getting worst. In the study of Ohio State University, Dr Kelly Purtell, he said the excessive of consume fast food could have poorer academic scores at school. This might contributes to the child obesity epidemic. Furthermore, the research used data and sample of 8500 schoolchildren in America and it was reported 52% had eaten fast food between one and three times per week and 10% consume four to six times. The related of fast food leads to slow development in children's brain and it will affect the performance in class compared to their friends.

Thereafter, we could say, the fast food has become an important eating consumption among the students. However, the government legislation is needed to plan and implement the green food consumption and focus on healthy food choices compared to fast food. This is to encourage students to concern their healthiness onwards.

Balanced diet and nutritious meal is main requirement to produce excellent and great students.

The concept of green food in Malaysia can be categorized at the infancy stage to Malaysian. Although there are various green campaigns have been carried out quite sometimes to gain knowledge and awareness. The information is only a little about the consumption patterns of green food in Malaysia. The main issue here, whether the Malaysian consumers familiar with the green concept and being care of environment, health, and food safety. The green food consumption has continuously increased time by time during the past decade in the world. As mentioned before, the demand of green food is increasing due to awareness towards environmental and health conscious. However, there are some extent which is Malaysian consumers should more understand and underlying advantages along with this concept. In China, green food gaining more popular among the consumers. Past research by Zeng and Xia (2013), in Beijing, the majority of household are familiar with the green food and green label. They show great consciousness on health and food safety indeed. They indicate that 60% of the consumers' belief green food is safer than conventional food and at the same time they have efficient and good knowledge of the green food concept.

1.3 Research Objective

This research will be conducted to identify the consumers' awareness and consumption patterns of green food. Therefore, there are four research objectives based on the research.

1. To examine the relationship between environment consciousness and consumption patterns of green food.
2. To investigate the relationship between perceived consumer effectiveness and consumption patterns of green food.
3. To justify the relationship between health consciousness and consumption patterns of green food.
4. To identify the relationship between social influence and consumption patterns of green food.



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1.4 Research Question

The problem statement in this research will be answered by focusing on the following research questions:

1. Is there any relationship between environment consciousness and consumption patterns of green food?
2. Is there any relationship between perceived consumer effectiveness and consumption patterns of green food?
3. Is there any relationship between health consciousness and consumption patterns of green food?
4. Is there any relationship between social influence and consumption patterns of green food?

1.5 Significant of Research

The major significant of the study is to create awareness and enhance the consumer's knowledge toward green food. Green food consumption can develop ethical behaviour as much it safer, healthier and have good quality compared to conventional products. In this study, different parties can apply and build positive attitudes among consumers by providing effective incentives.

The government especially, as well as other party should take the way on how to protect the environment. The government along this way should encourage the public to perform and adopt green behaviour in their lifestyles. The green concept was applied since the environment and human lives are threatened by environmental issue including the global warming, air and water pollution and ozone layer depletion. The Malaysia government strongly support the concept in the nation and introduces the agencies and ministries to protect the environment. Yu et al (2014) stated the government should emphasize the enforcement of certification system such as Safe Food, Green Food Certification and Organic Food Certification in order to build up the trust among the consumers towards green foods. Green labelled logo can be found on the food products including Malaysian Farm Accreditation Scheme, Malaysian Organic Scheme and Malaysian Aquaculture Farm Certification Scheme (Teng, Golnaz, Zainalabidin, Mad Nasir, 2012). Government should provide the wide technology of the green products so that it can encourage consumers to going green (Tan, 2012).

The framework mentions in this study (environment consciousness, perceived consumer effectiveness, health consciousness and social influence) giving the

beneficial to the people to increase the awareness of green food consumption. Past research by Haryanto et al (2014), clearly said that are growing concern of the environmental degradation all over the world. The conscious of self-identity can help the consumers to purchase green food as they believe it able to fight against the environmental ruin. The concept of the green food can be popularized if the society becomes more knowledgeable and alert with the environmental issue. The awareness of green products nowadays will generate an environmental ethic and consumption behaviour (Jang, Kim, and Bonn, 2011). The framework displays a better understanding about the consumers' awareness and consumption patterns of green food. The consumers who have knowledge about green food as the result can enhance the environment and having quality life of community (Haryanto, 2014). According Laroche, Bergeron, and Barbaro-Forleo (2001), the consumers will go green if they know their behaviour will lead and giving impact to environment.

In addition, other party like marketing organization should motivate their consumers in providing more information about green food. This is involved advertising, green packaging, green awareness program and promotion. The marketers can minimize the problem by engaging the activities such as green marketing (Soonthonsmai, 2007). Green marketing defined as the overall management process for identifying, anticipating and satisfying the needs of customer and society in a sustainable way (Chen & Chai, 2010). Research by Micheal R. Solomon (2009) identifies the firm that adapt the philosophy to protect the natural environment as business activities is an instance of green marketing. The marketers can initiate the market research and use the result to recommend the green product improvements in the future. Furthermore, market the green food message through advertising can avoid the

environmental issue and harmful effort. The consumers need sufficient information about the green business so that it can promote the awareness of its product histories, including origin and manufacturing. Meanwhile, the marketers should promote and increase the awareness on green food among the students. Thus, the findings can further studies are require to address the beliefs and awareness of the consumers to seize interesting marketing potentials.

1.6 Chapter Layout

The first chapter discuss on the background of the research, problem statement, research objective, research question, significant of the study, chapter layout and the conclusion of the chapter one. Second chapter in the research provide the conceptual and literature to all purpose of the study. This include by review relevant journals and articles which done by other past researchers. This will discuss clear information and give overall image of the research. Chapter three illustrates the research hypotheses, research design, data collection, sampling technique, questionnaire design, and conclusion. This chapter will discuss the specific procedure and technique that applied to meet and understanding the research problem. Chapter four will discuss about data analysis. The tables were used to assist the presentation of the study. This research uses SPSS Version 22 to evaluate the data. The summary results of all hypotheses would be presented. It consists of summary include the implications and recommendation for the future research. Plus, the limitations of this study also be stated and highlighted.

1.7 Conclusion

The research tested the consumers' awareness with several elements on consumption patterns of green food. In the next chapter, the literature will be illustrated by followed the relationship between independent variables and dependent variable. The results and statements that have done by past researchers will be present and explain in the next chapter.



Chapter 2

LITERATURE REVIEW

2.1 Introduction

This chapter discuss the variables that related to the past research. In this chapter, it involves secondary data from various sources that used to support the research in this study.

2.2 Consumers' Awareness of Green Food

The consumer awareness refers to the understanding by a consumer of their rights in consume any product or service which being marketed or sold. In addition, creating awareness of a consumer is begin with create their rights and duties on what they consume. This involved the information, choice, safety and the right to be heard. The consumers nowadays should aware and concern towards the environmental matters and society. Since the trends of green products are become sustainable consumption, it necessary to stimulate the public awareness among Malaysian citizen. Public awareness has become most significant factor affecting environmental problems. There need to increase the level of awareness and attitudes to effect the behaviours. The consumer education and awareness motivate people to purchase and consume good products and do not give harmful to them. Every member of the society is a consumer. So if the consumer is aware and rationale, they complete the society becomes healthy and alert about their rights especially in consume healthy product like green food.

2.3 Definition of Green Food

Food which is produced without using conventional pesticides can be labelled as green food. Green food are those that are environmentally safe, produced using environmentally sound method and do not use modern synthetic inputs such as pesticides and chemical fertilizers. In addition, green food is not processed using irradiation or chemical food additives. As we know, the green food is perceived healthier and safer compared to normal food. The consumers believe the green food is healthier compared to conventionally food. The outcome of the product is some of the consumers commit themselves to consume the green food for daily life.

2.4 Green Food Economy

Green growth means promoting the good economic while reducing the pollution, minimising the waste and inefficient use of natural resources. Green food and more effective food chain can contribute towards the sustainable growth and maintaining the biodiversity. It also supports the local development of the country. According past research in North Sumatera from May to Jun stated that, the economics of green agriculture lead to high income to farmers. Green food is the best way to consume as it requires for good health with natural and safe products. Nik Abdul et al (2009) discussed the consumers are willing to give preference of green food consumption products over other conventional products. According to Tang et al (2004) defines green eco-label utilizes the information of environment implications and influences the consumers on how the products are made. Sammer & Wustenhagen (2006) explained how green eco-label play as an important marketing tool in promoting the products especially in food industry. This will help and enhance the consumers'

awareness and their knowledge about environmental friendly products to distinguish green food and normal food. In addition, an advertisement of green food should be continuously in terms of encouraging the consumers to consume the products. The consumers will react towards the green advertisement as it involved environmental concern (Davis, 1994).

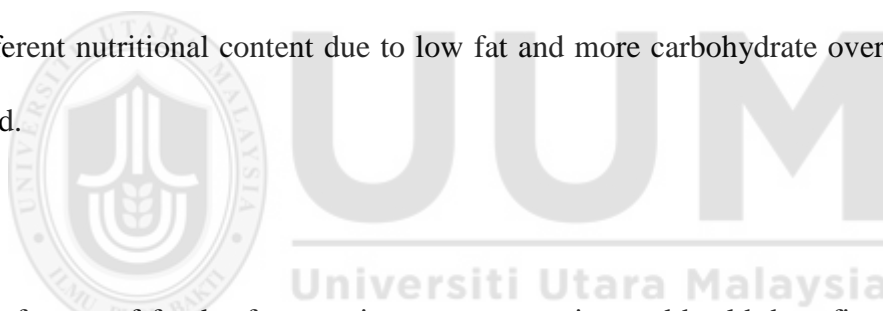
2.5 Consumption Patterns of Green Food

Attitudes and knowledge are strong predictors of behavioural awareness on green food consumption. Consumption of green food as well as the broad food industry in Malaysia to understand the consumers motives in consuming these products. Consumption of green food is one of option without damaging the environment and contributes to a better sustainable world ahead. Currently, the consumers believe the consumption of green food can provide a good quality, and better performance to their life. As mentioned earlier, green food are safe for consumption, fine in quality, and provide nutritious. The consumption of green food in Malaysia is growth rapidly since it leads to developed country.

The market and consumers experience give the impact towards their food consumption patterns. Changing the old eating lifestyle from normal products to green food is a priority since the products could give the benefit health to our body indeed. According to Hill & Lynchehaun (2002), the consumers should understand what they consume every day and it will able to control their consumption in a good way. Armin, Chin and Neda (2013) mentioned high level of defect in green food would affect the consumers' consumption. A specific damage will make the issue even bigger. So, the authorities should come out with general information and

knowledge to help consumers to consume good products. However, according to McClean & McEachern (2002), to increase the awareness and consumption of green food, it is important to add flavour to improve the taste of green food itself.

Natural content for example no additive substances and free from any chemical substances are the main reasons to consume green food. This will give the positive view and consumers will change their lifestyle to a better consumption (Zeinab & Seyedeh, 2012). The vitamins that content in green food are higher than conventional food. Green food content high Vitamin C to protect the body as it could help to fight the serious illnesses like cancer. Regarding the weight control, green food has different nutritional content due to low fat and more carbohydrate over than normal food.



The factors of food safety, environment protection and health benefit are associated with consumption green food (Blandford, Bureau, Fulponi and Henson, 2002). Awareness of environment consciousness and increasing demand of green food make the consumers turned to this product for having better living lifestyle (Williams & Hammit, 2011).

Green food consumption and production should view as holistic concept and respect the capacities of natural ecosystem. It should include all the consideration such as sustainable lifestyle, diets, food waste management and minimize the impact on the environment. The production nowadays will give an effect to present and future

generation. Consumers who have strong influence through the way they consume in their food. Food convenience, food choices and food availability will affect the consumers' consumption.

Abdul Rahim (2009) found similar studies in Malaysia where the consumers that concerned about their health and environment protection will have positive attitude on sustainable food. This will lead to increasingly growth of agriculture product (Golnaz et al., 2012).

Ethical concern stated by Ottman (1992) which green food was produce based on the consumers, government and organization attributes based on the Environment Management System (EMS) procedure, food safety and environment consciousness. Some aspects of green food consumption will contribute to an individual's happiness (Xiao & Li, 2011). They believe consuming more green food could give and associated with high level of life satisfaction ahead.

2.6 Environment Consciousness

According to Schultz and Zelezny (2000), the environmental consciousness is rooted in a person's concept of self and how the individual perceives him or herself to be an integral part of natural environment. Environment consciousness is one of the factors that lead to consumer to making any consumption including green food. Past research has been said that consume green food is one of method that can reduce the hazardous to the nature. Nowadays, consumer are become more concern to protect

the environment. They believe consuming green food could help to solve environmental problems. Besides, the environment consciousness could be defined as individual's value of natural protection.

2.6.1 The relationship between environment consciousness and consumption patterns of green food

According to Morgan Polls (2006) majority of the consumers are concern and aware toward the environment. The consumers who are aware and interested in environmental issues are called green consumers (Soonthonsmai, 2007). They believe consuming the green food will help and overcome the problem of environmental conscious (Laroche et al., 2001). The consumers should have more knowledge about environmental related to the issues and it should have positive relationship toward the green food. Past research found consumer's awareness toward the green food has an optimistic view on environmentally conscious living. In addition, those consumers who have positive thought about environment consciousness, they tend to consume a friendly product which is green products. However, there are some previous research mentioned, huge price different and inconveniences may deter consumers in buying green food. Not all the consumers are willing to spend high price for green products. As long as the products are quality and able to meet the desire, it will be their choice rather than purchase environmental products. However, if the consumers are pro-environment, they tend to pay high of the green food and the price is not the main factor in preventing consumers to do so (Chyong et al., 2006).

Johri and Sahasakmontri (1998) said the consumers purchase green food not because care about environment issue, but might consider other aspects of product attributes like price, convenience, availability and the quality. Anderson and Hansen (2004) said the price was the important attribute in American. Hence, According to Ng, Png and Tan (1993) prove that some consumers will purchase green food if the price is cheaper or comparable to normal products.

Report from Massachusetts Department of Environmental Protection (2002) mentioned the difficulty in identify the green foods is because of the lack in utilize eco labelling or green labelling. The consumers should earn sufficient information and able to understand the environmental issues. Previous studies suggest that the consumers should purchase and willing to more on green products (Bigsby & Ozanne, 2002). Some authors said the consumers are lack information and inaccurate about green products especially on products label. So they prefer to purchase normal goods instead of green products (D'Souza et al, 2006; Glegg, Richard, Heard and Dawson, 2005).

In Malaysia, more people demand safer, healthier, hygiene and environmentally friendly of green food (Abdul, 2009). According Chin (2013), the consumers should understand and be responsible toward the environment. Tanner and Kast (2013), consumers consume green food strongly facilitated by positive awareness towards the nature protection and environmentally consciousness. Malaysia government suggest various strategies to implement the consumption and development of

environmental protection. The government should to educate Malaysian in gaining awareness and take extra care about environment (Harun et al., 2015).

Environment consciousness and awareness are important factors in preserving the nature. The number of vegetarian nowadays has been increase time by time compared to last few decades. Another reason why the people adopt vegetarian lifestyle is because their care about environment. According to Dunlop and Van Liere (1978), environment conscious is said to global attitude with indirect effects through behavioural intention. Recent studies found that the consumers consume green food because of the environment factors itself (Ahmad, 2010; Gracia & Magistris, 2013; Yin, Wu, Du, & Chen, 2010).

Environmentally friendly products could be said the products with recyclable packaging to improve the quality of environment (Abdul Muhmin, 2007). The quality of improvement refers to the level of knowledge, attitude, concern and value of practices among consumers (Mansaray & Abijoye, 1998). The consumers feel obligated to protect natural environment. Plus it can save the natural resource on Earth. In addition, the consumers with positive attitudes and belief will relate the environmental issue with their daily lives, family and work (Chen & Chai, 2010).

The consumers consider food quality and freshness also free from any toxic in any products (Lim, Ting, Ng, Chin & Boo, 2013). According to Roberts & Bacon (1997), environmentally consciousness can be detailed to the human thought, feeling, and

behaviour toward the environment. The New Environment Paradigm (NEP) used the scale to measure of environmentally conscious with the environmentally responsible if attitude and behaviour are measured at the same level.

