THE FACTORS INFLUENCE CONSUMER BEHAVIOR ON THE PURCHASE OF ORGANIC PRODUCTS

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DECLARATION

We hereby declare that:

(1) This undergraduate-research project is the end result of our own work and that due acknowledgment has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the research project.

(4) The word count of this research report is 17,184.

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Table of Contents

List of Tables

List of Figures

Abstract

Organic products are a product of organic farming and are produced without the use of synthetically compounded fertilizers, conventional pesticides or other artificial additives. The purpose of this study is to find out whether there is a significant relationship and differences between the demographic variables (age, gender, educational level, income level, and presence of children) and non-demographic variables (willingness to pay, taste, environmental concern nutritional value and organic certification) and the consumption of organic products. This research is conducted by quantitative method and using questionnaire for data collection. The sample size consists of 476 respondents who are the actual consumers of organic product and age 21 and above. The model and the result are tested and analyzed by using SPSS. The result shows there is a significant relationship and differences between willingness to pay, income level, gender and presence of children and the consumption of organic products.

CHAPTER 1: RESEARCH OVERVIEW

1.0   Background of Study

The title for this research report would be on "The Factors Influence Consumer Behavior on the Purchase of Organic Products". The main objective behind the execution of this study is to provide a better understanding on the factors that influence the consumers' buying intention toward organic products.

During these days, organic products has sky rocketed in food industry and it was predicted that the market for organic products will continues to grow in future. Many of the organic products farmers, processors, manufacturers and retailers have increased their offering of organic products due to the increased demand. Hence, due to the existence of a great deal of consumer interest, it is believed that organic industry will continues to evolve and eventually becomes the largest health market in the world.

Nevertheless, instead that there are a growing number of consumers which are moving toward organic products, the purchasers of organic products are still considered less in Malaysia. Why would this happen? This clearly shows that there is a wide discrepancy between preferences and behavior in purchasing organic products.

There are several reasons that may cause this discrepancy. One of the reasons is demographic variables which include age group, gender, education level, income level, and the presence of children in household. Firstly, age group is one of the determinants which will affect the consumer's consumption of organic products. In many countries especially Japan and United State, elder citizens tend buy and consume more organic products if compared to young citizens. Besides that, gender plays a prominent role as well. Many surveys find out that women tend to consume more organic products than men. This may due to females feel more responsible for the health of the family than males. They believe that consuming organic products is healthier and better for their family than consuming conventional foods. Third factor would be the education level of consumers. Nowadays, Malaysians are increasingly well educated and they are

acknowledged that the organic products are healthier than non-organic products. Thus, they will be more willing to demand for it. Other than that, income level of consumers could be one of the reasons as well. In general, organic products are usually being offered at a higher price. Thus, only those with higher income would be able to afford for the higher price and tend to consume more organic products. Lastly, according to Fricke and Alvensleben, it claims that families with children focus on health more than others. This is proven by other studies in which it is also stated that families with babies and small children are more interested in consuming organic products. The possible explanation for this is families with children tend to be more health consciousness and they believe it would be healthier for their children by consuming organic products.

Next, non-demographic variables such as willingness to pay, taste, nutritional value, environmental concern and organic certification would also affect consumer decision while purchasing organic products.

Firstly, willingness to pay is one of the main factors that will affect the consumption of organic products. Some of the studies discovered that consumer willing to pay higher price if they get more information about the products. Such information includes background of the products, characteristic, feature, and safety of the products. Next would be the taste and nutritional value of the organic products. Consumers are concern about which of the products could bring more nutritional value and superior taste to them. Other than that, environmental concern could be another factor which affects the consumers in consuming organic products. For those consumers who are more concern on the environment, they are more likely to consume organic products as they believed organic products are more environmental friendly.

Last but not least would be the organic certification and labeling. Organic products would be perceived as conventionally grown by consumer if it is not labeled (Giannakas, 2002). In other word, consumer will perceive the organic products as conventionally grown if it is not certified with any organic labeling. They would not purchase any of those products.

Finally, throughout this research, it was referring to the main factors that are influencing consumer buying intention toward organic products. These factors could be further

divided into demographic and non-demographic variables. Demographic variables include age, gender, educational level, income level, and presence of children in household. While, non-demographic variables are willingness to pay, taste, environmental concern, nutritional value and organic certification.

1.0.1 Definition of Organic Products

Organic products are a product of organic farming and are produced without the use of synthetically compounded fertilizers, conventional pesticides or other artificial additives. The organic approach to uproot, hexapod, and plant disease control is knowledge-intensive rather than technology-intensive ('What is Organic,' 2008). In other words, organic products are produced without any artificial or pesticides ingredients.

However, sometimes consumers can have a differed understanding on the word 'organic' or fail to understand it. They may get confused with the word 'organic' with 'green, ecological, environmental friendly or natural'. Products labeled with the term green, ecological, environmental friendly or natural sometimes do not necessary consider as organic.

Besides, the producer may also label their products wrongly due to the wrong interpretation of 'organic'. They may perceive that their non-organic process of plantation as organic. Thus, the definition of organic products and farming needs to be identified clearly in order to understand the concept.

1.1 Problem Statement

Nowadays, there are more and more Malaysian are consuming organic products and have a positive thinking toward the organic products. They are aware that organic products bring benefit in terms of rejuvenating the human health and provide full of nutritional value to their body. However, there is an issue arise in which since organic products is so beneficial to the human body, why there are still less purchasers of organic products in the market if compared to other countries like United States or Japan? Why would this happen?

Besides, there are many researches that have been done by researchers in recent year. In their studies, they have identified various determinants which affecting consumer behavior toward organic products. However, the results are not consistent and tend to be different from time to time or country to country. Therefore, by here, this study would try to find out the answer for the question and examine what are the actual factors which affect people to consume organic products.

To conclude, a research study about the consumer intention to purchase the organic products is essential for the organic products marketers. It is important for this study to be conducted. Therefore, for the studies, the determinants that are used are demographic variables which include age group, gender, educational level, income level, and presence of children in household. Other than that, willingness to pay, taste, environmental concern, nutritional value and organic certification are also used as determinants in the study.

1.2   Research Questions

For the past few years, many of studies have been carried out to study the factors that drive consumer perception and acceptance of organic products consumption in Malaysia. Nevertheless, there were still many unsolved questions and these are:

- What are the variables that affect the consumers' consumption of organic products?

- What are the strategies that can be implemented or carried out by the organic producers or marketers in order to attract more people to consume organic products?

- What are the policies can be implemented by government to increase the consumption of organic products in the country?

1.3   Research Objectives

The objectives of this study are:

- To identify the factors that determines consumers' consumption of organic products.

- To provide a better understanding for the organic producers or marketers on consumer motivations for buying organic products.

- To provide worthwhile recommendation for government to increase the country's consumption of organic products.

1.4 Significance of the Study

Most of the consumers have an interest or preference in organic products. However, there are still less purchasers of organic products in the market. What is the story behind this? Thus, the purpose of this study is to collect the data about the consumers' interest and response to organic products. It will try to access the factors that influence the consumers' behavior on the purchase of organic products.

There is always lack of marketing strategy and knowledge within the organic field. Besides, there are difficulties in acquiring information about all aspects of the organic industry field. Therefore, in this study, all the crucial determinants which are affecting consumer behavior in consuming organic products will be examined. These would include demographic variables (age, gender, educational level, income level, and presence of children) and non-demographic variables (willingness to pay, taste, environmental concern nutritional value and organic certification).

Such information will be useful especially for government and individual as it can provide them a better understanding on the consumer behavior in consuming organic products. By the end, they will be able to come out with a more effective policy to increase the consumption level of the organic products in the country.

Other than that, this study will provide useful information for the organic agriculture and farmers. They will be able to get greater opportunities if they have a better understanding for the market of organic products.

Furthermore, the understanding of the causal relationship between the determinants of consumption in organic products and the purchasing decisions of consumers is important to the firms that are marketing or selling organic products. This information will help the firms to better understand the actual needs and wants of the customers. Consequently, it would help them to target the correct consumers and further increase their sales. Besides, it can also help these firms to improve their performance by developing a more effective strategic marketing planning.

Last but not least, this study is important in determining the consumption level in Malaysia because its proportion of consuming organic products is still considerably low. This study ultimately will provide a better understanding on the consumer motivations for buying organic products and also an answer to whether the determinants that used in this study will affects the consumer behavior and also willingness to pay of consumers.

1.5   Scope of Research

This research will be conducted in the context of consumer behavior on the purchase of organic products. Demographic variables (age, gender, education level, income level, and presence of children) and non-demographic variables (willingness to pay, taste, environmental concern, nutritional value and organic certification) will be deeply investigated to see whether these variables will have a relationship with the organic product's consumption level.

1.6   Research Methodology

1.6.1 Sampling Design

For the research, 476 sets of questionnaire will be circulated to the public within the area of Klang Valley with the purpose to investigate the behavior of individuals on how they perceive organic products. This research will be conducted as quantitative study as same as the past researches. Non-probability samples will be use and data will be collected from the public by using convenient sampling.

1.6.2 Data Analysis

For this research, the collected data would be analyzed by using come computer programs. The major computer programs will be the Statistical Package for the Social Science (SPSS).

1.6.3 Limitation of Study

Throughout the research, there are many barriers that may be seen as limitation for this study. First of all, for the purpose of convenience in collecting the data, researchers shrink the scope of the research coverage by just focus on the area of Klang Valley. Thus, the *buyers* of *organic* commodities and *products* in other area would be ignored. Furthermore, as data will be collected from the public by using convenience sampling, this would create selectivity bias which may not truly reflect the behavior of all organic consumers in Malaysia.

Moreover, the organic products can be categorizes into different categories which include milk, meat, fruit, vegetable and so on. However, due to the reason of convenience in carrying out the research, certain type of categories of organic products will be ignored. Consequently, the research will be unable to determine the market for all categories of organic products in Malaysia.

1.7 Chapter Layout

Chapter 1: Introduction

This chapter will consist of background of study, problem statement, research questions, and research objectives, significant of the study, scope of the study, research methodology, organization of the research report and a brief conclusion for this chapter as well.

Chapter 2: Review of Literature

This chapter gives a critical review of literature and theories related to the topic of this study. The review will act as the foundation for the hypothesis to be tested or to be investigated.

Chapter 3: Methodology

This chapter will consist of the description of how the research was carrying out. It contains the research method, data collection method, sampling design, questionnaire design, data analysis method and pilot test.

Chapter 4: Data Analysis

The findings of the study will be described in this chapter and it will be presented in the form of tables, graphs and figures. The Statistical Package of Social Science (SPSS) will be used to process all the data and present the research results.

Chapter 5: Discussion, Conclusion and Implications

In this chapter, discussion and conclusion will be presented. The results will be interpreted and see whether the hypotheses are supported by the data collected. Besides, the implication of the study and recommendation for future research are also included in this chapter.

1.8   Conclusion

In conclusion, this chapter is acts as a foundation for the whole research report which starts with the background of the study and ends with the layout of the research report. It will serves as a guideline for researches to proceed to the next chapter which is the literature review.

CHAPTER 2: REVIEW OF LITERATURE

2.0   Introduction

In this chapter, the first section mainly explains the theories that are related to the study of organic products. The second section is followed by the discussion of the past studies' findings in relation to this research. Finally, in the third and last section, a proposed conceptual framework and hypotheses on each of the contrast are established and tested to review the relations towards the consumption of organic products.

Again, organic products can be defined as non-chemical, non-pesticides and non-coloring food products. The 'organic' word itself shows that it is originally produced and its production process does not involve any of the chemical material. There can be many reasons why people choose to consume organic products instead of non-organic products. One of the reasons can be health concern or environmental concern as organic products tends to be healthier and environmentally friendly? Thus, in order to answer these questions, this study will go into more detail on the reasons or determinants which will influence the consumer behavior toward organic products.

2.1 Review of Relevant Theoretical Models

Theory of Planned Behavior (TPB) started as the Theory of Reasoned Action as to predict an individual's intention to engage in a behavior at a specific time and place. This model has been used successfully to foresee and explain a wide range of health behaviors and intentions. These include drinking, smoking, health services utilization and etc. Therefore, the consumer's buying intention of organic foods can be predicted by adopting the TPB model.