According to Nemcsicsne Zsoka (2005), environment consciousness describes five dimensions to understand environment awareness. There are environment knowledge, environment values, environment attitudes, willingness to act and actual action. All the aspects can solve the problem of environment issues. These also related to the behaviour of human being on how they react towards the natural. The consumers who believe in self-improvement and put the effort on environment consciousness will protect the environment in their society (Fraj & Martinez, 2007).

The consumers who purchase and consume green food or any green products not because of healthier aspects, but at the same time could help in sustaining the environment for next generation. They willing to change to other product that can give benefit to the nature and prevent consume any products that causing pollution (Fraj & Martinez, 2007). Other researcher by Mostafa (2007) said the consumers who believe in environment consciousness are well educated and have more money to spend. They expect green food or other products can satisfy their needs and desires. It was mentioned before, the consumers ready to pay premium price for green food or other products since it can verify the environmental issue and could help nature for better life.

Next, previous study by Laroche et al (2001), has shown 84% of consumers in Croatia expressed their concern on environment issue and changed their conventional food consumption on green food because of their concern. So these are the positive relationship between environment consciousness and consumption pattern of green food. Zhu et al showed that environment consciousness and value can promote green food consumption. The seriousness of environment issue is getting worst and it has increased the public concern toward limited natural resources (Rezai, Phuah, Mohamed & Shamsudin, 2013).

In addition, according to Jang, Kim and Bonn (2011), the awareness of green food is important to create the environmental ethic and the change of consumption behaviour. Previous research by Tsakiridou et al (2008), a study of Greek consumers seems to show how they are informed about environment issue. The factor influences them to consume as much as possible green food in daily life.

Green consumption is one of the ideas and refers to willingness to purchase and consume friendly products that have least harm to the environment (Young, Hwang, McDonald, Oates, 2010). External influence for instance, the price and quality of consumers' beliefs about the environment performance were investigated to identify the relationship with green consumption (Sima, 2014). Past research mentioned the consumers purchase and consumes green food due to having low environmental impact issue ahead (Gomiero et al., 2011). According to Chris (2008), stated that the consumers who are care about environments friendly have a desire to eat as much of green food.

According to Roach (1991) food safety and environment protection are the major factor for consumers to purchase any products. This is relating to consumption on green food since it will not harm the environment. Study by Chris (2008), found that the consumers are beginning to have better life and become more environments friendly besides desire to eat and consume food as known green.

Environment consciousness and awareness has been ranked as the most important aspects of environmental behaviour (Gatersleben et al., 2002). According to Padel & Foster (2005), the consumers who are not aware about environment issue because of lack exposure to the communication. The consumers are need enough marketplace information about green foods such as the prices, availability the products in the store and the shopping location.

According to Rokka & Uusitalo (2008) claimed that the consumers with high level of environment consciousness will always consume green products especially green food and their evaluation of ecological view are high. Consumers' awareness will capture the motivational factors and influence them to consume more of green food (Ramyah, Lee & Mohammad, 2010). Green food is one of the satisfactions to consumers and meets their need without harm and damaging the environment and at the same time will contribute to a better world (Shamdasami, Chon-Lin & Richmond, 1993).

2.7 Perceived Consumer Effectiveness

The concept of perceived consumer effectiveness as a measure of the extent to which an individual believe he or she can be effective in pollution problem. The effectiveness is measured as an element of the personality variables and used in the environmental studies. The intention and behaviour of a person is the function depend on his/her activity. In addition, the perceived consumer effectiveness is the judgement of any individual about the way and how it can give effect to his/her behaviours. This is referring to the actions taken by the consumers in solving nature problem. Consumers' awareness and their response to environment conscious are the role of their belief and the people can positively influence towards environmental problems. Hence, the belief known as perceived consumer effectiveness and tries to take into consideration on social impact of their consumption.

2.7.1 The relationship between perceived consumer effectiveness and consumption patterns of green food

Lee and Holden (1999) mentioned perceived consumer effectiveness is a main significant predictor of ecologically in consumer behaviours includes using energy-saving and recycling. High perceived consumer effectiveness is an important part to remind consumers to put their trust and thought into real consumption (Vermeir & Verbeke, 2011). According to Chen (2007), the perceived behavioural can control the individual perceived performance. They support the intention to engage certain behaviour such as consume green food. In contrast, according to Park & Lee (2013); Lee, Kim & Chai (2014), people with positive attitude and awareness on green

foods' consumption might have a high tendency in support the nature compared to the people who try to solve environmental problem.

Perceived consumer effectiveness is related to an individual perception and thought in environmental behaviours. According to Lee (2008), this perception might be true and it is one of the factors of green consuming among young consumers in Hong Kong. The research explained the perception could make a different in influencing teenagers to consume green food or not. In addition, perceived consumer effectiveness is closely related to the concept of perceived behavioural and it is popular in investigating green consumers. The concept described the consumers' intention to consume green foods based on their awareness, behaviour and perception about social pressure.

Perceived consumer effectiveness is one of changing phenomenon. In other word, it can be observed in various situations (Kim and Choi, 2005). If the consumers believe an environmental problem can be solved easily, they will change their consumption toward green foods. Hence, it can translate their positive attitudes into actual purchase (Ellen et al., 1991; Berger and Corbin, 1992; Lee and Holden, 1999). Perceived consumer effectiveness can reflect the belief of people which like consuming green foods and helping to solve environment issues such as air and water pollution. According to Kim and Choi (2005), it proves that there is positive relationship with environment awareness.

People with high exhibited in perceived consumer effectiveness are likely to be more environmentally concerned compared to those people who have lower perceived consumer effectiveness (Kim & Choi, 2005; Lee and Holden, 1999). The concept is more to the dissimilarity since it differs from one to another. The different based on their knowledge and life experience in consuming any product.

The personal factor such as good attitudes, sustainable behaviour and sociocultural environment can help the consumers to strengthen the relationship of attitudes-behaviour on consume green food. Plus, perceived consumer effectiveness found directly influence consumers in consumption of green food and have the positive impact on intention to purchase the green products (Wang et al., 2014). However, past studies by D'Souza et al (2006), argued that consumers perceived the performance of green food to be inferior when compared to normal food. The consumers who are loyal to normal food are tending to choose conventional diet compared to green food. In addition, Miller & Layton (2001) suggested the consumers who stay with particular brand of any products because of the consistent performance and quality of the product itself. The consumers are least likely to change their consumption of green food since they are consuming regular food for a long time.

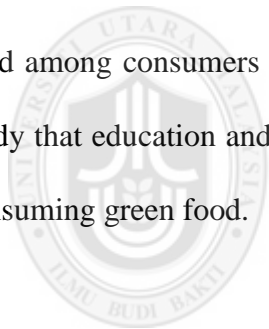
The consumers will have a better understanding about their behaviour and consequently increase the awareness on green food. Engaging to motivate people will enhance the life of consumers' quality of life. (Haryonto, 2014). Besides, self-identity will lead the consumers to consume more green food as they believe this

product able to fight environment issues. According to Aryal et al (2009), consumers decide to purchase or consume any products based on three elements; knowledge, attitude and intention. Consumers' knowledge is referring to the effects and what they decide to purchase. This includes the type and quality of information on the products. Thus, knowledge and awareness are the main aspects in consumers' behaviour.

Consumer perception is a dynamic process in term of change in idea, behaviours and activities. This is along with how it is learnt, experienced and help for the marketer's research (Padel & Foster, 2005). Moreover, education reported as a significant factor that influence or affecting consumer attitude towards green food (Gracia & Magistris, 2007). People who have higher education are more tend and likely to express positive attitude or awareness on green food.

According to Kim & Choi (2005), perceived consumer effectiveness is supposed to be a function of how consumers believe in their capacity and how they react to a positively environment. This is including to individual's intention to behave in certain way by his/her attitudes towards positive behaviour and perception for green consumption (Park & Lee, 2013). Other researcher by Antonetti & Maklan (2014), explain the individual's experience of post –consumption will lead to positive vibe of perceived consumer effectiveness. They suggest perceived consumer effectiveness is enhanced by the effects of consumption pattern and might include some aspect which is special personality trait (self-monitoring).

Plus, perceived consumer effectiveness can be related to the concept of internal locus of control (Joonas, 2008). This means, how an individual belief in his/her abilities to control their behaviours on consume any products. Author by Hjelmars (2011) suggested that consumers should continually consume green food as the products can increase the perceived consumer effectiveness in themselves to maintain the good health. In addition, the concept of perceived consumer effectiveness can refer to self-evaluation in the terms of environmental issue which is contributing to pollution matter. Research by Sudiyanti (2009) found that the perceived consumer effectiveness is the most significant especially among women to consume green food products. In addition, it can be relate to external variables such as race, age, education level and income that have strong relationship toward awareness of green food among consumers (Phuah et al., 2011). The statement was supported by other study that education and race will influence the perceived consumer effectiveness in consuming green food.



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2.8 Health Consciousness

Health conscious examines the degree of health concern that integrated into a person's daily activities (Jayanti and Burns, 1998). The worldwide phenomenon that people have become more worried about their health and consumers are seek out certified products to protect themselves from any toxins and carcinogens. The consumers believe the green food have high quality on nutritional value. Plus, the products do not contain preservatives or artificial colour. In addition, the green food could be defined as the foods that are safe, fine quality, nutritious, and healthy to consumers. Health consciousness is considered as a subjective motivation to improve

the individual's health. The marketers and industry are more focus on the safe and health aspects especially in food products.

2.8.1 The relationship between health consciousness and consumption patterns of green food

After a while, green food more popular across the world and have a good observation among the consumers. Consumers become more aware and concern about health and safe according to their foods and consumption. Previous study by Rezei et al expressed green food not only about being organic, but need to consider all aspects or concept of food safety, health issue and environmental hazard. For those who are concern about the health issue, they will consume green food as their routine daily. Lack of knowledge on green food is the main factor contributing to health problems (Sharf, Sela, Shoob, Shai, Zamir and Zenther, 2012).

The quality of green food is better than normal products. They have good tastes and free from any chemical substances. According to Rahim (2009), the consumers who are concerned about green food displayed positive attitude towards the consumption in Malaysia. They tend to change their daily life to new way in consuming green food. Lockie, Lyons, Lawrence and Mummery (2002) explained green food is natural content and nutritious. It is the main reason why the consumers should purchase this kind of food instead of normal foods. The natural content also can give right impact on consumer purchasing behaviour (Zainab & Seyeded, 2012).

Natural ingredient contains high vitamin substance in green food compared to ordinary foods. For example, Vitamin C in green food has high percentage to protect the body. Hence it would help to fight serious illness like cancer. Past research by Armin et al (2013) showed the green food can reduced the growth of cancer cell in the patient body. By introducing natural technique, the milk was produced more valuable with high percentage that required in human body (Huber, Rembialkowska, Srednicka, Bugel, 2011). In addition green food has low fat and more carbohydrate which is different from conventional food (Armin et al, 2013).

Another research by Lea and Warsley (2005) found the majority of Australians choose green food compared to normal food because of high percentage of vitamin and minerals which are bring more benefit health especially to woman. This theory is supported by Lairon and Huber (2014) that green food contains more minerals and antioxidants. The consumers buy green food mainly because of health benefit (Shepherd et al., 2005). There are theoretical framework examines the healthiness of green food. For example, obese people are perceived eating “inappropriate” food like have high rate of sugar and fat (Weiner, Perry and Magnusson, 2008).

In addition, the consumption of green food is good among the children (Huxley, Burke, Roderick, Main & Whay, 2003) as it safer and healthier. The past research declared the consumers purchase green food for their children due to lack of existence of pesticides (Davies et al, 1995 and Tregear et al, 1994). Hence it can be concluded that health is an important factors that influence consumer’s awareness towards the green food (Gracia & Magistris, 2013).

Consumer's choice is influenced by many factors. One of them is about health benefit. They believe consume high green food able to increase the level of health in their body (Brugarolas and Rivera, 2005). Several studies mentioned health as an important key motivator to consume green food. However, these studies by Tarkiainen and Sundqvist, (2005); Michaelidou and Hassan, (2008) agreed that health conscious do not give an important aspect on purchase green food. The result explained health conscious was a least important influence.

Creating a market for health products are increasingly today due to consumers concerned with health issue. Consumers believe the ingredients of green food are lack of artificial ingredients and other harmful substances. The report by Lairon and Huber (2014) mentioned 94-100% of green food's do not have or contain synthetic pesticides. Researchers found that the consumers perceived high value on health and food security (Ahmad, 2010).

Health conscious are aware and concerned about their health, and motivated the consumers to improve their quality of health by engaging self-conscious regarding the health (Newson et al., 2005; Kraft & Goodell, 1993). Such individuals tend to be aware of are involved the good nutrition and their physical fitness (Kraft & Goodell, 1993). Past research by Lockie et al., 2002 identified the interest and priorities in health as a primary factor in consume green foods. In addition, the consumers believe the green foods can improve their health and appreciate the healthy and natural foods since it can affect their attitudes to consume these kinds of foods.

Consuming green food daily could stand for a diet and healthy meal. Health concern more seriously thought and idea to become powerful motive to consume green food. Consumers have the right to choose their own consumption and it is influence by many factors. One of them is related to health concern. On the other side, consumers consume green food as an investment to get good health (Bourn & Prescott, 2002). Several studies considered health as an important key for consumers to choose green food (Schifferstein & Oude Ophuis, 2008). However, the consumers choose green food not only because of health factor, but the taste too (Fotopoulos & Krystallis, 2002). In addition, according Phuah et al (2011) found that education level and high income will influence consumers and more intent to consume green foods due to concern of health consciousness.

There are some author disagree on health factor that lead to consume green food. The studies by Michaelidou & Hassan (2008) and Tarkiainen & Sundquist (2005) do not consider it very important. Their thought, health benefit is the least important aspect on consume green food. Studies in Thailand, consumers realize the issue of health consciousness is rather than before. Hence, they were looking for nutritious food without or less chemical substances. Organic agriculture and farm are expending more in Thailand year by year. McCarthy et al, showed consumption of green food in China is motivated by health conscious and animal welfare. Plus, they believe consume this kind of product in are healthier and environment friendliness expectation.

According to Europe Union survey, the consumers who concern about food nutrition will consume and purchase green food while making the purchasing decision (De Passille & Rushen, 2005). Consumers consume green food as their primary needs and the factor of quality, convenience, and affordability are met and become priority (Ottman, 1992).

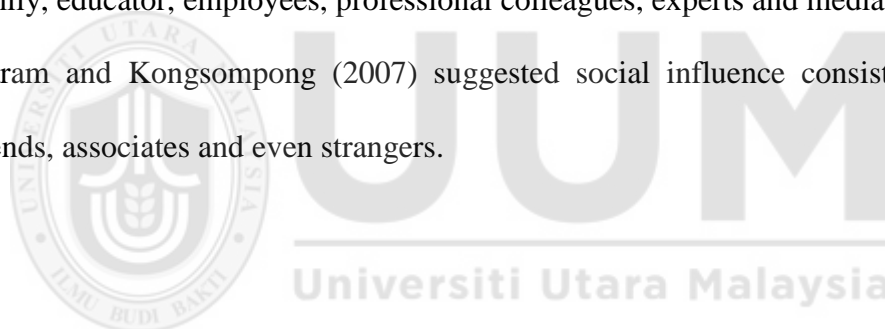
The importance awareness such as confidence in food and health consciousness has combined as main attributes for the consumers to consume green food. The consciousness towards consume any products will changed and growing well with the increase of age. The survey on Nigerian consumers believe and agree with the statement of green food is healthier, tastier and have better quality in terms of no harmful effect compared to conventional food (Dipeolu et al, 2009).

Another study by Shepherd et al., (2005) found that the consumers who consume green food due to health benefit are better than who doesn't. Effective advertising and campaign are needed to create the awareness of consumers and willing to spend more money on green food (Garcia-Gallego & Geogantzis, 2011). India is one of developing countries for marketing green food as it was point-of-view in health than normal food. However, they need the confidence among the consumers especially the loyal one to consume green food from their country (Chakrabarti, 2010).

2.9 Social Influence

The concept of social influence is discussed on the people that can give a big impact or influence other person. It can be meant as the situations that a person share the same thoughts, belief and values that he or she is communicating with. Furthermore, the study by Feick et al,(2003) suggest the social network and product involvement are related. Past research have found the social influence variable have an important aspects on eating and consuming behaviour.

Researcher by Klobas and Clyde (2001) specified social influence consists of friends, family, educator, employees, professional colleagues, experts and media. Meanwhile, Maram and Kongsompong (2007) suggested social influence consists of family, friends, associates and even strangers.



2.9.1 The relationship between social influence and consumption patterns of green food

Social influence is one of the factors that influence consumer to consume green food. This can be relating to high social interaction among us that able to encourage people to purchase green food. Hence, there are positive relationship that has been shown from previous studied (Chen, 2007; Lodorfos & Dennis, 2008; Vermeir, 2007; Phuah Kit Teng et al., 2011). In addition, the social influence also gives positive vibes to the attitude (Tarkiainen, 2005). In the area of green food consumption, the past studies have found that social influence have either enabling effect on eating behaviour (Herman, Roth and Polivy, 2003). Herman et al., (2003) argued food choice is influenced by certain desire and impression to social norms.

According to Ooi et al., (2012) he figured out the peer pressure as a part of social influence to persuade the consumers on green consuming among Malaysian consumers. Past study by Ohman (2011), indicates the socially desirable acts such as consuming green food were motivated by the social norms. However a study in Jakarta by Irawan & Darmayanti (2012) mentioned that social influence was a second lowest factor on the green food among the university students. Hence, it can said social influence do not have a significant effect on green food consumption. So, there are author suggested to increase the knowledge and green marketer should consider social influence as an important determinant because young generation were easily oriented in nature.

In addition, according to Tarkiainen (2005), social influence can attract the consumers to consume green food for their life. The surrounding plays an important role to encourage people to start and changing new life in consuming green food. Lobb, Mazzocchi & Traill (2007) mentioned there are positive relationships between how the social influence can attract consumers to purchase green food. DeLamater and Myers (2010), stated the social influence is a change of person's attitude and behaviour which is influenced by other. The other research by Rashotte (2007), social influence is the revolution of an individual's thought feeling and attitude which is the result of social interaction with other individual or any group. According to Ohman (2011), social influence plays an important role in influencing consumer to purchase and consume green products.

Past research by Pomsanam et al (2014), the social influence giving the slight impact to the consumers in Thailand and Cambodia. The result has been discovered that the consumers purchase green food because of themselves, not from surrounding like family, friends, colleague, or social media. Besides, social influence has long been recognized as an important force in determining an individual's consumption behaviours. According to Mangleburg, Doney and Bristol (2004), the impact of social influences could be a more conscious level. The past research suggests the consumer's green consumption behaviour is shaped by social influence.

Baker and Ozaki (2008) declared the social influence has a powerful relationship to nature friendly which is able to drive the people to consume green food. The research also concluded the social influence has a direct and significant effect on intention to consume green food. Plus, peer influence also able to encourage consumer consuming green food. An individual is highly influenced by his or her social surrounding including the relatives, friends, family, or colleagues (Han et al., 2010). Researches by Ryan (2001), people are more affected with their peers' belief and behaviours especially in young adolescent stages. The young generation always get influence from their friends to purchase specific products. Indeed, they tend to purchase for green food when their friends do so.

According to Pfeffer (1985), both attitude and behaviour is the major prominent themes in literature of sociology and social psychology to determine individual's environment. It can be said, social influence refer to social interactions occur between individuals in a natural environment. Food consumption rate and amount

can be influenced by social contextual variables (Schachter, 1971). The past study showing the people have more comfortable to consume green foods due by the influence of social stigmatisation.

Social influence also involves mass media that able to give huge impact to people to purchase green food. The consumers believe the mass media can give and gather information from a variety of information about green food. The consumers can get the news about environmental issue through mass media such as TV, magazine, radio and newspapers. Past research by Moschis & Churchill (1979) mentioned, the young people's purchase decision can be influenced by mass media and gather all information about green food through them.

The concept of green food can be more popularized in Malaysia if the society becomes more alert and aware with environmental issue. Social influence involved the marketers who introduces and generate knowledge about consumption on green food. The strategy involved advertisement, green packaging, promotion and green awareness program. Marketers who promote green marketing can satisfy consumer's need and at the same time can avoiding harmful effect on the natural.

Social influence and awareness is one of the interesting factors to study the consumers of consumption pattern in green food (Arttachariya, 2010). Study in Thailand, many kinds of media announces the benefit and advantage of consume green food and it increasing the consumer knowledge and information about the

product (Flight, D'Souza & Allaway, 2011). Individuals in collectivist culture more likely engage any activities with family members and friends. But, individualist prefers to work or have any activities alone (Choi & Kim, 2005). Understand the change of food consumption patterns in Malaysia is extremely necessary and social influence could be the main scopes or dimensions in measure the concept of consuming green food.

The value of crucial part is influencing people when the consumers feel the presence of others (Baker & Ozaki, 2008). Most of the people will act what their peers or other people do. Social influence in young consumers is strongly affected by the group they belong to and it easy to make any changes (Baker & Ozaki, 2008). Moreover, according to Bush et al., (2001), social influence also can be relate to direct important role in individual itself for example father, mother or teachers that have a great impact on gaining knowledge especially among the young consumers regarding the consuming of green food. In addition, role models or endorsers can also categorize to induce a social pressure in terms of high status and expensive products.

Another study was conducted by Feick (2013) mentioned social network and product involvement are co-related. Usually, young consumers are impressively influenced by the social network they belong. Thus, they will collect the information from the people around them and decide to consume their own brand choice. In addition, Kalafatis et al (1999) explained social influence could be defined as an action whether should or should not be performed by a respondent's referent in point of

view. The referent could be neighbours, friends, colleagues, teachers, organization and forth. In term of parental influence toward their children (young consumers) has forced some positive significant impact. At adolescent stage, parent shows and play an important role and main socialization factor to them. The children will consume what their parent do and tend to follow the specific products or brand same as their parents (Chaplin & John, 2010). Previous studies by Ryan (2001) peer influence also shape and contribute consumers to consume green products. People may affect with their peers' beliefs in their development stage especially in young generations. In China, the survey was done and the children ranked the friends as third important influential factor (McNeal & Ji, 1999). For instance young generations would choose and purchase what their friends do based on their preference. Mass media also one of social influence and found that young consumers have become more interested to gather the information from various sources. This includes television, magazine, radio and newspapers.

2.10 Conclusion

Different literature review on independent variables (environment consciousness, perceived consumer effectiveness, health consciousness and social influence) and dependent variable (consumption patterns of green food) were discussed in this chapter. Hence, measure the variables are important to get solid evidence in the study. For the next chapter, it will illustrate theoretical framework and research methodology including the collection data and data processing.

CHAPTER 3

METHDOLOGY

3.1 Introduction

The purpose of this research is to gain knowledge about consumers' awareness and consumption patterns of green food on the basis of factor identified. In Chapter two, it has been discussed and reviewed the past literature regarding the awareness on green food among consumers. In addition, prior studies indicate that aspects such as environment consciousness, perceived consumer effectiveness, health consciousness and social influence are the factors of consumption patterns of green food.

Research framework and research hypotheses come out based on the past research. The test of the methodology will be discussed in this chapter. In this chapter it will present of theoretical framework, research hypotheses, research design, target population, sampling technique, and discussion of questionnaire design.

3.2 Theoretical Framework

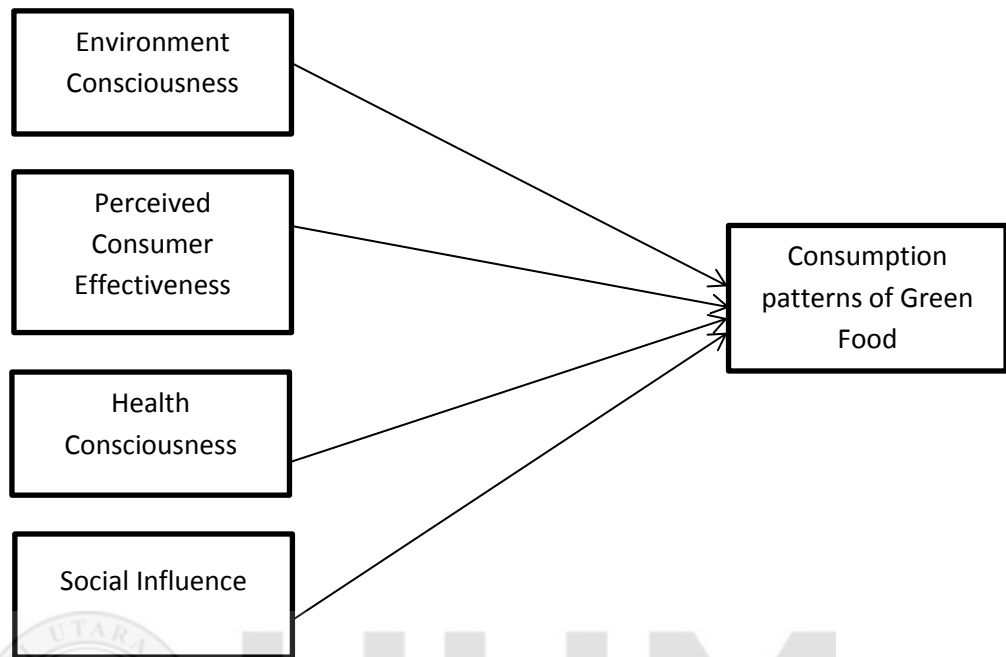
The main purpose in this research is to identify the consumers' awareness and consumption patterns of green food. The theoretical framework is the foundation of the entire research project is based. It is developed, described and elaborated the network among the variables that are answer the problem situation. The basic of theoretical framework should be a variable that relevant to the study and clearly define; a conceptual model that discusses the relationships between the variables in

the model and it should be a clear explanation to the relationship exists. From the theoretical framework, then the testable hypotheses can be developed to examine the theory formulated whether it valid or vice versa. The conceptual research explained the relationship between independent and dependent variable. The variables that have been used in this research have been studied by past researchers.

Green consumerism is an aspect that deals with the consumer behaviour research. In this part, it becomes clear to define who green consumers as they concern on environment consciousness and discuss the overall of these group. In addition, it explained the theory of the consumption patterns in eating green food. Furthermore, consumer behaviour can be defined as the consuming decisions made by consumers about environmental or social criteria. Survey by Warwick, Baher & Fiore Associates found that 96% of consumers claimed to consume green food as their daily routine. The consumers' awareness on environment, health, perceived consumer effectiveness and social influence are made up their belief and thought to consume green food for their lifetime. External factors such as socio-demographic like age, gender, race, religion and marital status will affect the consumers' awareness. This will build the consumers' confidence and trust on green concept.

Based on the model below, it show the conceptual framework consists of independent variables (environment consciousness, perceived consumer effectiveness, health consciousness and social influence) where explained the consumption patterns of green food.

Figure 3.1: *Theoretical Framework*



3.3 Research Hypotheses

A hypothesis (H) is an unproven statement or a proposition about any variable or factor that is the interest of the researcher. It explained on the relationships between two or more variables by the theoretical framework model. Usually, a hypothesis is a possible answer to the research question. Whereas the research question is enquiring, the hypothesis is declarative and can be tested empirically. Hence, below is the research hypotheses are based on the objective of the study:

Objective One: To examine the relationship between environment consciousness and consumption patterns of green food.

H₁: There is relationship between environment consciousness and consumption patterns of green food.

Objective Two: To investigate the relationship between perceived consumer effectiveness and consumption patterns of green food.

H₂: There is relationship between perceived consumer effectiveness and consumption patterns of green food.

Objective Three: To investigate the relationship between health consciousness and consumption patterns of green food.

H₃: There is relationship between health consciousness and consumption patterns of green food.

Objective Four: To investigate the relationship between social influence and consumption patterns of green food.

H₄: There is relationship between social influence and consumption patterns of green food.

3.4 Research Design

According to Gillham (2000), research strategies design in nature depending on the data collection and the method analysis. Based on the research design, it can answer the entire research question. In order to gain in-depth understanding about the variables of interest in research objective, a researcher chooses to use quantitative

descriptive because it simply seeks to quantify of the data and typically some form of statistical analysis. The quantitative research able to generalize all the data and results from the large sample of population. It also helps the researcher to describe the characteristics of the variables in this study.

3.5 Target Population

The research actually focused only one of population in institution of higher learning. The population refers to the total of collection which can be group of people, moment or good. According to Sekaran (2003), identifying the target population was one of the processes of sampling. Correct population will help the study to get the accurate data and information and able to simplify the finding of the research.

The researcher has chosen Undergraduate student in Universiti Utara Malaysia (UUM) as respondents to answer the questionnaire. According the latest data from academic affairs department, the total number who is registered as Degree student is 16,979. According to Krejcie & Morgan (1970), table to determine sample size for the number is 375 respondents are worth to represent the overall student in UUM. However, to get accurate and effective data, total of 400 respondents has been choosing to complete the given questionnaire.

Table 3.1: *Sample size according to Krejcie & Morgan (1970)*

Population (N)	Sample size (s)
10,000	370
15,000	375
20,000	377
30,000	379
40,000	380

Source: Krejcie & Morgan (1970)

3.6 Sample Size

According to Saiful (2011), suggested that sample size should be between 30 to 500 respondents. In this research, the population was mentioned which is Undergraduate and students in Universiti Utara Malaysia (UUM). According to Table 3.1, the sample size that needed is 377. To be effective, 400 sets of questionnaires were distributes and out of them, 390 can be accepted and used for the research. Meanwhile, 5 set of questionnaires were not returned, 3 was not completed, and 2 was been rejected because the respondents did not answer according to specification prescribed.

3.7 Sampling Technique

Selecting a sampling technique involve several decisions of a broader nature. Sampling method can be referred as a technique or process that analyse the characteristics of the known population by selecting the exact elements from the

population. There are two categories of sampling which are probability and non-probability sampling (Sekaran & Bougie, 2010). Probability sampling explained the sampling units are selected by any chance of being chosen as the subjects. The researcher can use the sample to achieve the probability and it is least bias and more generalizability (Burns & Grove, 2007). Probability sampling technique can divide into five different types which are (1) simple random sampling, (2) systematic sampling, (3) stratified sampling, (4) cluster sampling and (5) other sampling technique (Sekaran, 2003).

Non probability sampling discuss on the personal judgement of the researcher rather than chance to select sample elements. The researcher can consciously decide what elements to include in the sample. Commonly used non-probability sampling techniques include the convenience sampling, judgemental sampling, quota sampling and snowball sampling (Sekaran, 2003).

3.8 Questionnaire Design

The design of questionnaire plays an important aspect in the process of survey research. According to Zikmund et al., (2013) the questionnaire design is a crucial part to identify and meet the criteria of relevance and accuracy. The questionnaire is divided into two sections which is Section A (demographic items) and Section B (consumption patterns of green food).

There are seven fundamental questions on the respondent's personal information which include gender, age, race, religion, marital status, frequency consume green food and spending consume of green food. The purpose of the demographic question is to increase the understanding toward the targeted respondents. Meanwhile, in Section B explained regarding the four independent variables which are environment consciousness, perceived consumer effectiveness, health consciousness and social influence. It is used to identify how the independent variables influence the consumption patterns of green food. The respondents are requested to answer the questions related on each variable by using the five-point Likert Scale. Hence, questionnaire design must be clear so that the respondent can easily answer the question correctly.

Likert Scale named of its developer, Rensis Likert is a widely used to indicate the degree of agreement or disagreement with each of the statements in the questionnaire. Typically, each scale has five response categories from "strongly disagree" to "strongly agree". In addition, the Likert Scale has several advantages. For instance, it is easy to conduct and administer. The respondents are willingly understand on how to use the scale

Table 3.2: *Five-Point Likert Scale Measurement*

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Source: Zikmund et al (2010)

Table 3.3 *Questionnaire Layout*

Part	Numbers of Question	Study Aspects	Scale	Sources
A	7	Demographic Items	Nominal	Adapted from Lin (2007)
B	10	Consumption patterns of green food	Likert	Adapted by Michaelidou & Hassan (2008)
C	9	Environment consciousness	Likert	Adapted from Lee (2008)
D	6	Perceived consumer effectiveness	Likert	Adapted from Kim (2005)
E	7	Health consciousness	Likert	Adapted from Michaelidou & Hassan (2008)
F	8	Social influence	Likert	Adapted from Lin (2007)
Total	47			

3.8.1 Demographic

Section A in the questionnaire consists 7 demographic items which are gender, age, race, religion, marital status, frequency consume green food and spending consume of green food.