According to Ajzen (1991), TPB distinguishes between three types of beliefs. There are attitude to behavior, subjective norm, and perceived behavior control. The first two reflect the perceived desirability of performing the behavior; meanwhile the third is to determine whether personally behavior is controllable (Chen, 2007).

2.1.1 Attitudes to Behavior

Attitudes refer to the extent to which whether a person has a favorable or unfavorable evaluation of the behavior of interest. It entails a consideration of the outcomes of conducting the behavior. Meanwhile, behavioral intention is refers to the motivational factors which influence a given behavior. In other word, the behavior will be more likely to be conducted if the intention to conduct it is stronger. Therefore, attitude to behavior is determined by the sum of the expected outcome and is weighted by an evaluation of the desirability of the outcome.

For instance, according to Ahmad & Juhdi, consumers will have a positive attitude towards organic products if and only if they believe that it is far better and healthier than the conventional alternatives. As a result, the chances for them to purchase organic products will be higher as well.

2.1.2 Subjective Norm

Subjective norms is refers to the belief in which whether most people approve or disapprove of the behavior. It is deal with a person's motivation to perform a given behavior which is constructed based on the expectations of other people that is important to that person. They can be their family, friends, relatives or other significant. On the other hand, social norms can be defined as the customary codes of behavior in a group of people or society. Social norms can be considered as normative or standard in a group of people.

Both of the norms will affect a person's belief about whether he or she should or should not perform the behavior. In other word, if the person important to them or people around them think that organic products are good, then most likely he/she will purchase it. They will tend to have a postive perspective toward organic products.

2.1.3 Perceived Behavioral Control

Perceived behavioral control can be defined as a person's perception of the ease or difficuly of performing the behavior of interest. It can varies across different circumstances. As a result, a person can have a changing perceptions of behavioral control depending on the circumstances.

Perceived behavioral control has a motivational implications on behavior through intentions. It is refering to the consumer's perception of personal control over what to buy and eat. As a result, it can influence the consumer's intention on the purchase of organic products. It cover the effects of external factors, such as place, time, and labelling. All these external factors may influence the consumers' judgement of risks and benefits when puchasing the organic products (Chen, 2007). For instance, if consumer perceived they can easily get the organic products or easily identifying the organic products labels, then the intention to purchase it will be higher.

2.1.4 Limitations of the TPB

There are several limitations of the TPB which might affect the accuracy of the model. First of all, the model assumes all the resources and opportunities which are available have been acquired by the person in order to be successful in performing the desired behavior, regardless of the intention. Next, it has omitted some of the other important factors which might influence the behavioral intention and motivation. These include threat, anxiety, or past experience. Last but not least, while it does take normative influences into consideration, it still does not take into account economic and environmental factors. Factors such as economic and environmental can affect a person intention in performing a behavior.

2.2   Review of Literature

2.2.1   Consumption of Organic Products

According to Nutrition Business Journal, the sales of organic products have increased double from approximately $11 billion in 2004 to an estimated $27 billion in 2012. Throughout the years, the consumption of organic products have boomed and expressively overtaking the consumption of conventional products. This tremendous shift in for organic products especially vegetables and fruits was associated with a number of reasons. The most significant of which is the wellness and health benefits that associated with organic products. Nonetheless, organic products have perceived as being healthier, safer and more environmentally friendly than conventionally grown products.

According to Dumea (2012), food consumption patterns are changing rapidly nowadays. Issues such as environmental awareness, nutritional value of food and health concern have influences the consumer's food purchase decision. Therefore, factors such as environmental concern, concern for health and knowledge about organic food have become the main motivations for consuming organic products. This statement is supported by several studies which have concluded that

consumers buy organic products are due to organic products are healthier, safer, better tastes, better quality and also more environmentally friendly compared to conventional products.

Despite the bright side, factors such as high price, low availability, poor appearance and low income are the major obstacles against the consumption of organic products (Wier and Calverley, 2002; Zanoli et al., 2002; Radman, 2005; Robles et al., 2005; Padel and Foster, 2005; Zakowska, 2007). For instance, there is a high possibility that consumers from lower income group will not able to afford the high price of organic products. Furthermore, according to Laux (2013), a content specialist for Agricultural Marketing Resources Center (AgMRC), other issues such as shortage of organic raw material need to be addressed as well as it may also jeopardize the growth of organic sector in term of short-run. A shortage of affordable organic raw materials such as organic grain or sugar may results in the inability of organic producers to meet the market demand.

2.2.2 Willingness to Pay

Willingness to pay is the amount a person would be 'willing to pay' to obtain a good or service (Warziniack). This willingness to pay is one of the independent variables that will affect the purchase of organic products. Hence, what are the factors that will determine the consumer's willingness to pay for organic products? Firstly, some of the researchers discovered that consumer willing to pay premium price if they get more information about the products they consume. Such information may include background of the products, characteristic, feature, and safety of the products. Besides that, Janssen (2012) also stated that a well-known logo has the superiority to become the consumer's target than others. In other word, the willingness to pay is also correlated with the organic logo. Products with a recognition logo are more likely to draw the attention from the consumers as it stands for trustworthiness, reliance, and standard.

Besides, according to Dauncey (2002), it has shown that organic products have a better nutritional value if compare to other non-organic products. Hence, in

exchange for a healthier life style, a person is willing to spend more for organic products while spend lesser on non-organic products. He/she will give up on products which do not provide much nutrition as organic products do. Last but not least would be educated consumers. Rodriguez (2006) stated that educated consumers tend to purchase more organic products as they are more exposed to health information sources and diet. They are willing to pay for organic products even it is more expensive compared to non-organic products.

2.2.3 Nutritional Value

Besides, the nutritional value is also one of the independent variables which will affect the decision for purchasing organic products. The nutritional value of food can be defined as what a food is made of and its impact on the human's body. Nowadays, people are getting concern on health and they are increasingly aware that health is the most important thing for them. This is true especially for the urban citizen.

As mentioned above, an organic product is defined as non-chemical, non-pesticides and non-coloring products. It is originally produced and its production process does not involve any of the chemical material. Thus, according to Dauncey (2002), it has shown that organic products have a better nutritional value and thus are healthier if compare to other non-organic products. In addition, Picard (2002) stated that about 20 percent of the conventional food is contaminated with chemical pesticides. These toxic contaminants can lead to potential health effects such as cancer and birth defects. Thus, due to this reasons, people who are more concern on health and do not want to consume the foods which contain pesticides or preservatives, they will choose to consume organic products which contain none of those chemical ingredients. These consumers will have a positive attitude towards organic products as they believe that it is far better and healthier than the conventional alternatives (Ahmad & Juhdi).

In conclusion, nutritional value and concern for a healthier lifestyle is the significant determinants in determining the choice of food and subsequently influence the consumption of organic products. Besides that, there are a lot of

studies showed that health is one of the greatest motivator that impact people to consume organic products. Thus, for the studies, this nutritional value will be included as one of the determinants.

2.2.4 Taste

Besides nutritional value, taste also plays a significant role in our studies. The taste of the organic products will alter the purchase decision of consumers. Krystallis and Chryssohoidis (2005) stated that organically produced food or products is generally safer, more nutritious, and better taste than the non-organic produced products. Thus, buyers who purchase or consume organic products tend to believe that its taste is better than the non-organic products. This is true as according to Saba and Messina's study (2003) on a sample size of 947 Italian consumers who have positive perceptions towards the organic products, and on average, they recognize that organic products were healthier, more nutritious, environmental friendly, and better taste when compare to non-organic products.

Besides, Radman (2005) also stated that one of the motivations that motivate consumers to consume in organic products is the belief that it has a superior taste compare to non-organic products. For those elderly and frequent buyers, they will think that organic products are better and importantly taste better than the non-organic ones. It is one of the great motives for them to consume in organic products.

Even though, one may claimed that taste of certain thing is a subjective view and it is maybe different from person to person. It means that if the assumptions underlying the taste of organic products are not supported by scientific finding, it can be irrelevant. Nevertheless, taste is still remained as a significant determinant in influencing consumer's decision for consuming organic products.

2.2.5 Environmental Concern

Environmental concern among consumers is also one of the determinants that are included in the studies. Environmental concern can be defined as the movement which seeks to conserve the natural resources. As mentioned above, the production process of the organic products does not involve any of the chemical materials. In other word, organic products are environmental friendly products.

Therefore, for the consumers which are environmental concern and wish to take environmental concern into consideration, they will purchase and consume more organic products. For them, organically produced products are generally safer and environmental friendly and hence will help in preserving the natural environment. Even in global crisis, consumers who are in green mindset is being willing to spend more on organic products as they want to become more environmental conscious. The regular consumers of organic products will tend to increase their spending because they not perceived organic products as luxury goods. Thus, for this reason, this study will include the environmental concern as one of the determinants which will influence the intention of consumers in buying organic products.

2.2.6 Organic Certification and Labeling

Organic certification and labeling is also one of the key motivations in the consumption of organic products. Organic products would be perceived as conventionally grown by consumer if it is not labeled (Giannakas, 2002). According to Giannakas (2002), labeling will affect the market acceptance of organic products as consumers completely trust the certification process. In the Aryal, Chaudhary, Pandit, & Sharma research (2009), 60% of consumer would not trust an organic product if it is not certified with well label and full information. This fact is supported by Ranabhat (2008) and Rodriguez et. Al (2007). In addition, when consumers trust the information that the labels conveys, the consumer will prioritize the labeled products (Sønderskov & Daugbjerg, 2011; Janssen & Hamm, 2012). For those consumers who distrust the message, they might not prioritize the labeled products as they will not consider the products as different from other (Smed, Andersen, Kærgård, & Daugbjerg, 2013).

Other than that, according to Krystallis & Chryssohoidis (2005), the consumer's willingness to pay for higher price is dependent upon whether they have the confidence for the eco-label. Eco-label can be considered as a guarantee to the consumer that the product is produced in an organic way. They must be environmentally friendly and complying with the production rules. A cross national survey had been done with the consumers in Germany, UK, Ireland and Italy. The result shows that high level of confidence in an eco-label will cause positive impact on the level of attention that the label achieves from consumers (Thøgersen, 2000). In conclusion, certification and labeling will affect the consumption of organic products. Consumer would not purchase the organic products if they do not trust in the labeling.

2.2.7 Education

J. M. Gil, A. Gracia and M.Sánchez (2000) mentioned that among socio-economic characteristics, educational level is one of the characteristics which judged to be the most significant to the relationship with consumption of organic products. Consumers which positively assess the beneficial aspects of organic products tend to have an educational level of high school or less. On other hand, consumers which are not well educated will pay less attention on the organic products as they not paying much alert to follow a natural diet. Besides, based on the results from a study, it shows that there are a high percentage of consumers in Navarra and Madrid which are concerned with following a balanced and healthy diet. They are mainly formed by consumers living in a family with three or more members and with a lower level of educational attainment (high school or less). In the case of Navarra, consumers which prefer organic products are mainly female; while in Madrid, organic products buyers are mostly less than 35 years old. As a result, we can conclude that age, education and income can affect the consumption of organic products.

Other than that, with respect to educational attainment, Travis A. Smith, Chung L. Huang, and Biing-Hwan Lin (2009) found that the largest proportion of organic

products users are those who have at least a college degree. Compare with those nonusers, they have only a high school diploma or less. This was further proved by Wier (2008), Zepeda and Li (2007) and Zhang (2008) in which they also found a significant connection between a household's educational level and its organic products consumption level. Zhang et al. (2008) also find that in explaining the market participation and spending on organic products, educational level would be highly appropriate. Similarly, Wier et al. (2008) stated that the organic budget share in Denmark and Great Britain has increased tremendously in recent years as a result of the countries' high education and social status. Both of them are an indicator of educational level. There is also a traditional perception towards the consumption of organic products, that is most of the consumer are from the western people, female especially, young and well educated (Travis 2009). A study perform by Rachael L. Dettmann stated that not only those with high education level would purchase organic products, but consumer with the knowledge about alternative agriculture are also more likely to consume organic products. According to the author D.J Stobbelaar, there is a difference between consumers with higher education with lower education consumer, higher educated consumer tends to have more positive attitude, and they know more than the lower educated consumer. Therefore, education level and knowledge on organic products are positively correlated. Thus, the relationship between education level and consumption of organic products cannot be denied.