3.8.2 Consumption Patterns of Green Food

Section B of the reviewed questionnaire which is consumption patterns of green food that play as dependent variable in this research and the questionnaire consists item 1 to 10 based on their knowledge. Michaelidou & Hassan (2008) who were the

researchers that discovered the items. Following item listed in the table below are used to measure the consumption patterns of green food.

Table 3.4: *Measurement of Consumption Patterns of Green Food*

Construct	Measurement Items
Consumption patterns of green food	1) I like the idea of consuming green food.
	2) My life will be better if I consume green food in the near future.
	3) I have an attitude toward consuming a green food.
	4) My personal goal is to consume as much as green food as possible.
	5) I will make every effort to consume green food.
	6) I have seriously thought of consume more green food.
	7) I don't mind paying more for green food.
	8) I would recommend this product to others.
	9) I plan to consume this product frequently.
	10) I would prefer to buy these products.

Source: Adapted by Michaelidou & Hassan (2008)

3.8.3 Environment Consciousness

In Section B, there are 9 items which needed the respondents to answer the questionnaire on environment consciousness which is the first independent variable for this study. Lee (2008) was the researchers who create these items in environment consciousness attributes. The following items were used to measure the environment consciousness.

Table 3.5: *Measurement of Environment Consciousness*

Construct	Measurement Items
Environment consciousness	1) It is important to protect green living.
	2) More environmental protection works in my society.
	3) It is important to raise environmental awareness among the people.
	4) I consume green food because I think of myself as someone who is very concerned with environmental issue.
	5) Green food is friendly to the environment.
	6) Green food farming can prevent the pollution of soil, air, water and food supply.
	7) Practices of green food production are better for the environment than conventional farming method.
	8) Green food production is better for the environment because it does not/less use of growth hormone.
	9) Production of green food does not/ less use chemicals and good for the environment.

Source: Adapted from Lee (2008)

3.8.4 Perceived Consumer Effectiveness

Item 1 to 6 in Section B the questionnaire is measures about the perceived consumer effectiveness. Respondents were asked whether the variables influence the consumers' consumption patterns of green food or not. According to past research perceived consumer effectiveness have a positive relationship toward the variables.

The item was developed by Kim (2005) and the following table shows the items that were used in this study to measure the perceived consumer effectiveness.

Table 3.6: *Measurement of Perceived Consumer Effectiveness*

Construct	Measurement Items
Perceived consumer effectiveness	1. Each person can have positive effect on society in support the environment.
	2. I feel I can help to solve the natural resource problem by conserving water and energy.
	3. I can protect the environment by purchase products that are friendly to the environment.
	4. I feel capable of helping solve the environment problems.
	5. I choose to consume green food because it is consistent with my principles.
	6. I choose to consume green food because I have the moral duty to behave that way.

Source: Adapted from Kim (2005)

3.8.5 Health Consciousness

Health consciousness consists item 1 to 7. The items were developed by Michaelidou & Hassan (2008). The respondents were asked how the health consciousness will influence the consumption patterns of green food. The following table shows the items to measure the health consciousness.

Table 3.7: *Measurement of Health Consciousness*

Construct	Measurement Items
Health consciousness	1. I reflect about my health a lot.
	2. I am very self-conscious about my health.
	3. I am usually aware of my health.
	4. I take responsibility for the state of my health.
	5. I am aware of the state of my health as I go through the day.
	6. In the long run, people who take care of themselves are stay healthy by consuming green food.
	7. By consuming green food, I can protect my health for future.

Source: Adapted from Michaelidou & Hassan (2008)

3.8.6 Social Influence

For social influence, respondents needed to answer item 1 to 8 which is relate to consumption patterns of green food. The items were discovered by Lin (2007) and the following items are used to measure the social influence.

Table 3.8: *Measurement of Social Influence*

Construct	Measurement Items
Social influence	1) People who are important to me would encourage me to consume green food.
	2) My family think that I should consume green food.
	3) My friends advise me to consume green food.
	4) Mass media reports have influenced me to try green food.

	5) The popular press adopts a positive view towards consume green food.
	6) I have read/seen the news which says that consume green food can contributes to a good environment.
	7) Due to the impact of social pressure (society, environment, social network, etc) made me choose to consume green food.
	8) It is better for me to make a consideration in consume of green food.

Source: Adapted from Lin (2007)

3.9 Data Collection

Literally, there are two type of data collection which is primary data and secondary data. Data collection is an important aspect for each research. Hence, in this research, the researcher chooses to use primary data as one of data collection.

3.9.1 Primary data

The primary data are originated by a researcher for the specific purpose for addressing the problem. Generally, the researcher that uses quantitative method, the survey or questionnaire is the most commonly tools in collecting the data from the respondents. The researcher distributes the questionnaire personal to the respondents.

The questionnaires were developing in simple ways and containing of cover latter on the first page followed by the demographic information and lastly 40 items revised questionnaire. At first of cover latter explain on research topic, researcher details,

purpose of the study, parts in questionnaire and informed the data of the result are used for an academic purpose. Hence, there is no sensitivity questions were asked to respondents and the questionnaire contains simple language and written in English. All the questionnaire are design in order to find out whether there has either positive or negative relationship occur between independent variable and dependent variable.

3.9.2 Secondary Data

Secondary data are the data that have already been collected for purpose other than problem at hand. These data can be located quickly and inexpensively. The data can get from written or electronic. Examples of secondary data are book, article, and journal, information from the internet or newspaper. The secondary data could be important aspect as it evidences the previous information and avoid unrelated data. Secondary data also can help the researcher to provide valuable insights and lay the foundation for conducting primary data analysis.

3.10 Data Analysis Procedure

Data collected in this research have been analysed using Statistical Package for the Social Science Program (SPSS) Version 22. The frequency and descriptive summary was determined and data was presented and explained in table and figure. This procedure of data analysis may involve determining consistent pattern and summarizing the appropriate details revealed with this study. So, the collected data are easy to manage and interpret later on.

3.10.1 Frequency Analysis

In this section, the data is analysed to identify the demographic profile of the respondents. Summarization of the respondents can be done to recognize how many percentages in terms of gender, age, race, religion, marital status, level of education, frequency consume green food and spending consume of green food.

3.10.2 Reliability Test Analysis

Cronbach's Alpha is use in order to measure the validity, consistency and reliability of the data. Plus, it is the average off the entire possible coefficient resulting from different ways of the scale items. It is reliability coefficients that indicate how well the factors are positively correlated to each other and the most common indicators of internal consistency. The nearest of Cronbach's Alpha to 1, is the good internal consistency reliability as said by Sekaran (2003). The value of 0.5 or less generally indicates unsatisfactory internal consistency reliability. An important of coefficient alpha is the values are tending to increase when the number of scale items increase too.

Table 3.9: *Measurement of Reliability Test Analysis*

Cronbach's Alpha	Internal Consistency
$a > 0.9$	Excellent
$0.8 < a < 0.9$	Good
$0.7 < a < 0.8$	Acceptable
$0.6 < a < 0.7$	Questionable
$0.5 < a < 0.6$	Poor
$a < 0.5$	Unacceptable

Source: Hair et al (2007)

3.10.3 Descriptive Statistic

Descriptive statistic was carried out the independent and dependent variables. The scale measurements are 5-point Likert Scale with 1 as the least weight and 5 as the highest weight. The value that above is favourable response and the value recorded below 3 are unfavourable. Descriptive statistics will be instrumental in helping to interpret and understand the sample data and provide the first step in the data analysis. This statistic include the frequencies, measures of central tendency (mean, median and mode), and measure the dispersion (range, standard deviation and coefficient of variation).

3.10.4 Normality Test Analysis

A lot of statistical test requires that the data are normally distributed and the research should always check if its assumption is violated. There are two main methods of assessing the normally test which is graphically and numerically. Some statistic of normality test uses their data from the plots or graph. The main focus on the study is to find ad describe the normal data used in this research.

3.10.5 Factor Analysis

Factor analysis is a method and technique that requires a large sample size. This is based on the Correlation matrix of the variables involved. The analysis includes Kaiser-Meyer- Olkin (KMO) and Bartlett's Test of Sphericity. The value of KMO varies between 0 & 1 and the values closer to 1 are better. While, for the Bartlett's

Test of Sphericity must be significant at ($P < 0.05$) and the factors are considered appropriate. The purpose of the analysis is to summarize the large sample size of variables to a smaller number of variables. So, factor analysis can able to help and could interpret into smaller and meaningful data to achieve the objectives of the study.

Table 3.10: *Values of Kaiser-Meyer- Olkin (KMO) and Variance*

KMO Values	Degree of Common Values
0.90-1.00	Excellent
0.80-0.89	Very good
0.70-0.79	Appropriate
0.60-0.69	Medium
0.50-0.59	Weak
0.00-0.49	Unacceptable

Source: Tabachinich & Fidell (2013)

3.10.6 Pearson Correlation Analysis

According to Sekaran (2003), the function of the correlation is to examine the relationship two or more variables. By doing the analysis, the research will be able to measure the strength of the association between two variables. The correlation coefficient is ranges from -1.00 to 1.00, with 0 representing absolutely no systematic association between two variables, and -1.00 or 1.00 representing a perfect link between two variables (Hair, Bush & Ortinau, 2006). The correlation coefficient

should not be calculated if the relationship is not linear. Pearson's correlation analysis method is chosen because the correlation can be compared by each variable.

Table 3.11: *Coefficient Range Value*

Strength of Association	Coefficient, r
Strong relationship	(-1.0 to 0.5) or (0.5 to 1.0)
Moderate relationship	(-0.5 to -0.3) or (0.3 to 0.5)
Weak relationship	(-0.3 to -0.1) or (0.1 to 0.3)
No/ Weak relationship	(-0.1 to 0.1)

Source: Adapted by Choudhury (2009) & Pallant (2013)

3.10.7 Regression Analysis

Regression analysis is the next step after doing the correlation. This is used to predict the value of variables based on the value of another variable. In this research, it measures the strength between the variables (environment consciousness, perceived consumer effectiveness, health consciousness and social influence) and determines which variable are more significant to consumption patterns of green food.

3.10.8 Pilot Test

Pilot test is a small-scale experimental where a few respondents comment on the mechanics of the test. The purpose of pilot test is leading to more reliable results. They print out any problems with the test instructions, where items are not clear, typographical errors or any other issues. Once the issues have been addressed, then the large scales are ready to expose. In addition, the main of pilot test is to construct

on initial picture of reliability and test validity. In this research, 30 set of questionnaires were distribute to the students.

Table 3.12: *Reliability Analysis for Pilot Test*

Variable	Item	Cronbach's Alpha	Internal Consistency
Consumption Patterns of Green Food	10	0.876	Good
Environment Consciousness	9	0.865	Good
Perceived Consumer Effectiveness	6	0.629	Moderate
Health Consciousness	7	0.892	Good
Social Influence	8	0.732	Acceptable

The result of Pilot Test is shown in the table above. The result revealed the reliability of dependent variable and independent variables is 0.629 to 0.892. Hence, all the variables are reliable as the value of Cronbach's Alpha more than 0.5.

3.11 Conclusion

This chapter on this study explained and includes a discussion of the research methodology. There are full description on process of sampling, data collection and analysis. For this study, researcher choose quantitative methodology approach and the earlier part was explained about the research problem. Therefore, the data analysis findings will be explained in the next chapter.

CHAPTER 4

DATA ANALYSIS

4.1 Introduction

All the result and data will interpret and presented in this chapter. The tables were used to assist the presentation of the study. This research uses SPSS Version 22 to evaluate the data. This chapter will discuss the analysis of respondent's demographic, data screening, pilot test, and factor analysis. Next, it will focus on testing the hypotheses by person correlation and regression analysis to identify the relationship between independent variable (environment consciousness, perceived consumer effectiveness, health consciousness, and social influence) on dependent variable (consumption patterns of green food).

4.2 Respondents Response Rate

400 sets of questionnaires were distributes to Undergraduate students in Universiti Utara Malaysia (UUM) and 390 questionnaires were returned where the response rate for this study was 97.5%. According to Sakaran & Bougie (2010) mentioned if the response rate is 30%, then it can be accepted. An example of the questionnaire show in Appendix A. Table 4.1 below is the details related to the information.

Table 4.1: *Distribution Information Questionnaire*

DETAILS	RESPONDENTS
Number of questionnaires distributed	400
Number of questionnaires received and complete	390
Number of questionnaires incomplete	10
Response rate	97.5%

4.3 Pilot Test Analysis

Pilot test is the analysis where the respondents remarks on the instrument of the test. The aim and objective of the pilot test is to get more reliable results. According to Sekaran (2003), the good consistency reliability is 1. If the value of reliability below than 0.5, it considered low and unacceptable. Table 4.2 show the reliability test results between the real test and pilot test.

Table 4.2: *Reliability Test between the Real Test and Pilot Test*

VARIABLES	ITEMS	CRONBACH'S ALPHA	
		REAL TEST	PILOT TEST
Consumption patterns on green food	10	0.891	0.876
Environment consciousness	9	0.829	0.865
Perceived consumer effectiveness	6	0.767	0.629
Health consciousness	7	0.854	0.892
Social influence	8	0.769	0.732

The Cronbach's Alpha value is explain how much reliable of independent variables to the dependent variable and calculated by averaging the coefficient that the result from all possible combinations. The reliability is an indicator that measures the internal consistency. Table 4.2 show the result of real and pilot test that was conducted in this study. For the real test, the value of independent variables for Cronbach's Alpha is 0.891 (Consumption patterns of green food), 0.829 (Environment consciousness), 0.767 (Perceived consumer effectiveness), 0.854 (Health consciousness) and 0.769 (Social influence). Meanwhile, for pilot test, the value of Cronbach's Alpha is 0.876 (Consumption patterns of green food), 0.865

(Environment consciousness), 0.629 (Perceived consumer effectiveness), 0.892 (Health consciousness) and lastly 0.732 (Social influence). Hence, all the variables are reliable as the value of Cronbach's Alpha more than 0.5 and the respondents understood the entire questions that have being asked.

4.4 Data Screening

Data screening is the process to ensure the data is clean and ready to further before conduct the statistical analysis. All the data must be screened in order to uncertain the data is valid and reliable. Data screening and transformation techniques are useful in making sure the data has been correctly entered and the distribution of variables is normal. If the variables are dramatically error, it may affect the normal distributions before further analysis. Data may also need to be transformed using Recode and Compute commands. If the data have missing values, mean substitution may be an alternative. It is useful to conduct analyses on subsets of the data and make conditional transformations of variables.

4.4.1 Missing Data

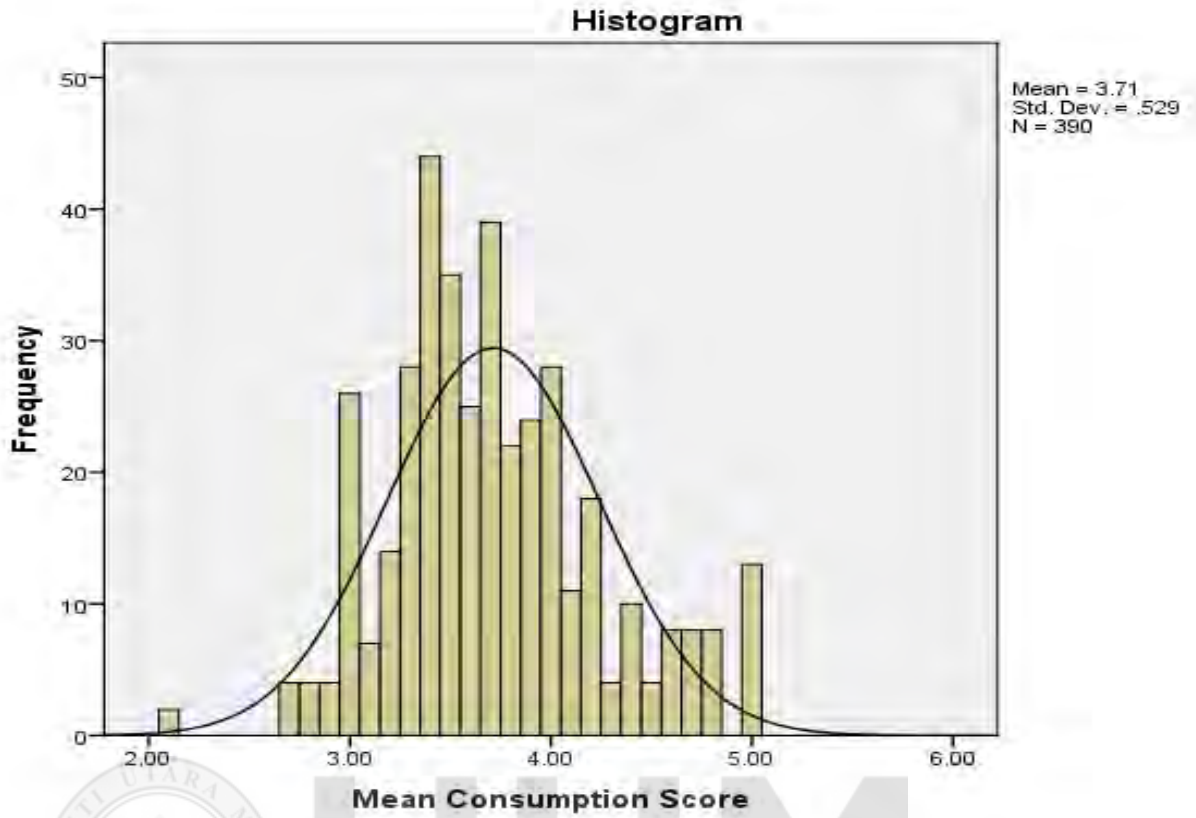
Missing the several values in data, the analysis just won't run. Result of descriptive data shown there are no data was found missing from the 390 sets of questionnaires that were returned by the respondents. So, it does not have any error and conclusive result analysis. Data editing used to monitor the questionnaire to prevent the incompleteness and inconsistency from the responses. The missing value is being treated as incomplete response and will be rejected.

4.4.2 Normality Test

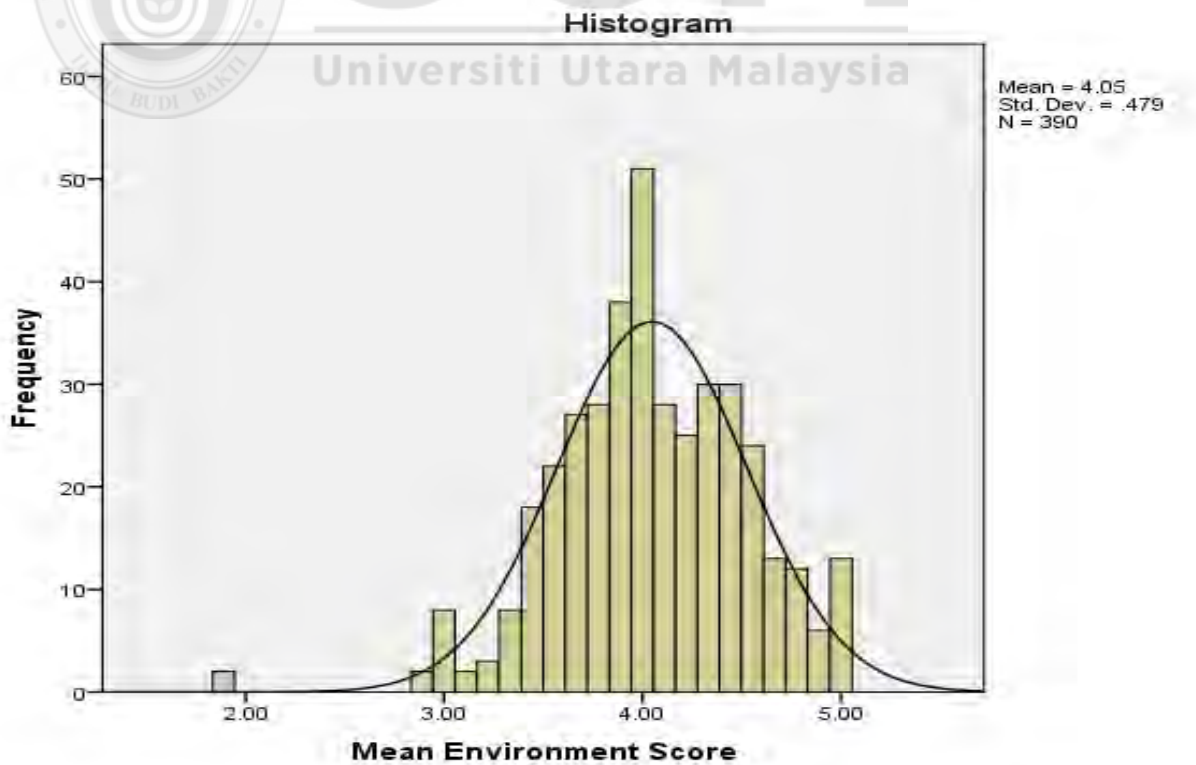
This refers to the distribution of data for a particular variable. We will usually assume the data is normally distributed. This will be measured in many different ways for instance the shape, skewness and kurtosis. The graphs below show the histograms for all variables that were used in this study. Each histogram explains the shape of a bell and it is useful to understand the nature of the distribution.

Skewness is referring to the distributions either symmetric or skewed. In a symmetric distribution, the values either side of the centre of the distribution are the same, and the mean, mode and median are equal. The positive and corresponding negative deviations from the mean are also equal. However, in a skewed distribution, the positive and negative deviations from the mean are unequal. Skewness is the tendency of the deviations from the mean to be larger in one direction than in the other.

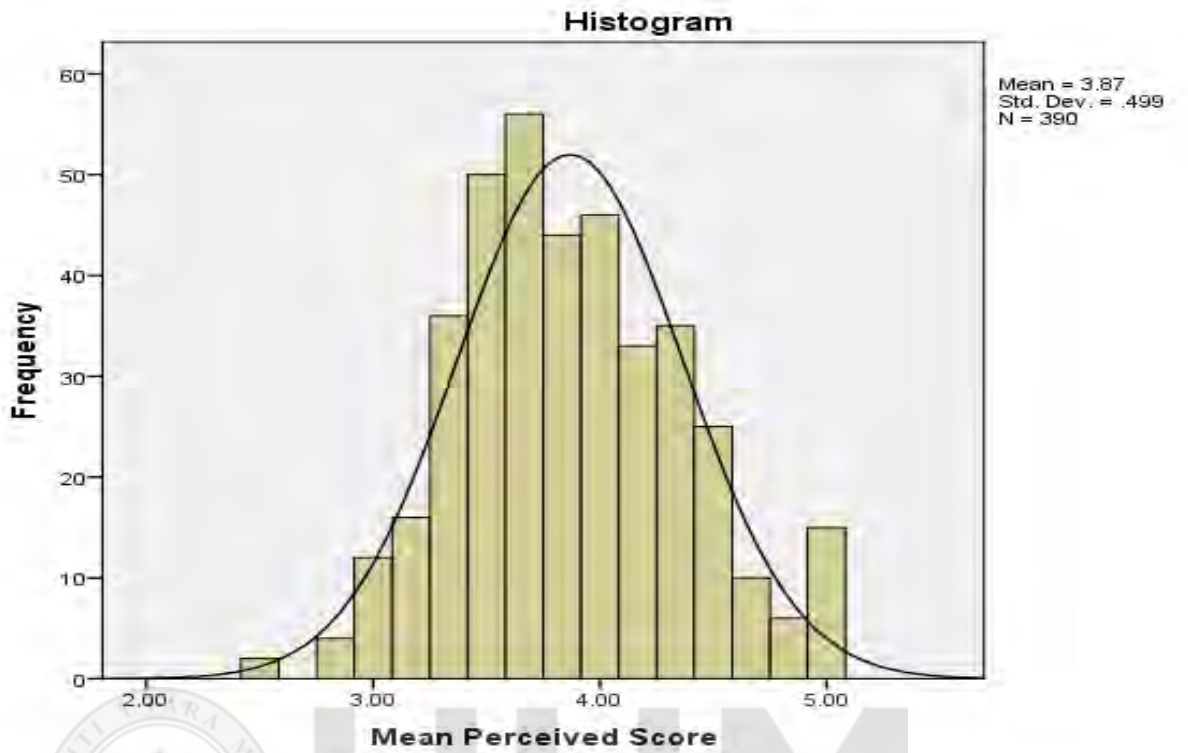
Kurtosis is the measure of the relative flatness of the curve which is defined by the frequency distribution. The kurtosis of a normal distribution is zero. If the kurtosis is positive, then the distribution is more peaked than a normal distribution. However, if the value is negative, it means that the distribution is flatter than a normal distribution. The shapes are important to assume the normality for the research.



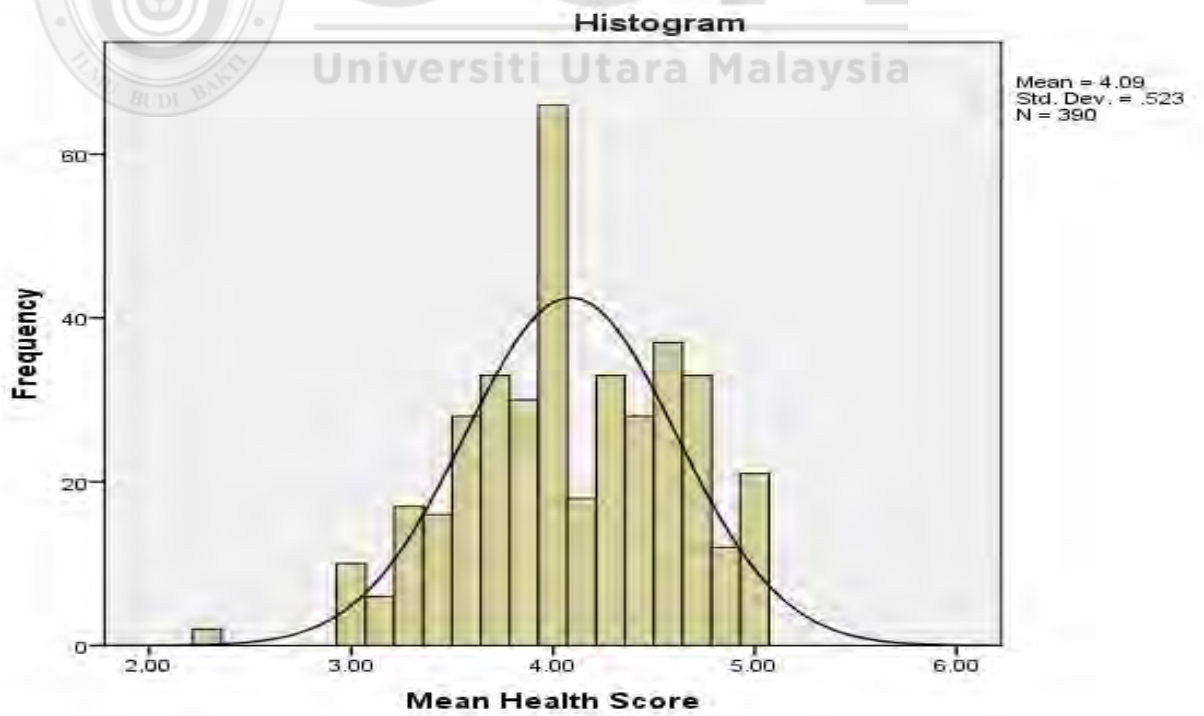
Graph 4.1: Histogram Normality Test for Consumption Patterns of Green Food



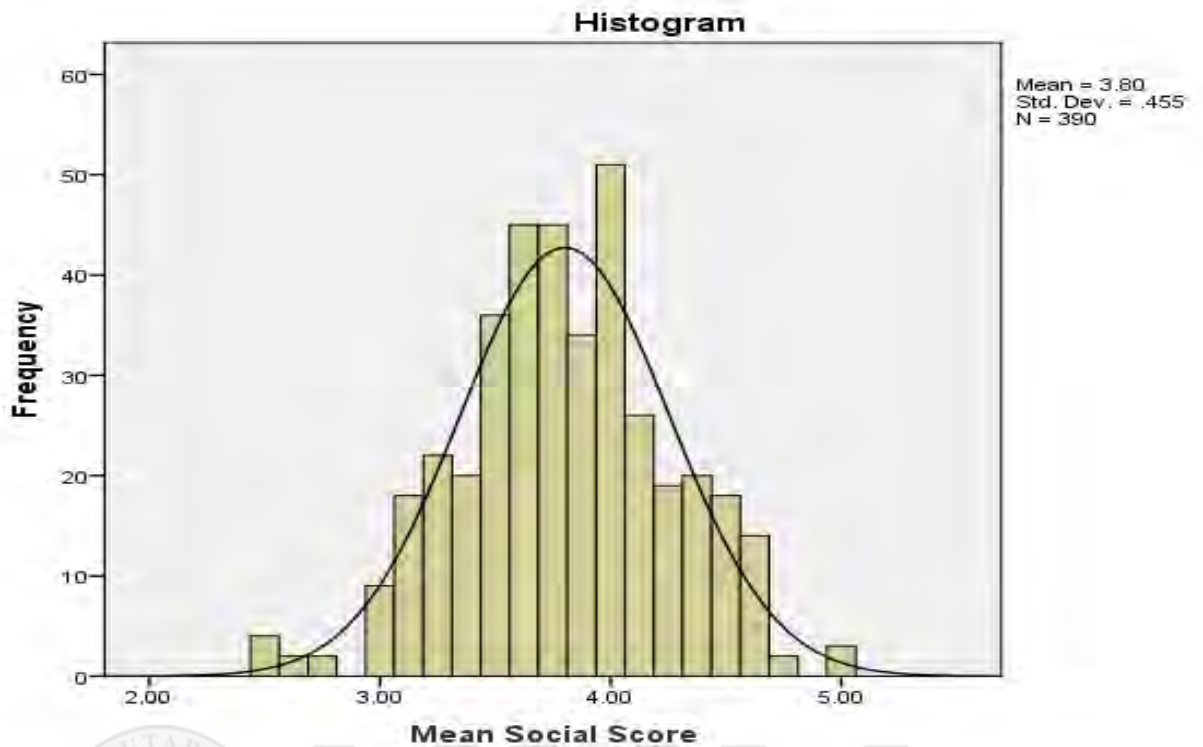
Graph 4.2: Histogram Normality Test for Environment Consciousness



Graph 4.3: Histogram Normality Test for Perceived Consumer Effectiveness



Graph 4.4: Histogram Normality Test for Health Consciousness



Graph 4.5: Histogram Normality Test for Social Influence

4.5 Factor Analysis

Factor analysis is one of activity that describes whether the variables are significantly different from each other and refers to a group of related variables. It uses a large data and can be summarized into a set of components or factor. Therefore, factor analysis will determine the adequacy of data collected from 390 respondents. The analysis includes Kaiser-Meyer- Olkin (KMO) and Bartlett's Test of Sphericity. KMO test was conducted to measure the ability of sampling where the value must be greater than 0.5 to meet the satisfactory analysis (Meyer et al., 2006). However, the factor loading below than 0.5 was excluded as suggested by Hair, Anderson, Tatham and Black (2010).

4.5.1 Analysis on Consumption Patterns of Green Food

According to factor analysis on consumption patterns of green food, the value of KMO is 0.899 and the Bartlett's sig. is $p=0.000$

Table 4.3: *KMO & Bartlett's Test on Consumption Patterns of Green Food*

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.899
Bartlett's Test of Sphericity	Approx. Chi-Square	1677.331
	df	45
	Sig.	.000

Table 4.4: *Eigenvalues & Cumulative Variance on Consumption Patterns of Green Food*

Factor	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.062	50.617	50.617	4.522	45.220	45.220
2	.916	9.163	59.780			
3	.746	7.459	67.239			
4	.700	7.005	74.243			
5	.572	5.717	79.960			
6	.519	5.185	85.146			
7	.463	4.627	89.773			
8	.379	3.790	93.563			
9	.367	3.668	97.231			
10	.277	2.769	100.000			

Extraction Method: Principal Axis Factoring.