2.2.8 Age Group

There are few articles mentioned about the relationship between age group and consumption of organic products. Some study's results indicates that the chances of consuming organic products will increase along with the increase in age, education level and income of the consumer. However, the presence of children in a household will not have a positive impact on the chances of purchasing organic products.

Other than that, Wier et al. (2008) found that the purchases of organic products will only be affected by age, educational level and disposable income. In other

word, the chance of purchasing organic products is higher among middle and upper age customers. Hence, for this study, several control variables will be included in the model and this include gender, age group, income level, diet, and whether or not the respondent is the main purchaser of food for their family. In addition, Sterwart Lockie, Kristen Lyons, Geoffrey Lawarence and Janet Grice (2004) mentioned that increasing age had a small negative impact on the increasing level of organic products consumption. It also had a small impact on intervening variables which include the positive effects on sensory and emotional appeal, natural foods, responsibility for shopping and political and ecological values and negative effects on education and income. However, in overall, the impact of age still considered small. After that, values associated with openness to change versus conservation explained the largest amount of variation in the data (Iwona Kihlberg and Einar Risyik, 2007) Consumers that less than 30 years old were over-represented in the direction of the modern values "openness to changes" and "self-enhancement", while consumers more than 30 years old were over-represented in the direction of the traditional values "conservation" and "self-transcendence".

In addition, studies conducted by Travis A. Smith, C. L.-H., (December 2009) found most of the consumer age 55 and above would consume more organic products than the younger households. Besides, they also found that married household tends to consume more organic products as they are more health consciousness. Therefore, certain age groups were characterized by significantly different values varied significantly in liking of organic products as values and age were link to organic products acceptance. Furthermore, older people are shows a high propensity of consumption on organic products because they are more on health conscious while for young people, they are more on the environmental issues (Mohamed M.A, 2012). Hence, based on the analysis of authors, age group is chosen as a determinant of this research.

2.2.9 Income Level

Income level has the direct connection with the buying of organic products. The variable that influences the income level will be depending on the household size. Normally, a large household size tend to be more price sensitive, and that could lead to reduce buying the organic products from the large household category. Next, Brown and Dant (2008) prove that households with higher income and social status will have a greater chance to consume organic products. This group of consumers shows that income level is link to the purchasing decision of the organic products. Durham and Andrade (2005) stated income level is affecting a buyer's decision as higher income will go for organic products while low income will not. The negative estimated coefficient for the variable low income has proven that people with low income would not prefer organic products. This result is in consistent with Torjusen (2001) and Millock (2004) who also found that regular organic products buyers are those with higher income.

Moreover, according to Michaelidou and Hassan (2008), high income level is affecting the intention to buy organic products. While Gil (2000) has shown that income level may show a higher possibility in purchasing the organic products. Following, income is an important factor in determining the demand for organic products.

Furthermore, demand for organic products will eventually higher for those countries with high income level. For instance, in Denmark, the consumption level of organic products is higher as compared to other European countries. This is due to majority of the citizens in Denmark are rich and so they can afford to consume more organic products despite the higher price (ICROFS, 2008). Studies from Travis A. Smith, C. L.-H., (December 2009) shows there is a significant positive income effect on the demand for organic products. When the household income increases, the demand for organic products will continue to rise and expand.

2.2.10   Gender

Most of the studies find out that women disposed more organic products as compared to men (Radman, 2005; Hofmann, 2006). According to (Hofmann, 2006), women tend to purchase more organic products as they are more conscious toward the health of their family. Meanwhile, men mostly purchase due to the superior taste of organic products. This is supported by a consumer study which clearly showed that females are more health conscious toward their family as compare to males. However, another study found out women tend to focus more on the taste and quality of the organic products instead of its nutritional value (Radman, 2005). In addition, according to Swiss study, men recognize organic labels less than women (Zanoli, 2004). This clearly shows that different gender has different perspective toward the consumption of organic products.

Female with the ages of 19 to 40 years old, single, and have a college degree are more likely to spend on organic products. These regular consumers claim that by consuming organic products, it will improve their health (Laura, 2011). In conjunction with the study done by the author, respondents are more than half of the individuals that they handed out the survey. This fits the typical stereotype of an organic consumer. Usually, women do the food shopping for their family or husband. Thus, women can be also considered as the head of a household as they will decide on the purchase of organic products. This statement is supported by Dimitri, R.L., (2007). According to author D.J Stobbelaar, during the process of choosing the organic products, it is extremely important for females to know whether the products are animal-friendly or not. Besides, females would also take several factors into consideration such as nutritional values, storage quality and environmental friendly.

Furthermore, most of the females would think differently as compare to males in term of pricing. Price would be less important for most of the female and they will unlikely take price into main consideration. Another factor that affected most of the females in carrying out the purchasing decision on organic products is the presence of children. Females are much aware than males on organic food

products, they tend to have more awareness and stronger belief and attitudes towards the organic foods consumption (J.Dahm, M., Samonte, A.V., & Shows, A.R. 2009). Apart from that, a study done in Norway shown that in order to assured that they could provide the best health and nutrition to the child, most of the pregnant women would choose to consume organic products instead of conventional products during their maternity (Hanne Torjusen, G.L. 2012).

In Spain, a Spanish researcher has carried out a study on men and women towards the organic products consumption, results shows women consumption on salt is lower than men and they are more to the direction of eating fruits and vegetables. Moreover, they are trying to eat food without additives. They also declared they pay more visit to the dentist in order to have a regular check up on the teeth healthy level. Besides, when deciding on the food purchase decision, they read labels more often than men. Flavor was the most important determination for Spanish in making food purchasing decision. In overall, by gender, women will be more likely to be concerned on the issues regarding to health, quality of a food product, nutrition value, and environmental condition as compared to men (Felix Urena, R.B. 2007).

In country of Egypt, a research carried out was different from the other country such as the western country United States. Most of the men in Egypt take the responsibility to perform the household's food purchasing decision. This is due to the fact that 50% of the respondents are females from a family which are either student or housewives. Therefore they need to rely on the husband to manage on food. There is another phenomenon occur in this country. Most of the females in Egypt are not working. Thus, as mentioned in previous part, they will need relied on the male to perform the food purchasing decision as they are not financial independence. This result has led to a contradiction with the previous study in which females in the western country will perform more household purchasing decision (Mohamed M.A, C.A, 2012).

2.2.11   Presence of Children

Fricke and Alvensleben stated that household with children will tend to be more focus on health. This statement is supported by a Swiss study which stated couples and families will have a strong interest toward organic products if they have babies or small children. Furthermore, a study conducted by Finnish, they declared the attitude of families with children toward organic products would be positive (Zanoli, 2004). On the other hand, a study done by United Kingdom, they describe regular consumers as having fewer children than others (Padel and Foster, 2005). According to Wier and Calverley (2002), they mentioned that families with teenagers will have a lower intent to buy organic products. Based on a study carried out by Dimitri, R.L. (2007), household with children less than eighteen years old are more likely to spend on organic products. Factors such as income level, education level and age would influence their mindset to consume organic products. Furthermore, some parents willing to buy organic apples for their children as fruits are one of the categories in the food pyramid which are good for human health.

In some middle east countries especially Egypt, the tendency of consuming organic products are higher for the families with children of one to two when compared to the families with children of three and above. This results shows when there is an increase of children in a household, it will eventually decreases the spending and consumption on organic products and also the share of each person in the family budget (Mohamed M.A, C.A. 2012). Therefore, in Egypt, if the families have lower income, the budget will mainly focused on the conventional products instead of the organic products which are far more expensive.

2.3   Proposed Conceptual Framework

Figure 2.3 Independent variables and dependent variable

Willingness to Pay for Organic Products

Taste

Environmental Concern

Nutritional Value

Organic Certification and Labeling

Demographic Factors

a. Age Group
b. Gender
c. Education Level
d. Income Level
e. Presence of Children in Household

Consumption of organic products
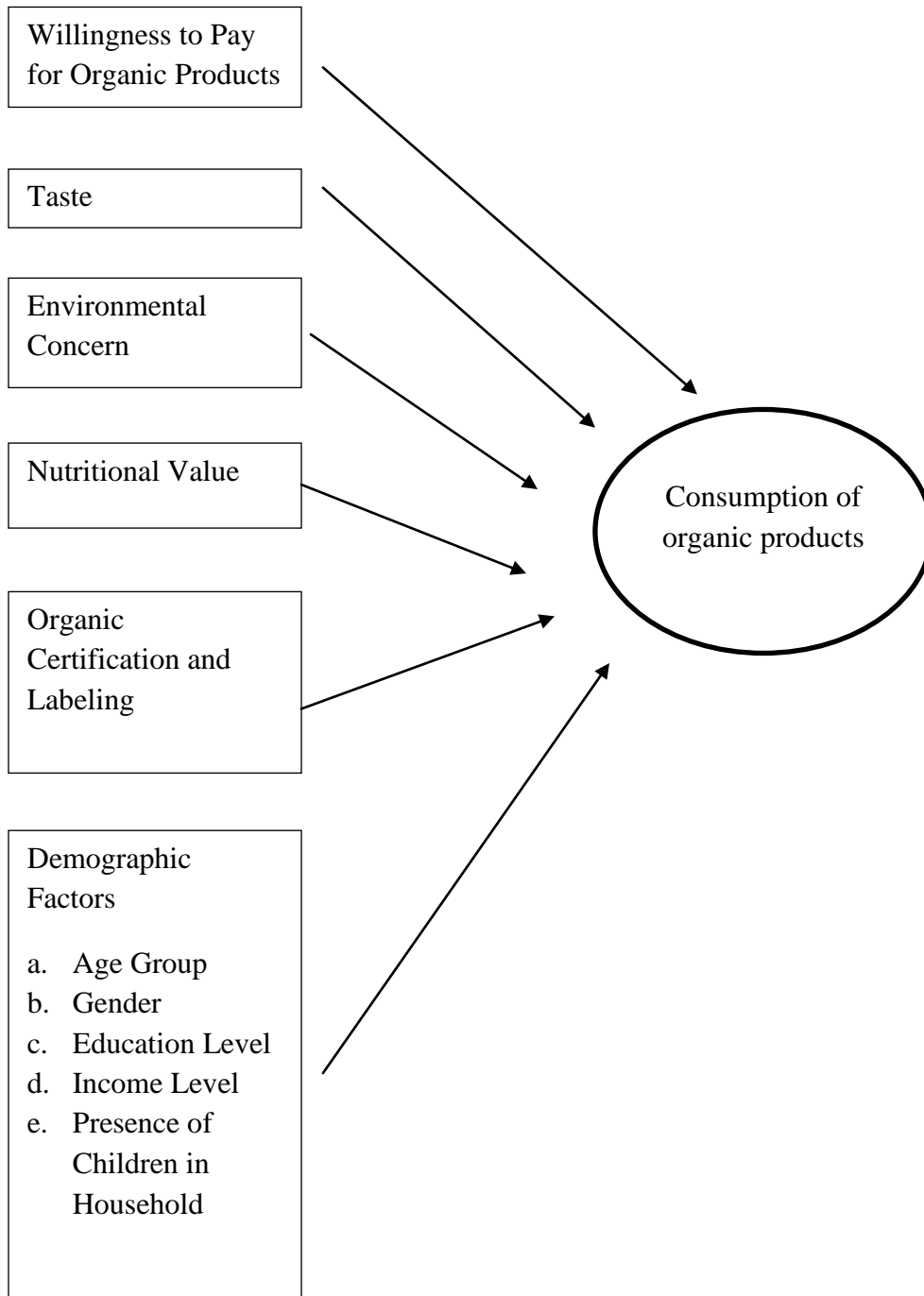
As shown in figure 2.3 above, this theoretical or conceptual framework provide the detailed concept of the research topic. The independent variables that apply in this study are demographic variables which include age group, gender, educational level, income level and presence of children in household and non-demographic variables which include willingness to pay for organic products, taste, environmental concern, nutritional value and organic certification.

These independent variables will illustrate the factors that influence the dependent variable, which is consumption level of organic products. All the independent variables were discussed earlier in this study and the development of specific research hypotheses will then be presented in following section.

2.4   Hypotheses Development

Hypothesis 1

H_1:   There is a significant difference between male and female in term of their consumption of organic products.

Hypothesis 2

H_2:   There is a significant difference among the consumer age group in term of their consumption of organic products.

Hypothesis 3

H_3:   There is a significant difference among the educational level in term of their consumption of organic products.