Table 4.5: *Component Matrix on Consumption Patterns of Green Food*

Question (Consumption Patterns of Green Food)	Factor Loading	Cronbach's Alpha
CPGF1) I like the idea of consuming green food.	0.604	0.891
CPGF2) My life will be better if I consume green food in the near future.	0.679	
CPGF3) I have an attitude toward consuming a green food.	0.673	
CPGF4) My personal goal is to consume as much as green food as possible.	0.726	
CPGF5) I will make every effort to consume green food.	0.697	
CPGF6) I have seriously thought of consume more green food.	0.710	
CPGF7) I don't mind paying more for green food.	0.610	
CPGF8) I would recommend this product to others.	0.647	
CPGF9) I plan to consume this product frequently.	0.615	
CPGF10) I would prefer to buy these products.	0.746	

The table describe all the 10 items on consumption patterns of green food and can be discuss further in factor analysis. The result consist of item CPGF1, CPGF2, CPGF3, CPGF4, CPGF5, CPGF6, CPGF7, CPGF8, CPGF9, and CPGF10. Moreover, the variance of Eigen is 5.06 with the variance cumulative is 50.61%.

4.5.2 Analysis on Environment Consciousness

According to factor analysis on environment consciousness, the value of KMO is 0.843 and the Bartlett's sig. is $p=0.000$

Table 4.6: *KMO & Bartlett's Test on Environment Consciousness*

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.843
Bartlett's Test of Sphericity	Approx. Chi-Square	1022.285
	df	36
	Sig.	.000

Table 4.7: *Eigenvalues & Cumulative Variance on Environment Consciousness*

Component	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.825	42.503	42.503	3.825	42.503	42.503
2	1.057	11.744	54.247			
3	.915	10.169	64.416			
4	.781	8.677	73.093			
5	.603	6.705	79.797			
6	.547	6.074	85.872			
7	.511	5.678	91.549			
8	.393	4.371	95.920			
9	.367	4.080	100.000			

Extraction Method: Principal Component Analysis.

Table 4.8: *Component Matrix on Environment Consciousness*

Question (Environment Consciousness)	Factor Loading	Cronbach's Alpha
EC1) It is important to protect green living.	0.598	0.829
EC2) More environmental protection works in my society.	0.545	
EC3) It is important to raise environmental awareness among the people.	0.657	
EC4) I consume green food because I think of myself as someone who is very concerned with environmental issue.	0.567	
EC5) Green food is friendly to the environment.	0.716	
EC6) Green food farming can prevent the pollution of soil, air, water and food supply.	0.722	
EC7) Practices of green food production are better for the environment than conventional farming method.	0.700	
EC8) Green food production is better for the environment because it does not/less use of growth hormone.	0.708	
EC9) Production of green food does not/ less use chemicals and good for the environment.	0.648	

The table describe all the 9 items from environment consciousness and can be used in factor analysis. The result consist of item EC1, EC2, EC3, EC4, EC5, EC6, EC7, EC8 and EC9 besides, the variance of Eigen is 3.82 with the variance cumulative is 42.50%.

4.5.3 Analysis on Perceived Consumer Effectiveness

According to factor analysis on environment consciousness, the value of KMO is 0.733 and the Bartlett's sig. is $p=0.000$

Table 4.9: *KMO & Bartlett's Test on Perceived Consumer Effectiveness*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.733
Bartlett's Test of Sphericity	Approx. Chi-Square	601.209
	df	15
	Sig.	.000

Table 4.10: *Eigenvalues & Cumulative Variance on Perceived Consumer Effectiveness*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.774	46.227	46.227	2.774	46.227	46.227
2	1.104	18.401	64.628			
3	.669	11.150	75.778			
4	.580	9.661	85.439			
5	.552	9.204	94.643			
6	.321	5.357	100.000			

Extraction Method: Principal Component Analysis.

Table 4.11: *Component Matrix on Perceived Consumer Effectiveness*

Question (Perceived Consumer Effectiveness)	Factor Loading	Cronbach's Alpha
PCE1) Each person can have positive effect on society in support the environment.	0.667	0.767
PCE2) I feel I can help to solve the natural resource problem by conserving water and energy.	0.716	
PCE3) I can protect the environment by purchase products that are friendly to the environment.	0.648	
PCE4) I feel capable of helping solve the environment problems.	0.706	
PCE5) I choose to consume green food because it is consistent with my principles.	0.664	
PCE6) I choose to consume green food because I have the moral duty to behave that way.	0.676	

The table explain all the 6 items of perceived consumer effectiveness and surely can be used in factor analysis. The result consists of item PCE1, PCE2, PCE3, PCE4, PCE5, and PCE6. Plus, the variance of Eigen is 2.77 and the variance cumulative is 46.22%.

4.5.4 Analysis on Health Consciousness

According to factor analysis on health consciousness, the value of KMO is 0.831 and the Bartlett's sig. is $p=0.000$

Table 4.12: *KMO and Bartlett's Test on Health Consciousness*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.831
Bartlett's Test of Sphericity	Approx. Chi-Square	1107.521
	df	21
	Sig.	.000

Table 4.13: *Eigenvalues & Cumulative Variance on Health Consciousness*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.752	53.598	53.598	3.752	53.598	53.598
2	.952	13.597	67.195			
3	.667	9.522	76.717			
4	.574	8.201	84.918			
5	.413	5.899	90.817			
6	.375	5.355	96.172			
7	.268	3.828	100.000			

Extraction Method: Principal Component Analysis.

Table 4.14: *Component Matrix on Health Consciousness*

Question (Health Consciousness)	Factor Loading	Cronbach's Alpha
HC1) I reflect about my health a lot.	0.774	0.854
HC2) I am very self-conscious about my health.	0.772	
HC3) I am usually aware of my health.	0.807	
HC4) I take responsibility for the state of my health.	0.761	
HC5) I am aware of the state of my health as I go through the day.	0.716	
HC6) In the long run, people who take care of themselves are stay healthy by consuming green food.	0.655	
HC7) By consuming green food, I can protect my health for future.	0.622	

The table show all the 7 items in health consciousness that can be used in factor analysis. The result consists of item HC1, HC2, HC3, HC4, HC5, HC6 and HC7. Hence, the variance of Eigen is 3.75 and the variance cumulative is 53.59 %.

4.5.5 Analysis on Social Influence

According to factor analysis on social influence, the value of KMO is 0.771 and the Bartlett's sig. is $p=0.000$

Table 4.15: *KMO and Bartlett's Test on Social Influence*

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.771
Bartlett's Test of Sphericity	Approx. Chi-Square	721.153
	df	28
	Sig.	.000

Table 4.16: *Eigenvalues & Cumulative Variance on Social Influence*

Component	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.103	38.788	38.788	3.103	38.788	38.788
2	1.259	15.732	54.519			
3	.874	10.928	65.447			
4	.757	9.467	74.914			
5	.636	7.954	82.868			
6	.516	6.452	89.320			
7	.461	5.762	95.082			
8	.393	4.918	100.000			

Extraction Method: Principal Component Analysis.

Table 4.17: *Component Matrix on Social Influence*

Question (Social Influence)	Factor Loading	Cronbach's Alpha
SI1) People who are important to me would encourage me to consume green food.	0.715	0.769
SI2) My family think that I should consume green food.	0.623	
SI3) My friends advise me to consume green food.	0.652	
SI4) Mass media reports have influenced me to try green food.	0.651	
SI5) The popular press adopts a positive view towards consume green food.	0.749	
SI6) I have read/seen the news which says that consume green food can contributes to a good environment.	0.602	
SI7) Due to the impact of social pressure (society, environment, social network, etc) made me choose to consume green food.	0.681	
SI8) It is better for me to make a consideration in consume of green food.	0.571	

The table simplify all the 8 items in social influence that can be explain in factor analysis. The result consists of item SI1, SI2, SI3, SI4, SI5, SI6, SI7 and SI8. In addition, the variance of Eigen is 3.10 and the variance cumulative is 38.78 %.

4.6 Descriptive Analysis

Based on the research that has been conducted, the researcher has obtained the information about respondent's demographic. This is including gender, age, race, religion, marital status, frequency consume green food and spending consume green food.

4.6.1 Gender

Table 4.18: *Gender of the Respondents*

		Frequency	Percent	Valid Percent
Valid	Male	117	30.0	30.0
	Female	273	70.0	70.0
	Total	390	100.0	100.0

Showed the details on the gender of respondents who participated in this survey. The first detail of demographic information part is male and female. The respondents need to choose whether (1) Male and (2) Female. The result showed that female was the majority of participant in this survey which represent 273 respondents with 70%. Meanwhile, respondents from male were 117 students and the percentage was 30%. Hence, the total number that participated in the study was 390 and 100% in percentage.

4.6.2 Age

Table 4.19: *Age of the Respondents*

		Frequency	Percent	Valid Percent
Valid	Under 20	153	39.2	39.2
	21-30	235	60.3	60.3
	31-40	2	.5	.5
	Total	390	100.0	100.0

The table explain the respondents age 21 to 30 was the highest percentage which is 60.3% followed by under 20 (39.2%). Meanwhile, the lowest score is range 31 to 40 which is 0.5%.

4.6.3 Race

Table 4.20: *Race of the Respondents*

		Frequency	Percent	Valid Percent
Valid	Malay	298	76.4	76.4
	Chinese	53	13.6	13.6
	Indian	23	5.9	5.9
	Other	16	4.1	4.1
	Total	390	100.0	100.0

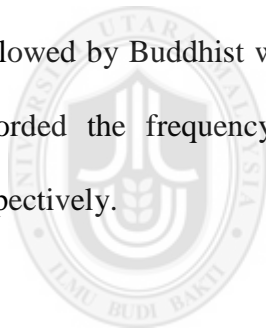
Next, it will discuss on various race that participate in this survey. The majority of the respondents were Malay with frequency 298 (76.4%). Second highest were Chinese with 53 respondents (13.6%). Followed by Indian respondents with frequency 23 (5.9%). The least amount of frequency was 16 respondents represent other race (4.1%).

4.6.4 Religion

Table 4.21: *Religion of the Respondents*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Islam	312	80.0	80.0	80.0
	Buddhist	45	11.5	11.5	91.5
	Christian	12	3.1	3.1	94.6
	Hindu	21	5.4	5.4	100.0
	Total	390	100.0	100.0	

Table 4.2.1 showed the finding of religion from demographic question. The result found Islam was the highest frequency which is 312 respondents with 80.0%. Followed by Buddhist with frequency 45 respondents (11.5%). Hindu and Christian recorded the frequency of 21 respondents (5.4%) and 12 respondents (3.1%) respectively.



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4.6.5 Marital Status

Table 4.22: *Marital Status of the Respondents*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	350	89.7	89.7	89.7
	Married	40	10.3	10.3	100.0
	Total	390	100.0	100.0	

Afterward, the table above will discuss on the marital status among the respondents.

The majority of the respondents are single which is the results are 350 with 89.7%.

Meanwhile married category frequency of respondents is 40 and the percentage is 10.3% only.

4.6.6 Frequency Consume Green Food

Table 4.23: *Frequency Consume Green Food*

		Frequency	Percent	Valid Percent
Valid	Once	36	9.2	9.2
	Seldom	122	31.3	31.3
	Frequent	214	54.9	54.9
	Never	18	4.6	4.6
	Total	390	100.0	100.0

In this result, it could say the respondents are frequent in consuming green food which is the respondents is 214 students (54.9%). Followed by seldom, the frequencies of respondents are 122 (31.3%). Next, once and never recorded the result by 36 and 18 respondents with 9.2% and 4.6% respectively.

4.6.7 Spending Consume Green Food

Table 4.24: *Spending Consume Green Food*

		Frequency	Percent	Valid Percent
Valid	RM50 and below	114	29.2	29.2
	RM51-RM100	240	61.5	61.5
	RM101-RM150	30	7.7	7.7
	RM151 and above	6	1.5	1.5
	Total	390	100.0	100.0

The last category of demographic question is spending consume of green food. The highest ranked is RM51-RM100 with the respondents are 240 (61.5%). Besides,

RM50 and below classified in second place with 114 respondents (29.2%). Third place with 30 respondents (7.7%) was range between RM101-RM150. The lowest ranked was RM151 and above and the result mentioned with 6 respondents (1.5%).

4.7 Mean & Standard Deviation

Mean and standard deviation is referring to achieve the measure of central tendency and dispersion between independent variables and dependent variable. The result of each mean and standard deviation will be discussed in the table below.

Table 4.25: *Mean & Standard Deviation*

Variables	Mean	Standard Deviation
Consumption patterns of green food	3.7128	0.5286
Environment consciousness	4.0883	0.4789
Perceived consumer effectiveness	3.8675	0.4989
Health consciousness	4.0883	0.5233
Social influence	3.8010	0.4551

Table 4.25 shows the mean and standard deviation for all the variables in this research. The scale measurement and using 5-point Likert Scale with 1 as a strongly disagree and not important followed by 5 as strongly agree and very important aspect. From the result, environment consciousness and health consciousness ranked the highest and have the same value of mean among all the factors which is 4.0883. Meanwhile, mean for variable perceived consumer effectiveness is 3.8675 followed by social influence by 3.8010. The lowest mean is consumption patterns of green food (3.7128).

The highest standard deviation in this result is consumption patterns of green food (0.5286), followed by health consciousness (0.5233), and third ranked by perceived consumer effectiveness (0.4989). Standard deviation of environment consciousness and social influence is 0.4789 and 0.4551 respectively.

It can be concluded, the standard deviation that close to 1.0 considered good, 0.5 averages and below 0.3 is poor. Hence, from the table, it shows the results are categorized in averages and can be acceptable.

4.8 Pearson Correlation

Pearson's correlation coefficient (r) is a measure the strength of the association between linear relationships of two variables. The correlation greater than 0.5 is generally described as strong relationship, meanwhile correlation less than 0.3 described as weak. Positive correlation indicates that two variables increase or decrease together, whereas negative correlation explains that as one variable increases, or decrease and vice versa. No correlation or a weak linear correlation, r is close to 0. A value near to zero means there is a random, nonlinear relationship between two variables. The result of Pearson Correlation will be shown in the table below

Table 4.26: Value Pearson Correlation Analysis

		Consumption	Environment	Perceived	Health	Social
Consumption Correlation	Pearson Sig. (2-tailed) N	1				
Environment Correlation	Pearson Sig. (2-tailed) N	.549** .000 390	1			
Perceived Correlation	Pearson Sig. (2-tailed) N	.663** .000 390	.589** .000 390	1		
Health Correlation	Pearson Sig. (2-tailed) N	.516** .000 390	.557** .000 390	.536** .000 390	1	
Social Correlation	Pearson Sig. (2-tailed) N	.330** .000 390	.412** .000 390	.525** .000 390	.454** .000 390	1 390

**Correlation is significant at the 0.01 level (2-tailed)

Table showed the summary of relationship between independent variables (environment consciousness, perceived consumer effectiveness, health consciousness and social influence) to dependent variable (consumption patterns of green food). The value of Pearson correlation discuss the positive relationship and generally significant between independent and dependent variables. The value range 0.330 to 0.663. Consumption patterns of green food shown positive sign with reaction of environment ($r=0.549$), perceived ($r=0.663$), health ($r=0.516$) and social ($r=0.330$).

4.9 Regression Analysis

Regression analysis is used in a model to get a response between independent and dependent variables. In addition, it also measures the strength between the variables (environment consciousness, perceived consumer effectiveness, health consciousness and social influence) and determines which variable are more significant to consumption patterns of green food. The result of regression is as follows.