Hypothesis 4

H_4:   There is a significant difference among the income level in term of their consumption of organic products.

Hypothesis 5

H$_5$:   There is a significant difference among the presence of children in term of their consumption of organic products.

Hypothesis 6

H$_6$:   There is a significant difference among willingness to pay in term of their consumption of organic products.

Hypothesis 7

H$_7$:   There is a significant difference among taste in term of their consumption of organic products.

Hypothesis 8

H$_8$:   There is a significant difference among the environmental concern in term of their consumption of organic products.

Hypothesis 9

H$_9$:   There is a significant difference among the nutritional value in term of their consumption of organic products.

Hypothesis 10

H$_{10}$:   There is a significant difference among the organic certification in term of their consumption of organic products.

2.5 Conclusion

From the past studies, researchers have showed there is a positive relationship between factors such as demographic variables (income level, gender, age group, educational level, and presence of children in household) and non-demographic variables (willingness to pay, nutritional value, taste, environmental concern, and organic certification) toward the consumption of organic products. Looking at this, a conceptual framework and ten hypotheses were developed to serve as a guideline for the whole research.

CHAPTER 3: METHODOLOGY

3.0   Introduction

The purpose of this chapter is explaining all the procedures and research methods regarding this title on the factors that influence consumer behavior on the purchase of organic products.

In the previous chapter two, it provided a review of literature review in some variables related to the present study including: willingness to pay for the organic products, taste, environmental concern, nutritional value, organic certification and labeling and demographic variables such as age group, gender, education level, income level and also presence of children in household. This preview of literature is to provide guideline in the development of this investigation.

Chapter three describes how the research is carried out in terms of research design, sampling design, data collection methods, operationalisation and measurement and methods of data analysis (Zikmund, Babin, Carr, and Griffin, 2010). This study is to examine the determinations that affect the consumers in consuming organic products.

In this section, the covered details are research design, hypotheses development, population and sampling method, data collection method, questionnaire design, operationalisation and measurement, scale measurement and data analysis method.

3.1 Research Design

According to the author Zikmund, research design is a master plan in determine the procedures and research methods for collecting and analyze the needed information in the particular study. Furthermore, Creswell also mentioned that research design is a plan could gather all the information needed and perform a reliable test in order to obtain an accurate data.

Burns and Grove (2003) stated that research design is a blueprint for conducting a study that maximizes the control over factors that might obstruct or affect to the validity of the findings. Besides, Parahoo (1997) defined the research design as a plan that describes when, where, and how does the data be collected and analyzed.

There are different types of research design, which are exploratory research, descriptive research, and causal research. Zikmund (2003) explained that exploratory research is used to define the nature of a problem. Furthermore, descriptive research is used to describe the characteristics of population or phenomenon. While the logistic research is used to identify the cause and effect relationships among the variables used in the research study.

In our research study, quantitative research is chosen as we used the survey data to analyze what are the factors that affect the consumption in organic products. Besides, our research is a logistic research as we want to determine the relationship between the determinants of consumption in organic products and consumption level in organic products. In the determinants of consumption in organic products, we have used the willingness to pay for the organic products, taste, environmental concern, nutritional value, organic certification and labeling and also demographic variables which included age group, gender, education level, income level and also presence of children in household as our independent variables. These are some of the specific variables which affect to the dependent variable which is the consumption level in organic products.

3.2 Hypotheses Development

Hypothesis 1

H$_1$:   There is a significant difference between male and female in term of their consumption of organic products.

Hypothesis 2

H$_2$:   There is a significant difference among the consumer age group in term of their consumption of organic products.

Hypothesis 3

H$_3$:   There is a significant difference among the educational level in term of their consumption of organic products.

Hypothesis 4

H$_4$:   There is a significant difference among the income level in term of their consumption of organic products.

Hypothesis 5

H$_5$:   There is a significant difference among the presence of children in term of their consumption of organic products.

Hypothesis 6

H$_6$:   There is a significant difference among willingness to pay in term of their consumption of organic products.

H_7:   There is a significant difference among taste in term of their consumption of organic products.

Hypothesis 8

H_8:   There is a significant difference among the environmental concern in term of their consumption of organic products.

Hypothesis 9

H_9:   There is a significant difference among the nutritional value in term of their consumption of organic products.

Hypothesis 10

H_{10}:   There is a significant difference among the organic certification in term of their consumption of organic products.

3.3   Data collection Method

There are two data collection methods which are primary data and secondary data. Primary data are the data or information obtained first-hand by the researchers. Besides, secondary data are the data obtained from sources that are readily available such as statistics or articles from books, census data, government publications, annual reports and others (Sekaran and Bougie, 2010).

The type of data we used in this study is primary data. We collected the data by using survey, which is by distributing the questionnaire. The purpose of the survey is to determine the factors that affect the consumers in consuming organic products.

In any type of research, data collection plays an important role to obtain the accurate tested results. According to Zikmund, primary data means gather data for the purpose of analyze it for the particular research project. In order to collect primary data, questionnaire survey approach is being used in this research project. As for data collection, 476 sets of questionnaire survey were distributed to the consumers and non-consumers in the area of Klang Valley. Face-to-face method is being used in this questionnaire survey approach, this method could reduce the doubts of respondents and most importantly to ensure respondents understand the questions.

3.3.1 Questionnaire Design

Questionnaire is the most appropriate way in this research project that involves of gathering statistical data in order to generate results and study on the factors that influence consumer behavior on the purchase of organic products in Klang Valley. Questionnaire is popular and more convenient for researchers to obtain data from respondents compared to other methods of data collection. Furthermore, with this questionnaires survey method, it is less costly compared to the other data collection method.

On top of that, simple and understandable English language was used in the questionnaire design to prevent confusion to the target respondents and to make sure that is no redundant words to delay them from answering the questionnaire. Furthermore, categorical answers have been included in order to make the respondents have a clearer sight to response and making better decision in answering the questionnaire.

3.4   Sampling Design

Sampling is a small portion comes from the large population that could be used to conclude the larger population and determine conclusions for the whole population. It is important to perform study to some unknown characteristics of the population in order to confirm the selected samples could be well determining the whole population. The area of Klang Valley consist of population about 7.2 million, the target of this research is focused on 476 respondents in the public area of Klang Valley. The target selected for this research is consumer and non-consumer of organic products who are above 18years old. Convenience sampling is being used in this project in the public area of Klang Valley. The reason behind this is because this place were built around with many commercial shop lots, mega malls, residential areas such as high end detached house, semi detached house and terraced residential, condominiums are included in this area, the researchers think that the purchasing power of these group of consumer or non-consumer of organic products are more reliable. Referring to Zikmund, convenience sampling is refers to non-probability sampling and also sampling by obtaining people who are most convenient at the moment. This method is much popular to researchers because it could generate large number of questionnaires quickly and most importantly economically. The targeted group in this research are those consumer who actually purchase organic product and age 21 and above.

3.5   Research Instrument

Self-administered questionnaire are bring used in this research instrument in the form of paper through distribution of hand to hand method and online surveying. While going through these kinds of questionnaire's form to enable us easily get response from our target respondents. Thus, it is a very economical way to conduct our questionnaire.

3.6   Construct Measurement

The questionnaire in this study consist of four sections, in order to ensure that respondents has no doubts in answering the question and confusion occur during the survey approach, this questionnaire distributed into four parts.

- Part one requires demographic information or background of respondents which were used to identify their personal profiles. This part consist of eight questions such as age, gender, race, marital status, number of children, income level, education background and also current employment status. Respondents are only able to choose one answer which related to their own personal background. Within these backgrounds two types scale of measurement were used. They are nominal scale and ratio scale.

- Part two is on the subject purchasing organic products, this section consists of seven questions for respondents to answer. This section is intended to examine respondent's behavior on purchasing organic products, questions are such as How long have you been consuming the organic product? where you will purchase organic products? How frequent do you purchase organic product? How much do you spend on the organic product per month? Which type of organic products do you usually purchase? What is the maximum price premium willing to pay? How much premium price for organic products that you willing to pay? Some of this question is allowed to choose more than one answer by the respondents. This section tends to test and understand how a consumer or non consumer organic products behaving in their purchasing.

- Part three is regarding to influences of various factors towards consumers' willingness to pay for organic products. In this section, five point Likert-type scale was used to measured the variables which respondents are required to rate a scale starting from 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree. This section consist of forty-six questions, respondents has no right and wrong answers in this section however, answers given by respondents

are for researchers to indicate their behavior by examining how strongly agree to strongly disagree on a particular statement that is in the questionnaires.

- Part four is collecting the psychographic profile of respondents, this section also using the likert-type scale and consists of three sections, it consist of twenty questions compulsory answer by the respondents, five point likert-type scale and four point likert-type scale are being used in section two and three.

3.7 Proposed Conceptual Framework

One of the best ways to achieve unbiased results in a study is through random sampling. Random sampling includes choosing subjects from a population through unpredictable means. In its simplest form, subjects all have an equal chance of being selected out of the population being researched. Hence, random sampling has been used in this study.

Hence, a cross sectional model will be used to estimate the relationship between consumption in organic products and the independent variables. The model could be represented as follow:

$$P(Y) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 AG_{1i} + \beta_2 G_{2i} + \beta_3 EL_{3i} + \beta_4 IL_{4i} + \beta_5 P_{5i} + \beta_6 W_{6i} + \beta_7 T_{7i} + \beta_8 EC_{8i} + \beta_9 NV_{9i} + \beta_{10} OC_{10i})}}$$

Where:

C   = Consumption of organic products

AG   = Age Croup

G   = Gender

EL   = Education Level

IL   = Income Level

P   = Presence of Children in Household

W   = Willingness to Pay for Organic Product

T   = Taste

EC   = Environmental Concern

NV   = Nutritional Value

OC   = Organic Certification and Labeling

Figure 3.7.1

The Application of Consumption in Organic Products

Willingness to Pay for Organic Product

Taste

Environmental Concern

Nutritional Value

Organic Certification and Labeling

Demographic Factors

f. Age Group
g. Gender
h. Education Level
i. Income Level
j. Presence of Children in Household

Consumption of organic products
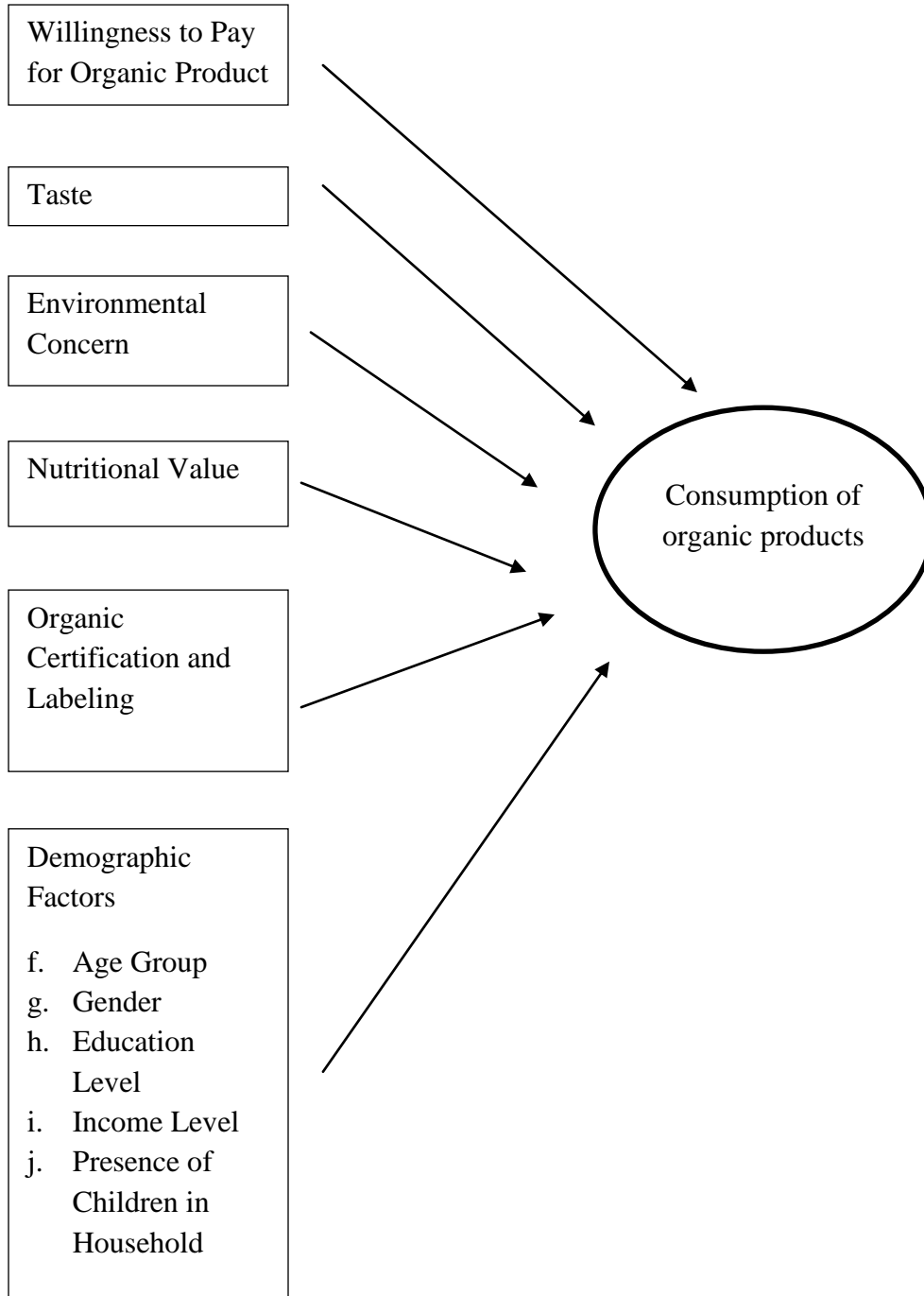
3.8 Data Analysis