Table 4.27: *Model Summary Analysis*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.647 ^a	.419	.413	.40493

a. Predictors: (Constant), Mean Social Score, Mean Environment Score, Mean Health Score, Mean Perceived Score

b. Dependent Variable: Mean Consumption Score

Table 4.28: *ANOVA Analysis*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.567	4	11.392	69.473	.000 ^b
	Residual	63.129	385	.164		
	Total	108.696	389			

a. Dependent Variable: Mean Consumption Score

b. Predictors: (Constant), Mean Social Score, Mean Environment Score, Mean Health Score, Mean Perceived Score

Table 4.29: *Regression Analysis on Environment Consciousness, Perceived Consumer Effectiveness, Health Consciousness, And Social Influence on Consumption Patterns Of Green Food*

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.541	.212		2.548	.011
	Mean Environment Score	.284	.057	.257	4.989	.000
	Mean Perceived Score	.332	.057	.313	5.873	.000
	Mean Health Score	.226	.051	.224	4.458	.000
	Mean Social Score	-.049	.055	-.042	-.896	.371

a. Dependent Variable: Mean Consumption Score

These tables explain the independent variable influence the consumption patterns of green food. In table of model summary, the correlation coefficient (R) is 0.647 between both variable. Value of R-Squared (R^2) in this study is 0.42, means four variables (environment consciousness, perceived consumer effectiveness, health consciousness and social influence) can explain any variation in dependent variable (consumption patterns of green food) growth at 42%. Furthermore, the other 58% of the model is explained by other variables which are able to affect the consumption patterns of green food.

Anova analysis is main key to ensure the model is significant. Value of F-Statistic ($F=69.47$, $p=0.000$) and discuss both variables are important. The result of coefficient shown only three variables has a significant and positive relationship which is environment consciousness, perceived consumer effectiveness and health consciousness. Meanwhile, social influence presented insignificant value which is more than $p=0.05$. Next, highest value of beta is perceived consumer effectiveness

(0.313), followed by environment consciousness and health consciousness with 0.257 and 0.224 respectively. The least is social influence with the beta value -0.042.

Hence, it could say, three out of four hypothesis; environment consciousness (H1), perceived consumer effectiveness (H2) and health consciousness (H3) have positive relationship toward consumption patterns of green food. Meantime, hypothesis of social influence (H4) has been rejected due to insignificant effect that exceeds 0.05 (0.371).

4.10 Hypothesis Analysis

Summary of results in hypothesis testing was described in table below:

Table 4.30: *Summary of Hypothesis Testing*

	HYPOTHESIS DESCRIPTION	SIGNIFICANT	RESULT
H ₁	Environment consciousness has a relationship with consumption patterns of green food	p=0.000	Accepted
H ₂	Perceived consumer effectiveness has a relationship with consumption patterns of green food	p=0.000	Accepted
H ₃	Health consciousness has a relationship with consumption patterns of green food	p=0.000	Accepted
H ₄	Social influence has a relationship with consumption patterns of green food	p=0.371	Rejected

4.11 Conclusion

In this chapter, all the results have analysed and well explained by using SPSS Version 22. The whole process involved in this chapter are response rate of respondents, data screening, factor analysis, descriptive analysis, mean & standard deviation, Pearson correlation, regression analysis and hypothesis testing analysis. From the results, it can explain that the study has four hypotheses and only three were supported and significant (environment consciousness, perceived consumer effectiveness and health consciousness). All the analysis that was discussed earlier is to measure the relationship between independent and dependent variables besides the hypothesis. In the final chapter, it will focus on detailed discussion, recommendation, and conclusions of the study.



CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Introduction

All the results and findings were presented in previous chapter. In this chapter, it will focused and discussed about summarization of the research paper, limitation of research and recommendation for the future research analysis.

In section 5.2, it will explain the summary of findings which relate to the overall study in this research. Next in section 5.3, it focuses on discussion which is associated with the relationship between independent and dependent variables. Then, section 5.4 explained about the limitation of research and followed by Section 5.5 and Section 5.6 with recommendation and conclusion respectively.

5.2 Summary of Findings

In previous chapter, it showed the results of the analysis from the questionnaires that collected from the respondents. This study distributed 400 sets of questionnaire and managed to recover as much as 390 sets.

The first part (Part A) in the questionnaire was asked about demographic profile for instance gender, age, race, religion, marital status, frequency consume green food and spending consume green food. In the second part (Part B), the respondents were

asked about consumption patterns of green food and were divided into four independent variables and indicate them to rate. The variables categories include 1) environment consciousness, 2) perceived consumer effectiveness, 3) health consciousness, and 4) social influence.

Meanwhile, hypothesis testing was created in Chapter 3 and plus provided the theoretical framework. Hypothesis of the study based on the four independent variables that effect the consumption patterns of green food.

Next, all the findings showed that not all variables are significant and have positive relationship with the dependent variable. The results explain only three variables (environment consciousness, perceived consumer effectiveness and health consciousness) were had significant. The last variable (social influence) indicated there is no relationship with consumption patterns of green food.

5.3 Discussion

In this discussion section, the study wants to explain the finding of each independent variable to dependent variable (consumption patterns of green food). Based on the studies conducted, the respondents have a good knowledge about the consumption of green food and aware towards the environment and health issue. Questionnaires were distributes to 400 respondents and the data was analysed in SPSS Version 22. The findings can be used for future research to overcome the problem and enhance the quality of information about the study.

After the feedback from the respondents, all the data has been analysed to get the results for the entire study. The research shown the research model is significant and come out with four independent variables which is environment consciousness, perceived consumer effectiveness, health consciousness and social influence.

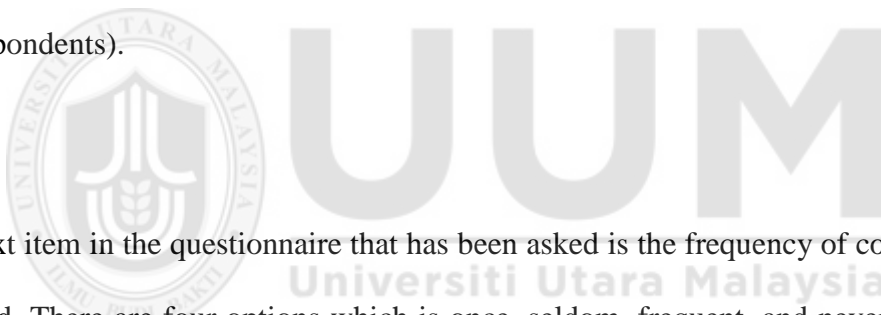
In terms of demographic data from 390 respondents, this indicates majority of respondents are female with 70% (273 respondents) and only 30% is male (117 respondents). The result proved those females are more interested to consume green food more than male. Past research found out in China, the survey was done and female is the most buyers and high consume of green food since they believed the green food able to enhance their beauty.

Instead of age category, the highest was recorded that the respondents are 21-30 with 60.3% (235 respondents), followed by Under 20 with 39.2% (153 respondents) and lowest age is 31-40 with 0.05% (only 2 respondents). Since the respondents are among Degree students, the majority of their age is basically Under 20 and 21-30.

Thirdly, it discuss on race which is Malay is the highest frequency by 298 respondents with 76.4%. The percentage of Chinese and India is 13.6% and 5.9% with the frequency 53 and 23 respondents respectively. The least is other with 4.1% (16 respondents).

In terms of religion, 80% of respondents are Islam and it was the highest religion compared to others. The frequency of the Muslim answer the questionnaire is 312 students. Meanwhile, Buddhist was ranked number two with 11.5% (45 respondents), followed by Hindu with 5.4% (21 respondents) and lastly is Christian with 3.1% (12 respondents). This result could be said each religion have their own perception on consume green food since the products are safe and the religion taught to every adherent to care about their health.

Next the result explained about the marital status. Most of the respondents are single with result is 89.7% (350 respondents). The rest 10.3% is married with frequency (40 respondents).



Next item in the questionnaire that has been asked is the frequency of consume green food. There are four options which is once, seldom, frequent, and never. Out of 400 respondents, 214 students are choose frequent item in consuming green food with the percentage 54.9. Seldom and once were ranked second and third with 31.3% (122 respondents) and 9.2% (36 respondents) respectively. However, 18 respondents with 4.6% were never consuming green food in their life. Nowadays, people began to be sensitive to foods that they consume and do not have chemical and harmful substances. This is to ensure they have a good health in the long run indeed.

Last aspect in the questionnaire is how much the consumers spend to consume green food. The highest was recorded as 61.5% (240 respondents) spent RM51-RM100.

Meanwhile, 29.2% (114 respondents) spent their money for green food RM50 and below. 7.7% with 30 respondents spent between RM101-RM150 and lastly only 1.5% (6 respondents) spent more than RM151 for green food. Even green food could be categorised as expensive products, yet students nowadays are smart in finding extra pocket money to consume more green food for their eating consumption.

In order to measure the reliability of all factors, reliability test analysis has been used for this study. Cronbach's Alpha measures the reliability and validity of all the variables and how it positively correlated to each other. The result shows dependent variable (Consumption pattern of green food) was measured at 0.891 and can be considered good since the value is over than 0.8. In the meantime, the first independent variable (environment consciousness) was measured at 0.829 followed by second variable perceived consumer effectiveness at 0.767. Health consciousness and social influence was measured at 0.854 and 0.769 respectively. Hence, all the variables are satisfactory since the value more than 0.5 in internal consistency reliability.

To measure the degree of relationship among the variables, the correlation analysis has been analysed to get the results. In the result only three independent variables (environment consciousness, perceived consumer effectiveness and health consciousness) have significant and relationship to consumption patterns of green food. However, social influence showed the insignificant result and it will be discuss later in the next discussion.

In addition, the changes in the dependent variable can be explained by the variation of independent variables in the regression analysis. Based on the result, the R-squared is 0.419. This can be described about 42% changes in dependent variable can be explained in the independent variable. Another 58% cannot be explained by the regression analysis and only can be discussed by other factors or variable such as animal welfare, product availability, price attributes, brand image and so on. Based on the rule of thumb, the higher value of R², it shows the higher of explanatory power of the estimated equation.

Table 5.1: Summary of Research Question, Hypothesis and Result

Research Question	Hypothesis	Result	Supported
Is there any relationship between environment consciousness and consumption patterns of green food?	H ₁ : There is relationship between environment consciousness and consumption patterns of green food.	r=0.549 (p<0.05) p=0.000	Yes
Is there any relationship between perceived consumer effectiveness and consumption patterns of green food?	H ₂ : There is relationship between perceived consumer effectiveness and consumption patterns of green food.	r=0.663 (p<0.05) p=0.000	Yes

Is there any relationship between health consciousness and consumption patterns of green food?	H ₃ : There is relationship between health consciousness and consumption patterns of green food.	r=0.516 (p<0.05) p=0.000	Yes
Is there any relationship between social influence and consumption patterns of green food?	H ₄ : There is relationship between social influence and consumption patterns of green food.	r=0.330 (p<0.05) p=0.371	No

The relationship among the independent variables and dependent variable is discussed below with the proven statement from previous studies.

5.3.1 Hypothesis 1

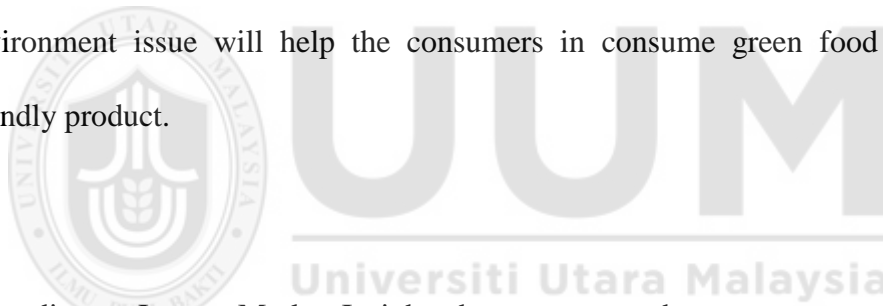
Objective One: To examine the relationship between environment consciousness and consumption patterns of green food.

H₁: There is relationship between environment consciousness and consumption patterns of green food.

Environment consciousness was the first independent variables tested in this study. There were nine items that asked in the questionnaire. The result showed environment consciousness influence the consumption patterns of green food. It could say, the respondents understand the question on asking the awareness of taking care the environment. Pearson's correlation coefficient (r) of environment consciousness show 0.549 and it generally have a good relationship to dependent

variable. In addition, environment consciousness showed the variance is significant where $p=0.000$ and the result support the hypothesis testing.

According to past research by Gomiero et al (2011), the consumers tend to consume green food because the agriculture method which is safe and have high quality compared to conventional food. Out of eighteen studies previously, fifteen research found that environment consciousness issue have a positively relationship toward consumption patterns of green food (Chan et al., 2000, Eze et al., 2013). However, the rest which is three studies did not found any relation between the variables (Chan & Lau, 2000; Ramayah & Rahbar, 2013; Wolsink, 2007). High knowledge of environment issue will help the consumers in consume green food or purchase friendly product.



According to Innova Market Insight, the consumers choose to consume green food and eating clean food as a trend dominant in 2016. The company that running an environmentally friendly business will reduce the impact of environment issue and preserves the natural resources. The marketers and manufacturer should embark the journey to introduce green food concept to the consumers and attract them to support the environment friendly product. This including on how the labelling, packaging and advertising uses green eco concept to expose to the consumers. Furthermore, reducing the environmental impact of the business will improve the sustainability and have a greater chance of long term success.

5.3.2 Hypothesis 2

Objective Two: To investigate the relationship between perceived consumer effectiveness and consumption patterns of green food.

H₂: There is relationship between perceived consumer effectiveness and consumption patterns of green food.

Perceived consumer effectiveness was the second independent variables in this study. All six items in this factor determined the significant to consumption patterns of green food. The respondents aware and believe they have positive effect to protect and support the environment. The result showed that the variance of perceived consumer effectiveness is significant with $p=0.000$ and Pearson's correlation coefficient (r) of this variable is 0.663 and consider as highest value among the variables.

Study by Webster (1975), perceived consumer effectiveness is an important variable and define as valuation to consumers in make a difference for the general problem. Previously, there are seven studies that have positive relationship between perceived consumer effectiveness and consumption patterns of green food (Gleim et al., 2013; Gupta & Ogden, 2009). Since it significantly and relate to consumer attitude and behaviour, perceived consumer effectiveness found to indirectly influence the consumption patterns of green food (Kang et al, 2013). Hence, it concludes there are positive correlation exists in this variable. Respondents who engaged in consume green food because they believed their actions or making an effort were help to minimize the environmental issue. In addition, positive relationship between the variables are consistent with previous studies and can be used as a strong factor

(Ellen et al., 1991; Berger & Corbin, 1992; Kim,2012; Kim & Choi, 2005). According to Tabarcea (2012), perceived consumer effectiveness could be affected by the past experience, level of education, family status and religion. Different level of education will have different thought of consumption green food. For instance, people who have been educated and have high moral principle will tend to consume green food and more ecologically. The past research was mentioned people with high attitudes considered as a right action which can protect the environment and the animal welfare.

Consumers with high level of perceived consumer effectiveness and ethically concerned will show their passion and effort to solve the environmental issue and problem through consume green food. In addition, perceived consumer effectiveness could be described as the ability and seizure their thought about effectiveness of consumer's choice. This is depending on how the individual act to make any change in solving a problem. Moral and personal perceived effectiveness were found to have a significant influence towards the consumption patterns of green food. The individualistic values along with the environmental, social and ethical could be the reason why the consumer should consume the green food for their daily eating consumption.

5.3.3 Hypothesis 3

Objective Three: To investigate the relationship between health consciousness and consumption patterns of green food.

H₃: There is relationship between health consciousness and consumption patterns of green food.

Next variable in this study is health consciousness and the result of analysis showed significant with $p=0.000$ and Pearson's correlation coefficient (r) of this variable is 0.516. The correlation could say high and strong because the value is more than 0.50. There are seven items in this variable and most of the respondents reflect and being responsibility towards their level of health. They believe consume green food frequently could provide a good health in future.

This finding provides some support on previous studies which indicate the health consciousness could be a main reason why consumers consume green food (Magnusson et al., 2003). In addition, researcher by Salleh et al., (2010) found out health consciousness will influence consumers especially in Malaysia to consume green food since the product are free from chemical and hazardous substances. According to Pomsanam, Napompech & Suwanmaeneepong (2014) explained the decision to consume green food because no side effect and the method of agriculture are safe and environmentally friendly. This information and the result could be as a main factor to encouraging consumers to purchase and consume more green food to have a better life later. Previous findings by Chryssohoidis & Krystallis (2005) mentioned health consciousness is the most important factor to consume green food

since the products are well-being and safe to consume. Green food had made to ensure the consumers are care about their health and family as well.