There are various kind of tests can be used in conducting data analysis. It is important for researchers to know which tests are available and suitable in their research study and what they can get from the existing data by using the tests. As a researcher, it is also important to have a clear understanding that what is the objective they want to achieve and choose the correct tests which enable them to interpret the data and achieve the objective at the end of the research. The research might become invalid, questionable, and inaccurate if the test was used wrongly in the study. There are many methods available for data analysis, such as descriptive statistics, probability distributions, probability, random variables, hypothesis testing, statistical inference, testing hypothesis concerning population means and population proportions, the chi-square test, logistic regression and correlation, one-way analysis of variance, two-way analysis of variance, analysis of covariance, and non-parametric statistics.

3.8.1 Statistical Package for Social Sciences

SPSS is a windows based program that is usually used by most the researchers to perform data entry and analysis to create graphs and tables, furthermore, it is also a tools that been used to test the variables between dependent variable and independent variable. SPSS able to handle numerous amount of data and could perform many analyses such as descriptive data analysis, inferential data analysis, logistic regression, analysis of variance, normality test and so forth. SPSS is commonly used in today's business world and also social sciences research. Therefore, in our study on the factors that influence consumer behavior on the purchase of organic products, this software SPSS is being taken as the tool to perform analysis on the certain variables.

3.8.2 Descriptive Analysis

According to Sekaran and Bougie (2010), descriptive analysis is used to describe the key features of the variables. Frankfort-Nachmias and Leon-Guerrero (2006) stated that descriptive analysis is normally used to describe the population that the researchers are studying. The collected data is either from a population or from a

sample. Nevertheless, the results help the researchers to organize and describe data. Descriptive analysis can only be used to describe the group which is being chosen and studying. Descriptive analysis is useful if researchers do not need to extend their results to any larger group. However, many of the studies of social sciences tend to give "universal" truths about segments of the population, such as all parents, and all victims. Frequency distributions measures of central tendency, and graphs like pie charts and bar charts are used to describe the collected data and all of it are the examples of descriptive analysis.

Descriptive statistics are focuses on collecting, summarizing, presenting and analyzing a set of data. It provides researchers a summary about the selected samples with simple graphic analysis.

Table 3.8.2.1 Descriptive Analysis

Level of Measurement	Nominal	Ordinal	Interval or Ratio
Central Tendency	Mode	Median	Mean
Dispersion (how similar the responses are)	Frequencies/ percentage distribution	Cumulative percentage distribution	Standard Deviation
Diagram	Bar Chart/ Pie Chart	Bar Chart/ Pie Chart	Histogram

Adapted from: Burns & Bush (2003) Marketing Research: Online research Applications (4th Ed.). New Jersey: Prentice hall.p.445

3.8.2.1.1 Frequency Analysis

According to Malhotra (2007), frequency analysis is used to analyze the frequency occurrence of observation. In the frequency analysis, there are measures of central tendency. The mean, mode, and median are determined in this analysis method. Besides, the confident interval and the probabilities can be obtained from the data by using this method. The confident interval is to determine how true the hypothesis is in percentage.

While the probability is used to determine how big the chances is for an event to happen.

As our research consists of demographic variables, nutritional value of organic products, taste of organic products and also the environment as our independent variables, hence, it is important for us to use frequency analysis in order to determine the percentage of the sample from these variables. Moreover, frequency analysis also gives an overview background of the respondents. Therefore, we can get more detailed information and also a better understanding of our respondents. With the information, all the results will become non-biased, accurate and complete.

3.8.3 Scale Measurement

Sekaran and Bougie (2010) stated that a better instrument usage is able to enhance the accuracy of the results. Besides that, it will also improve the scientific quality of the research indirectly. Therefore, the scale measurement is essential in this research as to examine the validity and also the reliability of the data to ensure the measures are developed properly.

3.8.3.1 Reliability Test

According to Shuttleworth (2009), reliability test is used in comparing two different versions of instrument and ensuring that they are similar. Instrument does not necessarily to be a physical instrument, an educational test or questionnaire can also be the instruments. Reliability test is the test to check whether the data or results obtained are reliable and error free. Besides, the consistency of repeated measurement and over different items can be confirmed by using the test on reliability (Sekaran and Bougie, 2010).

Malhotra (2007) also stated that the reliability is to examine how consistency of the results of a scale will be produced when repeated measurements are made. It means that reliability shows the stability and consistency of the measurement of concepts and also useful in evaluate the

"goodness" of a measure. Moreover, he also said that the systematic error does not have negative implication on reliability as inconsistency will not occur while random error will lead to a lower reliability as this error produces inconsistency.

3.8.3.1.1   Stability of Measures

Stability of measures is the ability to measure to remain constant and the same over time. Two tests were used in stability of measures which are test-retest reliability and parallel forms reliability (Sekaran and Bougie, 2010).

Test-retest reliability is used to access the consistency of a measure from one time to another. Same items will be administered to respondents at different time but under the same condition. The usual time for administration is two to four weeks and the result is expected to be the same (Malhotra, 2007). However, the weakness of this test is when the timeframe is prolonged, the reliability of this test will be low. Next, respondent tend to use the primary result to merge with the following result.

Parallel forms reliability is used to access the consistency of the results of two tests constructed in the same way from the same content domain. Sekaran and Bougie (2010) stated that it has the same form and format but only font and the sequence different. This is considered as one of the weaknesses because it is not easy to perform a lot of items with the same construct. Besides, it also makes the assumption randomly divided halves are parallel.

3.8.3.1.2   Cronbach's Alpha Analysis

Internal consistency reliability is to measure whether several items that propose to measure the same general construct produce similar scores. It can be measured through split-half reliability test and coefficient alpha. Split-half reliability test is one of the measurements in internal consistency. It is defined as the internal

consistency is high if correlations between of the two halves are high. Next, coefficient alpha is also a measurement in internal consistency. When coefficient alpha is less than 0.6, it means that the result is not satisfactory. However, when the alpha is more than 0.6, it means that the result is satisfactory.

3.8.4 Inferential Analysis

Inferential statistics uses data that have been collected from a small group to draw conclusions about a larger group. According to Burns & Bush (2006), they also mentioned inferential analysis was meant to conclude a conclusion from selected samples to represent the population as a whole. Inferential analyses which include logistic regression were used to test the hypotheses provided in chapter two.

3.8.4.1 Binary logistic Regression

In this research, there are ten hypotheses ($H_1, H_2, H_3, H_4, H_5, H_6, H_7, H_8, H_9, H_{10}$) developed in the earlier chapter. These hypotheses were tested by using the logistic regression analysis. Logistic regression is a statistical technique that allows the researchers to analyze the significant relationship between one variable with another several independent variables.

Logistic regressions are allowed to test models with two or more categorical data by predicting the categorical outcome. The independent variables or predictor can either be categorical or continuous. In this research model, it contains a dichotomous dependent variable with only two categories on the value on dependent variable; this is almost similar to linear regression, except in this model the dependent variable is dichotomous.

There are a few assumptions of logistic regressions than the multiple linear regression, which is one of the reason that this technique is widely used and being popular, especially in health related fields. Binary logistics regressions assumes that the dependent or outcome variable is

dichotomous and, the outcomes are independent and mutually exclusive, which is a single case can only be represented once and must be in one group or the other. Last but not least, binary logistics regressions require large samples to be accurate. These requirements are needed to be satisfied in order to perform statistical analysis with SPSS. The following is the logistic regression of this research:

$$P(Y) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 AG_{1i} + \beta_2 G_{2i} + \beta_3 EL_{3i} + \beta_4 IL_{4i} + \beta_5 P_{5i} + \beta_6 W_{6i} + \beta_7 T_{7i} + \beta_8 EC_{8i} + \beta_9 NV_{9i} + \beta_{10} OC_{10i})}}$$

3.8.4.2 Omnibus Tests of Model Coefficients

This test gives the results of overall indication of how well the model itself performs, the results can be obtained in the section of Block 0 in the output, with none of the predictors are entered into the model. This is also symbolizing as a 'goodness of fit' test. In this particular result, the researcher wants a highly significant value where the value should not more than .05 (Pallant, 2010)

3.8.4.3 Hosmer and Lemeshow Test
This test is stated more reliable and being worthwhile by the SPSS of the model fit. Hosmer and Lemeshow test is interpreted very differently from the previous, omnibus test, where the goodness of fit test poor fit is indicated by a significance value less than .05, in order to support the model, the significant value must be greater than .05 (Pallant, 2010)

3.8.4.4 Odds Ratio (OR)
The odds ratio is another useful piece of information to interpret each of the independent variables. According to Tabachnick and Fidell (2007), the odds ratio is representing the change in odds of being in one of the categories of outcome when the values of a predictor increase by one unit. For categorical variables with more than two categories, each of the categories is compared with the reference group and usually the group coded with the lowest value (Pallant, 2010).

3.9 Conclusion

In this chapter, we described the method that we used in conducting this research paper by providing information about the research design, hypothesis development, data collection methods, population and sampling procedures, proposed conceptual framework, and data analysis method. Appropriate data collection and analyze methods can be identified in the research design part. Primary data collection can provide more information which is needed by the researchers.

After the data is collected, Statistical Package for Social Sciences (SPSS) version software is used to run test on the data and then analyze the result of the test. In our research paper, descriptive analysis is used to determine the frequency of the chances for an event to happen and the distribution of the results obtained. The reliability test is also taken into account in order to measure the reliability of the perception question. Last but not least, logistic regression is being used to measure the factors on consumption of organic product, by using the odds ratio to determine whether which factor is really concerning to the dependent variable.

CHAPTER 4: DATA ANALYSIS AND RESULTS

4.0   Introduction

This chapter will illustrate and analyze the finding results of the data in the form of figures, charts, or text. It consists of three main sections namely descriptive analysis, scale measurement and inferential analysis. Descriptive analysis covers the demographics of the respondents and the central tendencies measurement of contrast. Scale measurement proves the reliability of the constructs used while inferential analysis will provides the results of the hypotheses.

4.1   Descriptive Analysis

4.1.1 Respondent Demographic Profile

Table 4.1.1.1: Gender

	Frequency	Percent
Male	142	29.8
Female	334	70.2
Total	476	100.0

Through table 4.1.1.1, the result shows that there are 29.8% respondents who are male and 70.2% respondents are female respondents. Overall, the majority of the respondents are female.

Figure 4.1.1.2: Race

	Frequency	Percent
Malays	28	5.9
Chinese	419	88.0
Indians	24	5.0
Others	5	1.1
Total	476	100.0

Through table 4.1.1.2, the result shows that there are 88.0% respondents are Chinese, 5.9% of the respondents are Malays and 5.0% of the respondents are from Indians. The least portion of the respondents is from the others which are only 1.1% of the total amount of respondents.

Table 4.1.1.3: Marital Status

	Frequency	Percent
Single	208	43.7
Currently married	249	52.3
Others	19	4.0
Total	476	100.0

Through table 4.1.1.3, the result shows that there are 52.3% of the respondents are married and 43.7% of the respondents are single. Lastly, others respondents consist of 4.0.

Table 4.1.1.4: Employment Status

	Frequency	Percent
Employed	234	49.2
Self-employed	98	20.6
Students	63	13.2
Housewife	61	12.8
Retried	20	4.2
Total	476	100.0

Through table 4.1.1.4, the result shows that there are 49.2% of the respondents are employed, 20.6% of the respondents are self-employed, 13.2% of the respondents are students, and 12.8% of the respondents are housewife. Last but not least, retired respondents consist of 4.2%.

Table 4.1.1.5: Age Group

	Frequency	Percent
Below 30	182	38.2
30 - 40	112	23.5
Above 40	182	38.2
Total	476	100.0

For the research purpose, the age group will be grouped into three main groups as shown at table 4.1.1.5. Age group below 21 years old, 21 to 25 years old and 26 to 30 years old will be grouped into group Below 30, which consists of 38.2%. Next followed by age group of 31 to 35 years old and 36 to 40 years old will be grouped into group 30 to 40, which consists of 23.5%. Lastly, age group of 41 to

45 years old, 46 to 50 years old and above 50 years old will be grouped into group Above 40, which consists of 38.2%.

Table 4.1.1.6: Education Level

	Frequency	Percent
Primary and Secondary	169	35.5
Tertiary	307	64.5
Total	476	100.0

Respondents' education level will also be grouped into two main groups namely group Primary and Secondary and group Tertiary. Group Primary and Secondary will consist of No schooling, Primary, Lower Secondary, Upper Secondary andForm6/Pre-university, which consists of 35.5%. Meanwhile, group Tertiary will consist of Diploma/Vocational/Technical, Degree, Master/PhD and others, which consists of 64.5%.

Table 4.1.1.7: Income Level

	Frequency	Percent
Below RM2000	163	34.2
RM2000 - RM4000	168	35.3
Above RM4000	145	30.5
Total	476	100.0

With no exception, respondent's income level will be divided into three main categories namely Below RM2000, RM2000 to RM4000 and Above RM4000 as shown at table 4.1.1.7. Monthly income below RM1000 and RM1001 to RM2000 will be categorized into Below RM2000, which consists of 34.2%. Next followed by monthly income around RM2002 to RM3000 and RM3001 to RM4000 will be categorized into RM2000 to RM4000, which consists of 35.3%. Last but not least, Above RM4000 will be consisting of monthly income around RM4001 to RM5000 and RM5000 & above and it will contribute to 30.5% of the total respondents.

Table 4.1.1.8: Number of Children

	Frequency	Percent
0	230	48.3
1	47	9.9
2	93	19.5
3	57	12.0
4	30	6.3
5	10	2.1
6	77	1.5
8	2	.4
Total	476	100.0

	Number of children
Mean	1.33
Std. Deviation	1.59
N	476

Through table 4.1.1.8, the result shows that most of the respondents do not have children, constituting 48.3% of the respondents. Next, 19.5% of the respondents have 2 children, 12.0% of the respondents have 3 children, and 9.9% of the respondents have 1 child. This is followed by 6.3% of the respondents have 4 children, 2.1% of the respondents have 5 children and 1.5% of the respondents have 6 children. Finally, among the 476 respondents only 0.4% has 8 children.

4.1.2 Dependent Variable of Organic Products Consumption
<u>Table 4.1.2.1: Consumption of Organic Products</u>

	Frequency	Percent
Below RM300	335	70.4
Above RM300	141	29.6
Total	476	100.0

For research purpose, the monthly consumption of organic products will be grouped into two main groups namely group Below RM300 and group Above RM300. This is shown at the table above. Consumption below RM100 and RM101 to RM300 will be put into group Below RM300, while consumption around RM301 to RM500, RM501 to RM1000, RM1001 to RM2000 and RM2000 or above will be grouped into group Above RM300. From the table above, it clearly shows that the respondents are mostly from group Below RM300, which constitutes about 70.4% of the total respondents. The rest of it comes from group Above RM300 which consist of 29.6%

4.1.3 Independent Variables
Table 4.1.3.1: Willingness to Pay for Organic Products

Statement	SD	D	N	A	SA	$\bar{x}$	s
C13. I will continue to consume organic products without affect by the price changes.	2.3	18.9	41.4	32.1	5.3	0.88	3.19
C14. I am willing to pay a higher price for organic products.	3.8	16.8	40.8	34.2	4.4	0.90	3.19
C40. I'm to buy organic food even though choices are limited.	1.3	10.5	29.4	49.2	9.7	0.85	3.55
C41. I'm willing to buy organic food because the benefits outweigh the cost.	0.6	10.3	31.1	47.3	10.7	0.84	3.57
C42. Buying organic food is the right thing to do even if they cost more.	0.6	8.8	34.5	46.0	10.1	0.82	3.56
C44. I would still buy organic food even though conventional alternatives are on sale.	2.3	10.5	36.8	41.4	9.0	0.88	3.44

Note: SD =Strongly Disagree, D =Disagree, N =Neutral, A =Agree, SA =Strongly

Agree

Table 4.1.3.1 is relating the willingness to pay towards the consumption of organic products. The table include of 6 statements. The statement of "I'm willing to buy organic food because the benefits outweigh the cost." has the highest mean of 3.57. There are 10.7% of the respondents are strongly agree toward this statement, followed by 47.3% are agree towards it.

But yet, the statement of "I will continue to consume organic products without affect by the price changes." and "I am willing to pay a higher price for organic products." has the same and the lowest mean. Both of the statement show that only 32.1% and 34.2% of the respondents agree toward it.

Table 4.1.3.2: Taste

Statement	SD	D	N	A	SA	$\bar{x}$	s
C2. I am concerned about the presence of food additives.	0.2	2.7	21.0	48.5	27.5	0.78	4.00
C5. Organic food tastes better.	2.9	9.7	35.9	31.9	19.5	1.01	3.55
C37. Organic food is free from pesticides.	1.3	4.6	37.8	42.6	13.7	0.82	3.63
C38. Organic food does not contain additives and artificial flavoring.	0.8	6.9	27.9	47.7	16.6	0.85	3.72
C39. Organic food is free from pesticides.	0.6	6.7	26.7	48.7	17.2	0.84	3.75

Table 4.1.3.2 is relating the taste towards the consumption of organic products. The table consists of 5 statements. The statement "I am concerned about the presence of food additives." has the highest ranking among the other means which is about 4.00. This statement illustrates that most of the respondents are very concern with the presence of food additives, which is about 48.5% of the total respondents.

While, the statement got the least ranking of mean are "Organic food tastes better." which only got the mean value of 3.55. There are only 31.9% of the respondents agree that organic food tastes better.

Table 4.1.3.3: Environmental Concern

Statement	SD	D	N	A	SA	$\bar{x}$	s
C22. I feel I am more environmentally conscious than most people.	0.4	4.8	38.9	43.7	12.2	0.78	3.62
C23. I am willing to pay more for a product that is environmentally safe.	0.4	7.8	27.7	49.2	14.9	0.83	3.70
C24. I buy organic products because I am concerned about the environment.	1.5	10.1	35.5	39.9	13.0	0.90	3.53
C27. Organic food is more environmentally friendly.	1.1	4.2	24.6	49.2	21.0	0.84	3.85
C28. Environmental issues haven taken into account when making food purchase decision.	0.8	8.4	34.0	44.5	12.2	0.84	3.59

Table 4.1.3.3 is relating the environmental concern towards the consumption of organic products. The table shows that the statement "Organic food is more environmentally friendly." has the highest ranking of mean which is 3.85. This statement is agreed by most of the respondents, which about 49.2% of the respondents.

While, the statement "I buy organic products because I am concerned about the environment." has the lowest ranking among the other, which about 3.53. This shows that there are only 39.9% of the respondents buy organic products because of environmental concern.

Table 4.1.3.4: Nutritional Value

Statement	SD	D	N	A	SA	$\bar{x}$	s
C1. I am concerned about the type and amount of nutrition in the food that I consume daily.	0.2	3.8	21.6	50.2	24.2	0.79	3.94
C3. I care about cholesterol and fat I keep a strict diet.	0.6	3.6	24.6	44.1	27.1	0.85	3.93
C6. Organic products are more nutritional than conventional food.	0.4	4.6	22.1	45.4	27.5	0.85	3.95
C7. Organic products are healthier than conventionally grown food.	0.2	2.9	17.2	50.4	29.2	0.77	4.05
C9. Organic products are more safety to consume and contain less health risk.	0.2	2.9	17.6	50.8	28.4	0.77	4.04

Statement	SD	D	N	A	SA	$\bar{x}$	s
C33. I trust organic products are good for me and my family.	0.0	3.2	14.7	55.3	26.9	0.74	4.06

Table 4.1.3.4 is relating the nutritional value towards consumption of organic products. The table consists of 6 statements. The mean score for statement "I trust organic products are good for me and my family." hit the highest ranking among the others mean which are about 4.06. 55.3% of the respondents believe that organic products are good for them and their family.

However, the statement "I care about cholesterol and fat I keep a strict diet." has the lowest mean, which are only 3.93. There are only 44.1% of the respondents cares about their cholesterol or fat and keep a strict diet.

Table 4.1.3.5: Organic Certification and Labeling

Statement	SD	D	N	A	SA	$\bar{x}$	s
C19. I will only purchase organic products with organic certification or organic labeling.	1.5	6.1	28.4	48.9	15.1	0.85	3.70
C20. Organic labeling and certification is important for me to recognize organic products.	1.5	4.2	20.8	55.5	18.1	0.82	3.84
C31. I trust the organic certification logo on the organic food labels.	0.6	4.6	40.3	46.6	7.8	0.73	3.56
C32. I trust the information on organic food labels.	1.1	4.0	37.2	49.4	8.4	0.74	3.60

Based on table 4.1.3.5, statement of "Organic labeling and certification is important for me to recognize organic products." has the highest ranking among the others mean which is about 3.84. This shows that organic labeling and certification is important for most of the respondents to recognize an organic products.

The fourth and least rank of the mean is the statement of "I trust the organic certification logo on the organic food labels." which is only 3.56. There are only 46.6% and 7.8% of the respondents are agreed and strongly agree toward this statement.

Table of Summary: Independent Variables

	WTP	Taste	Environmental Concern	Nutritional Value	Organic certification and labeling
N	476	476	476	476	476
Mean	3.42	3.73	3.66	4.00	3.68
Std. Deviation	0.64	0.59	0.61	0.55	0.58

Table above is relating the mean and standard deviation to each of the non-demographic independent variables namely willingness to pay (WTP), tastes, environmental concern, nutritional value and organic certification and labeling. According to the table, it shows that the mean and standard deviation for willingness to pay (WTP) are 3.42 and 0.64 respectively, followed by 3.73 and 0.59 for taste, 3.66 and 0.59 for environmental concern, and 4.00 and 0.55 for nutritional value. Lastly, the mean and standard deviation for organic certification and labeling will be 3.68 and 0.58 respectively.

4.2 Scale Measurement

Table 4.2.1: Cronbach's Alpha Analysis

Independent variables	Cronbach's Alpha	No. of items
Willingness to Pay	0.84	6
Taste	0.72	5
Environmental Concern	0.77	5
Nutritional Value	0.78	6
Organic certificate and labeling	0.72	4

To assess whether the independent variables were summed to create the motivation score formed a reliable scale, Cronbach's alpha was computed. The alpha for the first independent variables, willingness to pay, and six items was 0.84, which indicates that the items form a scale that has reasonable internal consistency reliability.

The alpha for the second independent variables, taste, five items was 0.72, which indicates the items form a scale that has reasonable internal consistency reliability. The alpha for the third independent variables, environmental concern, and five items was 0.77, which indicates the items form a scale that has reasonable internal consistency reliability.

The alpha for the fourth independent variables, nutritional value, and six items was 0.78, which indicates the items form a scale that has reasonable internal consistency reliability. The alpha for the last independent variables, organic certificate and labeling, four items was 0.72, which indicates the items form a scale that has reasonable internal consistency reliability. Similarly, the entire alpha for the competence scale (>0.72) indicated good internal consistency, but the 0.69 alpha for the pleasure scale indicated minimally adequate reliability.