When it comes to food and beverages, the consumers mostly will consume and have nutritional benefits besides fresh healthful food. The consumers will making a choice and manage the optimum level of health. Some findings in American of Gen Y, there are 62% would be willing to pay more for healthier products. They will continue to have a growing awareness and will have huge impact on consumption patterns of green food. This also was match with the result whereby health consciousness is the stronger factor that leads to consumption patterns of green food.

5.4.4 Hypothesis 4

Objective Four: To investigate the relationship between social influence and consumption patterns of green food.

H₄: There is relationship between social influence and consumption patterns of green food.

Social influence was the fourth and last independent variable tested in this research. The variance of the social influence was not significant with $p=0.371$. So, the result did not support the hypothesis which is not relationship between social influence and consumption patterns of green food.

The result is consistence with the previous study by Irawan & Darmayanti (2012) which explained social influence did not have significant coefficient and no positive relationship with dependent variable. However, some author found out social influence is the highest factor to measure the consumption patterns of green food in Penang. Hence, the results of this study still inadequate. For next research, this variable might and can develop more for getting conclusive result. Also it indicates by past research, Kalafatis et al (1999), the study has a direct and significant effect on consumption patterns of green food.

Due to this result, it showed that the students are not evaluating the aspect of social influence as the main reason to consume green food. This might of do not have a strong social impact from the society. The items of questionnaire for instance “mass media reports have influenced to consume green food” maybe not effective since there are lack of advertising and campaign awareness toward green food. In addition, the reasons may due to different perception of green food since not everyone concern about the environment, health and individual action to consume this product. Plus, it lack of exposure about benefit by consuming green food among the consumers. So, it can be say, social impact do not influence and encourage them to do so. As we know, the authorities should promote the environmental awareness such as inspirational seminars, environmental and health books as the tools that can enhance and promoting the nature. To keep our children have a better future environment, it is necessary and imperative to spreading the awareness among us. The community, friends, and family should involve making an effort in promoting good health by consume green food to our children and it should start at home. They will learn a great deal by using green practices and it will teach us to become more responsible

towards the environment. Thus far, various efforts have been taken to create and educate Malaysians regarding healthy diet and active lifestyle. For example, the events are organized in schools, hospitals and road shows.

5.4 Limitation of Research

The study has some limitations. Among the limitation is the thesis is focused and limited only to a small group which is in Universiti Utara Malaysia. Therefore, the study failed to generalize of huge population and was not equally distributed. The research only focused to Undergraduates students and the population only 19,876. So the sample size that involved in this study is 375 (Krejcie & Morgan, 1970). To ensure the study is more accurate and effective, 400 sets of questionnaire were distributed to respondents. However, only 390 sets of questionnaire able to collect and be consider as limited sample size. Hence, it can cause the reliability of research and might be affected due to small size of sample and did not represent the entire population that consume green food. So, for the next research it necessary to cover overall population and use samples which are equally distributed including the academic and non-academic staff in Universiti Utara Malaysia to collect more results and provide the insightful conclusion.

Secondly, the limitation of the study is when there are only four independent variables that have been tested in this research paper. However, various variables or other possible factors that can affect the consumption patterns of green food among the consumers. For example, animal welfare, price consciousness, brand loyalty and quality consciousness. However, it depends on the nature of the research and how it

can gather more information for next study ahead. Researchers should expand the independent variables in order to make results more accurate.

Thirdly, the limitation of the study is difficulty in obtaining the cooperation of the respondents. Mention earlier, the respondents are consists of students and slightly they refuse to answer the questionnaire given. The respondents might find the easiest way to fill in the questionnaire when they do not understand the question. So, they might choose the answer randomly and it will cause an effect to the accuracy and reliable of the result later.

Lastly, time constraint also one of limitations in this study. The time used to conduct this study is simply short. Due to time constraint, only four variables and small sample size have been used. If there is more time, the results of data would be better.

5.5 Recommendation

The knowledge and results from the study might help the research project in future. The recommendations are suggested in order to overcome some limitations. This will help to improve the quality and useful for next studies. Therefore, these are some following suggestion regarding the study.

- 1) The population and sample size of the study should be extended in future research because large number of respondents could increase the reliability of

research. The data of respondents from different perceptions, will resulting more reliable analysis.

- 2) Furthermore, for the next research, the survey should provide different method besides of questionnaires. As an example, the researcher can conduct interview towards consumption patterns of green food. This can gain more and complete information about their perception, knowledge, and prior experience in consume green food.
- 3) As said before, the limited independent variables used in this research are not enough to capture the entire study. So, there are some significant or factors that have been looked to take into consideration for instance product quality (Chiew,Ariff, Zakuan, Tajudin, Ismail & Ishak, 2014), food safety, knowledge factor (Rahim,Shamsudin, Mohemad & Radam, 2013), and price attributes. Addition of other variables will help and obtain a broader scope and better understanding of green food.
- 4) Moreover, the young generation should be exposed to environment function and manage their behaviour by increase environment education. Since the issue of environment are getting worst, the school especially should include the environment education in the syllabus. It will motivate and enhance the children's awareness and concern towards environment and become green consumers.

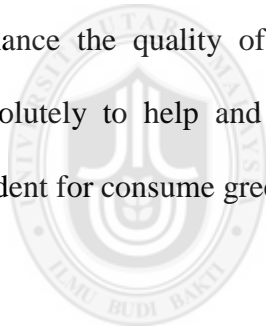
5.6 Conclusion

This study seeks to identify the consumers' awareness and consumption patterns of green food among Undergraduate students in Universiti Utara Malaysia (UUM). The current research shows the consumption patterns of green food among the students and lies on four variables, which are environment consciousness, perceived consumer effectiveness, health consciousness and social influence. Based on the results, the consumers showed and have positive respond towards consumption of green food.

Nowadays, major environmental problem and issue at worrying risk. More and more organizations are producing the environmentally friendly products especially food categorize to ensure the people have a good health and good lifestyle. The variables like environment consciousness, perceived consumer effectiveness, health consciousness and social influence are the possible factor that influence to consumption patterns of green food. Based on the past research, consuming of green food is different by country. Plus, previously it provides a complete of view of literature as it comes from numerous studies. In the next research, it may propose the different model and framework for the better outcomes. The results and analysis could help the manufacturer and marketer plus increase the sale of green food among the consumers. The marketers should formulate the marketing strategies to encourage people in consume green food. Therefore, the party must practices and develop the segmentation of green food in order to success in this business. In addition, the producer and marketer should focus on functional attributes for example develop consumer in eco-green label, run campaigns of green awareness and benefits

of using green products to consumers especially in long term. Furthermore, the retailers should provide their stores with green food product and easy to view. Food manufacturer could increase their investment in the development of new functional food products that better meet the consumer needs and enhance their marketing and distribution channels to reach the wider market segments.

In the nutshells, this study has included several limitations and it was cover by numerous recommendations. Although, the market of green food is still new to Malaysians, more effort should be carried out to introduce and spread the concept of green food consumption to Malaysians in general. This will help for next research to enhance the quality of study and environmental friendly industry. Therefore, it absolutely to help and create awareness among young generation especially the student for consume green products especially the food.



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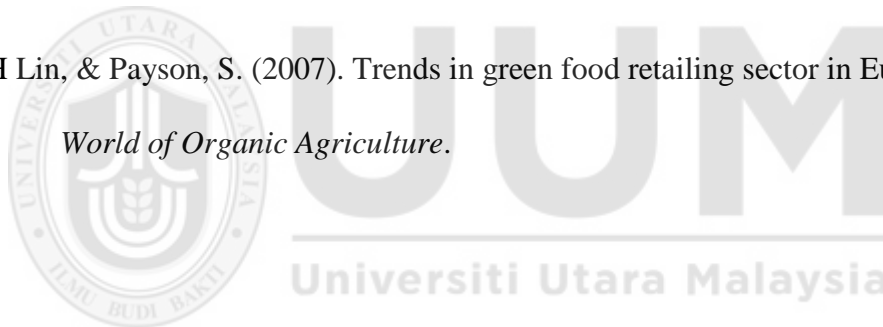
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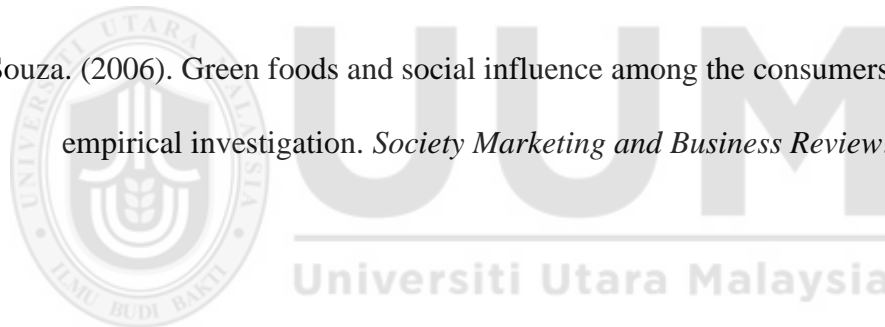
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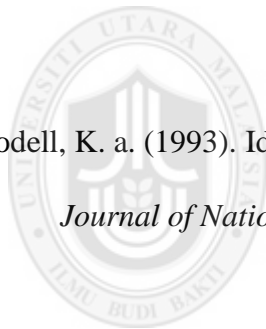
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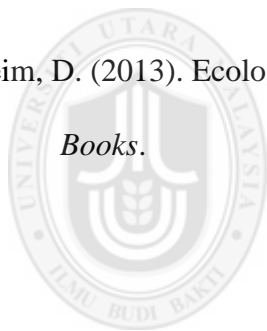
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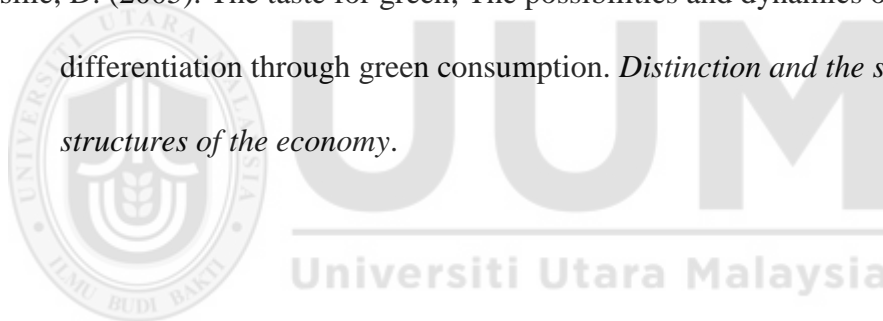
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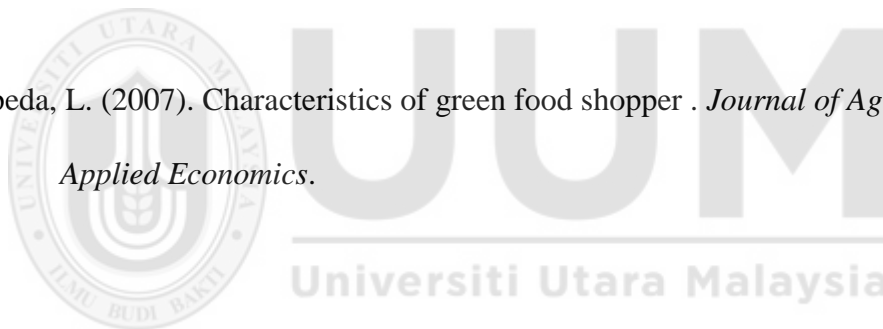
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QUESTIONNAIRE

Consumers' Awareness and Consumption Patterns of Green Foods

Dear Respondents,

We appreciate if you could spare some time in completing the survey questionnaires. This survey is one of my requirements to complete my research for research paper (BPMZ 69912). I hope that you would cooperate in completing the questionnaire with the best of your ability. This questionnaire consists of two part/sections. Part 1 consists of demographic profile and proceed to Part 2 which is consumer's awareness toward green foods. Your response will be treated as confidential and used for research proposal only. If you have any inquiries, you may send to my email which provided below. Thank you for your time and participate in this study.

Best regard,

Researcher: Nur Hazirah Binti Mohamad Janai

Postgraduate Student, Universiti Utara Malaysia

E-mail: hazirah_mj@yahoo.com

Telephone: 017-5292055

Part 1 : Respondent Profiles

Please tick (/) on the appropriate choices that best suits you.

1. Gender

Male

Female

2. Age

Under 20

21 - 30

31 – 40

41- 50

3. Race

Malay

Chinese

Indian

Other

4. Religion

Islam

Buddhist

Christian

Hindu

Other

5. Marital status

Single

Married

6. Frequency consume green food

Once

Seldom

Frequent

Never

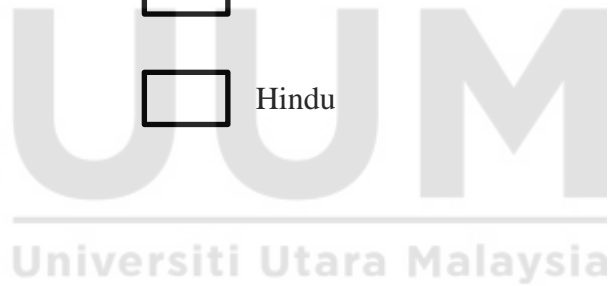
7. Spending consume of green food

RM50 and below

RM51 – RM100

RM101 - RM150

RM151 and above



Part 2: Consumer's Awareness and Consumption Patterns of Green Foods

Please answer each of the following question that best describe your opinion based on scales provided. Your response to the statements shall be answered by ticking (/) one of the following:

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

	Consumption of Green Foods	1	2	3	4	5
CGF1	I like the idea of consuming green food.					
CGF2	My life will be better if I consume green food in the near future.					
CGF3	I have an attitude toward consuming a green food.					
CGF4	My personal goal is to consume as much as green food as possible.					
CGF5	I will make every effort to consume green food.					
CGF6	I have seriously thought of consume more green food.					
CGF7	I don't mind paying more for green food.					
CGF8	I would recommend this product to others.					
CGF9	I plan to consume this product frequently.					
CGF10	I would prefer to buy these products.					

	Environment Consciousness	1	2	3	4	5
EC1	It is important to protect green living.					
EC2	More environmental protection works in my society.					
EC3	It is important to raise environmental awareness among the people.					
EC4	I consume green food because I think of myself as someone who is very concerned with environmental issue.					
EC5	Green food is friendly to the environment.					
EC6	Green food farming can prevent the pollution of soil, air, water and food supply.					
EC7	Practices of green food production are better for the environment than conventional farming method.					
EC8	Green food production is better for the environment because it does not/less use of growth hormone.					
EC9	Production of green food does not / less use chemicals and good for the environment.					

	Perceived Consumer Effectiveness	1	2	3	4	5
PCE1	Each person can have positive effect on society in support the environment.					
PCE2	I feel I can help to solve the natural resource problem by conserving water and energy.					
PCE3	I can protect the environment by consume products that are friendly to the environment.					
PCE4	I feel capable of helping solve the environment problems.					

PCE5	I choose to consume green food because it is consistent with my principles.					
PCE6	I choose to consume green food because I have the moral duty to behave that way.					

	Health Consciousness	1	2	3	4	5
HC1	I reflect about my health a lot.					
HC2	I am very self-conscious about my health.					
HC3	I am usually aware of my health.					
HC4	I take responsibility for the state of my health.					
HC5	I am aware of the state of my health as I go through the day.					
HC6	In the long run, people who take care of themselves are stay healthy by consuming green food.					
HC7	By consuming green food, I can protect my health for future.					

	Social Influence	1	2	3	4	5
SI1	People who are important to me would encourage me to consume green food.					
SI2	My family think that I should consume green food.					
SI3	My friends advise me to consume green food.					
SI4	Mass media reports have influenced me to try green food.					
SI5	The popular press adopts a positive view towards consume green food.					
SI6	I have read/seen the news which says that consume green food can contributes to a good environment.					
SI7	Due to the impact of social pressure (society, environment, social network, etc) made me choose to consume green food.					
SI8	It is better for me to make a consideration in consume of green food.					

Thank you for completing this survey