4.3 Inferential Analysis

There are three main sections on this output of the logistic regression. First section is the descriptive statistics information of the whole model. In the next section, Block 0 has provided information about the baseline situation. Which is, how well the researcher can predict the consumption of organic food product without using the variables such as willingness to pay, taste, nutritional value, environmental concern, organic certificate and labeling, age, gender, income level, number presence of children and education background. The final part of this logistic regression, Block 1, shows the result of when all these ten predictors are entered simultaneously.

Table 4.3.1: Method=Enter (Omnibus Tests of Model Coefficients)

	Chi-square	df	Sig.
Step	130.32	12	0.00
Block	130.32	12	0.00
Model	130.32	12	0.00

Table 4.3.2: Hosmer and Lemeshow Test

Chi-square	df	Sig.
12.98	8	0.11

Table 4.3.3: Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
448.13(a)	0.24	0.34

The first table of Omnibus Tests of Model Coefficients gives an overall indication of how well the model performs, over and above the results obtained for Block 0, with none of the predictors entered into the model. This is referred to as a 'goodness of fit' test. For this set of results, it wants a highly significant value. In this case, the value is 0.00. The chi square value in this result is 129.39 with 10 degree of freedom.

The result shown in the table of Hosmer and Lemeshow Test also support the model as being worthwhile. This test, which SPSS states is the most reliable test of model fit available in SPSS, is interpreted very differently from the omnibus test discussed above. For the Hosmer-Lemeshow Goodness of Fit Test, the result is not significant whereby indicating not contradicting with the Omnibus Test of Model Coefficients.

Meanwhile, the following table of Model Summary provides another piece of information about the usefulness of the model. The Cox & Snell R Square and the Nagelkerke R Square values provide an indication of the amount of variation in the independent variable explained by the model. These are described as pseudo R square statistics, rather than the true R square values. In this result, the two values are 0.24 and 0.34, suggesting that between 24 per cent and 34 per cent of the variability is explained by this set of variables.

							95.0% C.I.for	
	B	S.E.	Wald	df	Sig.	Exp(B)	EXP(B)	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Willingness to pay	1.22	0.27	19.54	1	0.00	3.39	1.97	5.83
Taste	0.33	0.30	1.20	1	0.27	1.39	0.77	2.52
Environmental concern	0.37	0.26	0.21	1	0.89	1.04	0.63	1.72
Nutritional value	0.28	0.31	0.81	1	0.37	1.32	0.72	2.39
Organic certification	-0.65	0.24	7.42	1	0.06	0.52	0.32	0.83
Age			0.15	2	0.93			
Age (1)	0.12	0.34	0.13	1	0.72	1.13	0.58	2.20
Age (2)	0.36	0.37	0.01	1	0.92	1.04	0.50	2.15
Education background	0.27	0.30	0.79	1	0.38	1.32	0.72	2.37
Income level			20.84	2	0.00			
Income Level (1)	1.06	0.34	9.93	1	0.00	2.90	1.49	5.59
Income Level (2)	1.70	0.37	20.83	1	0.00	5.50	2.64	11.42
Gender	0.59	0.28	4.36	1	0.04	1.80	1.04	3.13
Number of children	0.35	0.09	14.90	1	0.00	1.41	1.19	1.69
Constant	-8.01	1.26	40.34	1	0.00	0.00		

The table of Variables in the Equation provides information about the contribution or importance of each of the predictor variables. The test that is used here is known as Wald test. In this case, there will have five significant variables (Willingness to pay $p=0.00$, Income level $p=0.00$, Number of children $p=0.00$ and gender $p=0.04$). In this result, the major factors influencing whether an individual consume organic food product above RM300 are: willingness to pay, gender, income level and number of children. Taste, environmental concern, organic certification and labeling, nutritional value, age and education background did not contribute significantly to the model.

The B values provided in the second column are equivalent to the B values obtained in a multiple regression analysis. These are the values that would use in an equation to calculate the probability of a case falling into a specific category. Next, it would want to check the B values are positive or negative. This is to tell the direction of the relationship. Negative B values indicate that an increase in the independent variable score will result in a decreased probability of the case recording a score of 1 in the dependent variable. In this result, the variable measuring the organic certificate and labeling showed a negative B value (-0.65). This indicates that the more an individual look into organic certificate and labeling, the less likely they will report consuming more than RM300. For the other significant categorical variables, the B values are positive. This suggests that an individual claiming they have consumed organic food product below RM300.

The other useful piece of information in the table of Variables in the Equation is provided in the Exp (B) column. These values are the odds ratios (OR) for each of the independent variables. According to Tabachnick and Fidell (2007), the odds ratio represents the change in odds of being in one of the categories of outcome when the value of a predictor increases by one unit.

For each of the odds ratios Exp (B) shown in the table above, there are only five independent variables are significant, with a 95 per cent confidence interval (95% CI for EXP(B)), giving a lower value and an upper value. In this result, the confidence interval for the variable willingness to pay (WTP OR = 3.39) ranges from 1.95 to 5.83. This states that although the quoted "calculated OR" is 3.39, it can only be 95 per cent confident that the actual value of OR in the population lies somewhere between 1.95 and 5.83. Besides that, the confidence interval for the variable gender (gender OR = 1.80) ranges from 1.04 to 3.13. This states that although the quoted "calculated OR" is 1.80, it can only be 95 per cent confident that the actual value of OR in the population lies somewhere between 1.04 and 3.13.

Next, the confidence interval for the variable income level first group (Income level OR = 2.89) ranges from 1.49 to 5.59. This also states that although the quoted "calculated OR" is 2.89, it can only be 95 per cent confident that the actual value of OR in the population lies somewhere between 1.49 and 5.59. Meanwhile, the confidence interval for the variable income level second group (Income level OR = 5.50) ranges from 2.64 to 11.42. This also states that although the quoted "calculated OR" is 5.50, it can only be 95 per cent confident that the actual value of OR in the population lies somewhere between 2.64 and 11.42

Last but not least, the confidence interval for the variable number of children (number of children OR = 1.41) ranges from 1.19 to 1.69. This states that although the quoted "calculated OR" is 1.41, it can only be 95 per cent confident that the actual value of OR in the population lies somewhere between 1.19 and 1.69.

4.4   Conclusion
Table 4.4.1 Final Result

No.	Hypothesis	Result
1	H_1: There is a significant difference between female in term of their consumption of organic products.	Support H_1
2	H_2: There is a significant difference among the consumer age group in term of their consumption of organic products.	Do not support H_2
3	H_3: There is a significant difference among the educational level in term of their consumption of organic products.	Do not support H_3
4	H_4: There is a significant difference among the income level in term of their consumption of organic products.	Support H_4
5	H_5: There is a significant difference among the presence of children in term of their consumption of organic products.	Support H_5
6	H_6: There is a significant difference among willingness to pay in term of their consumption of organic products.	Support H_6
7	H_7: There is a significant difference among taste in term of their consumption of organic products.	Do not support H_7
8	H_8: There is a significant difference among the environmental concern in term of their consumption of organic products.	Do not support H_8
9	H_9: There is a significant difference among the nutritional value in term of their consumption of organic products.	Do not support H_9
10	H_{10}: There is a significant difference among the organic certification in term of their consumption of organic products.	Do not support H_{10}

Based on the result provided in the logistic regression on consumption of organic product, it found out that only four independent variables are significant. In this case reject H_0, in other words, accept H_1, where there is a significant relationship between willingness to pay, income level, presence of children and gender with the organic consumption organic products.

The other six independent variables, it found out they are not significant, whereby do not reject H_0, where there is no significant relationship between, age, education level, taste, organic certification and labeling, environmental concern and nutritional value with the consumption of organic products.

CHAPTER 5: DISCUSSIONS, CONCLUSION AND IMPLICATIONS

5.0 Introduction

The previous chapter had addressed the result of the analyzed data collected. Therefore, this final chapter of the research will summarizes the key findings according to the research objectives. Besides that, the significance of the findings and their theoretical, practical and policy implications will be highlighted. Recommendations for future research and limitations of the study will be included as well. Last but not least, a final conclusion will be drawn for this study.

5.1 Summary of Statistical Analyses

	B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Willingness to pay	1.22	0.27	19.54	1	0.00	3.39	1.97	5.83
Taste	0.33	0.30	1.20	1	0.27	1.39	0.77	2.52
Environmental concern	0.37	0.26	0.21	1	0.89	1.04	0.63	1.72
Nutritional value	0.28	0.31	0.81	1	0.37	1.32	0.72	2.39
Organic certification	-0.65	0.24	7.42	1	0.06	0.52	0.32	0.83
Age			0.15	2	0.93			
Age (1)	0.12	0.34	0.13	1	0.72	1.13	0.58	2.20
Age (2)	0.36	0.37	0.01	1	0.92	1.04	0.50	2.15
Education background	0.27	0.30	0.79	1	0.38	1.32	0.72	2.37
Income level			20.84	2	0.00			
Income Level (1)	1.06	0.34	9.93	1	0.00	2.90	1.49	5.59
Income Level (2)	1.70	0.37	20.83	1	0.00	5.50	2.64	11.42
Gender	0.59	0.28	4.36	1	0.04	1.80	1.04	3.13
Number of children	0.35	0.09	14.90	1	0.00	1.41	1.19	1.69
Constant	-8.01	1.26	40.34	1	0.00	0.00		

No.	Hypothesis	Result
1	H_1: There is a significant difference between female in term of their consumption of organic products.	Support H_1
2	H_2: There is a significant difference among the consumer age group in term of their consumption of organic products.	Do not support H_2
3	H_3: There is a significant difference among the educational level in term of their consumption of organic products.	Do not support H_3
4	H_4: There is a significant difference among the income level in term of their consumption of organic products.	Support H_4
5	H_5: There is a significant difference among the presence of	Support H_5

	children in term of their consumption of organic products.	
6	H$_6$: There is a significant difference among willingness to pay in term of their consumption of organic products.	Support H$_6$
7	H$_7$: There is a significant difference among taste in term of their consumption of organic products.	Do not support H$_7$
8	H$_8$: There is a significant difference among the environmental concern in term of their consumption of organic products.	Do not support H$_8$
9	H$_9$: There is a significant difference among the nutritional value in term of their consumption of organic products.	Do not support H$_9$
10	H$_{10}$: There is a significant difference among the organic certification in term of their consumption of organic products.	Do not support H$_{10}$

Binary logistic regression was performed to assess the consumption of organic product of factors on the likelihood that respondents would report that they will consume below or above RM300. The model contained ten independent variables (age, gender, income level, education background, number of children, willingness to pay, nutritional value, taste, organic certificate and labeling and environmental concern). The full model containing all predictors was statistically significant, χ^2 (10, N=476) = 129.39, $p < .001$, indicating the model was able to distinguish between respondents who reported and did not report on consumption of organic product below RM300 and above RM300. The model as a whole explained between 23.8% (Cox and Snell R square) and 33.8% (Nagelkerke R squared) of the variance in consumption status, and correctly classified 70.4% of cases.

As shown in table Variables in the Equation, only four of the independent variables made a unique statistically significant contribution to the model (willingness to pay, income level, number of children and gender). The strongest predictor of reporting a consumption of organic product more than RM300 was willingness to pay, recording an odds ratio of 3.39. This indicated that respondents who are willing to pay for consumption organic product were over 3 times more likely to report consumption more than RM300 than those who did not have the willingness to pay, controlling for all other factors in the model. The odds ratio of 0.52 for organic certificate and labeling was less than 1,

indicating that for every times of checking on organic certificate and labeling were 0.52 times less likely to report consumption more than RM300, controlling for other factors in the model.

Last but not least, the second table is representing the significant hypotheses with consumption of organic food products. There are only four independent variables are significant which the researcher support the hypotheses. It is believe that this are the factors could influence the consumption of organic food product for the residents in Klang valley area. In the next section, there are some managerial of implications that could apply into the society to influence more consumers to consume organic food product, on top of all the implications, the major concern is to have create more awareness of organic food product towards the consumer, this is in order to generate the life expectancy to be more higher for the country and therefore lead to a better human development index (HDI).

5.2   Implications of the study

5.2.1 Managerial implications

Based on the results of the research project, there are several findings that have been discovered in which the purpose is to provide a systematically guidelines for the easier and clearer understanding the key drivers toward the consumption of organic products. Crucial determinants specifically demographic variables (age, gender, educational level, income level, and presence of children) and non-demographic variables (willingness to pay, taste, environmental concern nutritional value and organic certification) have been studied and tested. As a result, there are four variables namely willingness to pay, income level, gender and number of children have been realized that each attribute significantly affecting consumer's intention of consuming organic products.

5.2.1.1 Willingness to pay

The finding indicates that willingness to pay (WTP) has the strongest impact toward the consumption of organic products. Indeed, consumers with a higher willingness to pay were the most willing or more likely to purchase organic products. In other word, they tend to spend more on organic products. As mentioned in previous chapter, consumer willing to pay premium price if they get more information about the products they consume. Such information may include background of the products, characteristic, feature, and safety of the products. Therefore, organic practitioners are recommended to provide magazine, seminar or discussion talk to raise consumer's knowledge and have better understanding toward organic foods. Besides, they can also use the media power to advertise their products. By using advertising media, company can provide not only the information of the products but also can use an innovative advertisement to attract consumer's attraction.

5.2.1.2 Income level

Income level is also one of the vital factors on consumption of organic products. In fact, income level has the direct connection with the buying of organic products as *organic products typically cost more than* their conventionally produced equivalents. Generally, below a certain income, consumers would have a diminished ability to pay for organic products. Therefore, in order to increase the country's organic products consumption, government should formulate and implement sound economies policies that could help to promote vibrate economy growth. Subsequently, it will boost up the country's average income level.

Besides, organic practitioners are suggested to reduce the price as high price of organic products is an obstacle for low income consumers tends not to purchase. They can do so by utilizing operating cost and aim to achieve economies of scale. By increasing the production of organic products, it definitely can help to lower down the overall price. However, the value of organic foods should not be jeopardized by low price.

5.2.1.3 Presence of children

Next, presence of children in a household is another factor that can't be ignored. Results showed that household with children will consume more organic products as they tend to be more health conscious. In other word, they are very particular in term of product's safety and quality. Thus, if a company wants to target for couples and family with babies or small children, they are advised to be more focus on the safety and quality of the organic products they produced. The company should be committed to the development of strict safety guidelines and standards, which it could help in assuring the food safety and ensuring the health benefits of organic foods.

5.2.1.4 Gender

Results showed that gender will affect the buying intention of organic products in which most of the purchasers of organic food products tend to be women. This is explained by the fact that women tend to be the primary food shoppers of a household and they are more aware of food issues. Issues regarding health, food quality, nutrition value and environmental condition are more likely to be taken into consideration in carrying out the food purchasing decision.

Therefore, in order to attract female market, organic practitioners are advised to provide more nutritional information such as health benefits, fat, and cholesterol content on their organic foods packages. In fact, according to a study, women are typically more likely than men to use the nutritional information on food packages. Hence, additional nutritional information on the packages would provide them a better understanding in term of differences between organic foods and non-organic foods. At the same time, for packaging colors, organic products marketers are also advised to use green color. Green packaging could provide a positive perception about the organic products as green suggest organic, natural, healthy and environmentally friendly products.

In this research, even though there are only four significant variables, the independent variables of nutritional value, organic certification and labeling, environmental concern and taste mean score are actually higher than these significant variables. This might indicate that these variables could affect the consumption of organic products at certain level. Therefore, organic practitioners are advised to deal with these determinants in order to increase the purchase intention of organic products.

5.3   Limitation of the study

This research project has some limitations despites its contribution to some major findings. As this study only focus on the area of Klang Valley, there might has a geographic bias occur from the poor coverage. Consumers in Klang Valley area might have a different purchasing behavior towards the organic products as compared to other area. Therefore, theory applicable to the areas may not necessarily hold true on the whole Malaysia.

In addition, demographic is an important issues in Malaysia. Perceptions toward organic products are different among different races. In other word, different races may have different purchase intention toward organic products. From the descriptive analysis part, it can be clearly seen that most of the respondents are Chinese while other races are in small segments. This imbalance distributor of the respondents' races will not be able to represent the overall result for all the races groups.

Last but not least, the number of factors included in the conceptual framework might not be sufficient in explaining the consumer's behavior toward organic products. This study might be underestimating or neglecting other non-measureable factors such as prices, product quality, and market availability.

5.4 Recommendation for Future Study

Firstly, as the respondents are from the area of Klang Valley only and it can't represent all the consumers in Malaysia. Therefore, it is recommended that the study should be further developed by collecting data from other areas or states in Malaysia. By expanding the location of study, it would definitely help to provide a better understanding of the whole context in Malaysia.

Next, in order to eliminate the imbalance distributors of the respondents' races, researchers are recommended to get more different races of respondents in future. Besides, in term of determinants for consumer's consumption of organic products, additional variables which related to firms and their products should be integrated into future study. This is critical as it can result in more accurate and reliable study.

Last but not least, it is suggested that future researches should focus on those respondents who actually purchase and consume organic products. Thereby, the results will be more rigid and close to the real settings.

5.5 Conclusion

Throughout the whole research study, the main objective is to examine the factors that will affect the consumer's intention in buying organic products. This study will be useful especially for organic practitioners which wish to increase the sales of their organic products. It will provide them a better understanding toward consumer's purchase intention of organic products.

According to the final findings, four out of ten independent variables (Willingness to pay, income level, presence of children and gender) had been proves to be significantly influence the consumer's purchasing behavior of organic products. Especially willingness to pay, it is the strongest factor that influences purchase intention. Although another six variables (Age level, educational level, taste, organic certification and labeling, environmental concern and nutritional value) had been proves to have no significant relationship toward the consumption of organic products, the overall research objectives have been achieved.

References

Ahmad, S. N., & Juhdi, N. (n.d.). Consumer's perception and purchase intentions towards organic food products. Exploring The Attitude among Malaysian., 15.

Aryal, K. P., Chaudhary, P., Pandit, S., & Sharma, G. (2009). Consumers' Willingness to Pay for Organic Products. A case from Kathmandu Valley. *The Journal of Agriculture and Environment Vol: 10*, 12-22.

Ayres, N., & Midmore, P. (2009). *Consumption of Organic Foods from a Life History Perspective: An Exploratory Study of British Consumers* . Aberystwyth: School of Management and Business Aberystwyth University.

Dauncey, G. (2002, August). *Ten Reasons Why Organic Food Is Better*. Retrieved July 2013, from Earth Future: http://www.earthfuture.com/earth/cg-tenreasonsorganic.asp

Derk Jan stobbelaar, G. C. (2006). Adolescets' attitudes towards organic food: a survey of 15- to 16-year old school children . *International Journal of Consumer Studies ISSN 1470-6431* , 349-355.

Dimitri, C., & Oberholtzer, L. (2009). Marketing U.S. Organic Foods. *Recent Trends From Farms to Consumers*, 27.

Dimitri, R. L. (2007). Organic Consumers: A Demographic Portrayal. *International Marketing and International Trade of Quality Food Products*' , 453-460.

Dumea, A.-C. (2012). *FACTORS INFLUENCING CONSUMPTION OF ORGANIC FOOD IN ROMANIA*, 107-113.

Durham, C. A., & Andrade, D. (2005). Health vs. Environmental Motivation in Organic Preferences and Purchases. Selected Paper Prepared for Presentation at the American Agricultural Economics Association Annual Meeting. *Providence*, 24-27.

Felix Urena, R. B. (2007). Women, men and organic food: Differences in their attitudes and willingness to pay. A Spanish case study. *International Journal of Consumer Studies ISSN 1470-6423* , 18-24.

Giannakas, K. (2002). Information Asymmetries and Consumption Decisions in Organic Food Products Market. Canadian Journal of Agricultural Economics, 35-50.

Hanne Torjusen, G. L. (2012). Food patterns and dietary quality associated with organic food consumption during pregnancy; data from a large cohort of pregnant women in Norway. *BMC Public Health* , 2-13.

Hinteregger, E. (2006, August 9). Production and Consumption Patterns. *Organic Food in Austria*, p. 16.

Janssen, M., & Hamm, U. (2012). Product Labelling in the Market for Organic Food: Consumer Preferences and Willingness-To-Pay for Different Organic Certification Logos. *Food Quality and Preference 25*, 9-22.

J.Dahm, M., Samonte, A. V., & Shows, A. R. (2009). Organic Foods: Do Eco-Friendly Attitudes Predict Eco-Friendly Behaviours? *Journal of American College Health , 58* (3), 195-201.

Krystallis, A., & Chryssohoidis, G. (2005). Consumers' willingness to pay for organic food: Factors that affect it and variation per organic product type. *British Food Journal 107(5)*, 320-343.

Laux, M. (2013, November). *organic food trends profile*. Retrieved February 2014, from Agricultural Marketing Resource Centre: http://www.agmrc.org/markets__industries/food/organic-food-trends-profile/

Mohamed M.A, C. A. (2012). Determinants of Ogranic food consumption in Egypt. *International Journal of Economics and Business Modeling ISSN:0976-531X & E-ISSN: 0976-5352 , 3* (3), 183-191.

MUTLU, N. (October 2007). Consumer Attitude and behaviour towards Organic Food: Cross-*cultural study of Turkey and Germany* .

Naspetti, S., & Zanoli, R. (n.d.). A means-end study with evidence from Italian data. *Do consumers care about where they buy organic products?* , p. 11.

Picard, A. (2002, October Tuesday). *Many Conventional Foods Contain Toxic Levels of Pesticides*. Retrieved November 2013, from Organic Consumers Association : http://www.organicconsumers.org/Toxic/conventional101502.cfm

Radman, M. (2005). Consumer consumption and perception of organic products in Croatia. *British Food Journal, Vol. 107 No. 4-5*, 263-273.

Rana Bhat, B.2008. Opportunitiy and Challenges of Organic Certification System in Nepal. In P. Chaudhary; K. Aryal and D. Tharu (ed.), Proceedings of International Workshop on Opportunities and Challenges of Organic Production and Marketing in South Asia, NPG, Kathmandu, Nepal, pp.104-108

Rodriguez, E., Lupin, B., & Lacaze, V. (2007). Willingness to Pay for Organic Food in Argentina: Evidence from a consumer survey. *International Marketing and International Trade of Quality Food Products' Bologna*, 1-24.

Saba, A., & Messina, F. (2003). Attitudes towards organic foods and risk/benefit perception associated with pesticides. *Food Quality and Preference, Vol. 14*, 637-645.

Smed, S., Andersen, L. M., Kærgård, N., & Daugbjerg, C. (2013). A Matter of Trust: How Trust Influence Organic Consumption. *Journal of Agricultural Science*, 91-106.

Sønderskov, K. M., & Daugbjerg, C. (2011). The state and consumer confidence in eco-labeling: Organic labeling in Denmark, Sweden, The United Kingdom and The United States. Agriculture and Human Values, 28, 507-517.

Thøgersen, J. (2000). Psychological Determinants of Paying Attention to Eco-Labels in Purchase Decisions: Model Development and Multinational Validation. *Journal of Consumer Policy, 23*(3), 285-313.

Torjusen, H., Leiblein, G., Wandel, M., & Francis, C. A. (2001). Food System Orientation and Quality Perception Among Consumers and Producers of Organic Food in Hedmark Country, Norway. *Food Quality and Preference, 12*, 207-216.

Travis A. Smith, C. L.-H. (December 2009). Does Price or Income Affect Organic Choice? Analysis of U.S Fresh Produce Users . *Journal of Agricultural and Applied Economics, 41,3* , 731-744.

Vermeir, Iris and Verbeke, Wim (2004), "Sustainable Food Consumption: Exploring the Consumer Attitude-Behavior gap", working paper.

Warziniack, T. (n.d.). *Willingness to Pay and Willingness to Accept.* Retrieved July 2013, from warziniack: http://www.warziniack.com/Site/Teaching_files/benefits.pdf

Wier, M., Jensen, K. O., Anderson, L. M., & Millock, K. (2008). The Character of Demand in Mature Organic Food Markets: Great Britain and Denmark Compared. *Food Policy, 33*, 406-421.

Yi, L. K. (April 2009). *Consumer behaviour towards Organic Food Consumption in Hong Kong: An Empirical Study* . Hong Kong .