

Consumers' Buying Behavior towards Organic Foods: Evidence from the Emerging Market

by

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ABSTRACT

This research aimed to evaluate the current status of consumers' buying behavior towards organic foods in the emerging market. Based on extensive literature review, the authors identified several factors that influence consumers' buying behavior towards organic food which included (i) knowledge, (ii) health consciousness, (iii) environmental concern, (iv) price, (v) perceived beliefs and attitudes, (vi) government support and policy as well as (vii) availability. A questionnaire was designed and distributed to around 105 respondents randomly in Penang. SPSS software with version 21.0 had been used to analyze the data collected. The study found that government support and policy, perceived beliefs and attitudes, knowledge and availability have a significant positive relationship with consumer behavior towards organic foods. However, health consciousness, environmental concern and price do not have any significant relationship with consumer behavior towards organic foods. The research is based on data collected from the second largest city (Penang) of Malaysia. Future research can use the same research model to compare between different emerging markets. It is expected that the result obtained from this research could be used to create opportunities for the manufacturers as well as marketers of organic foods in the emerging market. There is dearth of research in this particular area based on primary data. The finding shows the behavior of consumers towards organic food in the emerging market.

Key Words: *Consumer Behavior, Organic Foods, Purchase Intention, Emerging Market.*

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1. INTRODUCTION

Today, it is challenging to ensure environmental sustainability even though it is the ultimate demand from our next generation. According to Zepeda and Nie (2012), one of the greatest threats to environment sustainability is conventional industrial agriculture due to the high energy and material cost necessary for it to function. The Green Revolution in the agricultural sector had led to the use of chemical fertilizers to increase yields without concern for environmental impact. As a result, organic agriculture is established to be the sustainable agricultural production system in order to cope with the social, ecological and economic impacts of industrialized agriculture.

There are a large number of people who have interests in organically produced foods due to concerns about intensive agricultural practices as well as their possible effects on human beings and the environment. In recent years, the global demand for organic foods is in a growing trend and the sales of organic foods are in surplus of five billion U.S. dollars a year (Willer and Klicher, 2009). Due to the fast growing populations and economies in the Asian region, this region becomes an important producer and exporter of organic foods (Willer and Klicher, 2009). Organic foods are now creating attention in many developing countries as they can achieve environmental benefits for the public sector as well as international trade exchange for the private sector (Rehber and Turhan, 2002).

The changes in the consumers' lifestyle, tastes and preferences, standard of living as well as purchasing and technical advancement in agriculture and marketing have led to high demand for manufactured food, convenience food and health food. However, in developing countries like Malaysia, markets for organic foods are only in a beginning stage due to still limited information about the purchasing of organic products. This study examines the consumer behavior towards organic foods in Penang, Malaysia. The current study can help to determine the factor of most concern held by the consumer when they decide to purchase organic food in Malaysia. According to Quah and Tan (2010), food consumption patterns of Malaysians are different across three main ethnic groups, which are Malay (approximate 50%), Chinese (25%) and Indian or other ethnic backgrounds (25%).

Besides, food consumption patterns in Malaysia appear to be growing in a quite similar pattern to other emerging Asian economies like Thailand, China and Republic of Korea (Ishida et al., 2003; Warr et al., 2008). In fact, organic foods have become more important in the global food market and global consumption patterns. Therefore, the global production of organic foods is expected to grow extensively and the organic market is regarded as one of the biggest growth markets in food industry (Baker, 2004; Gifford & Bernard 2005; Murphy, 2006).

Moreover, previous studies showed that concerns for one's health and the environment are the most common motives for purchasing organic foods (Wandel & Bugge, 1997). These two criteria are essential in determining the purchase intention of consumers on organic foods. Also, knowledge, government support and policy as well as perceived beliefs and attitudes also could not be denied in influencing the people to buy organic foods in the previous studies. However, none of the previous research focus directly on the price and availability of organic foods; hence, the researchers are interested to determine whether there is a positive relationship for the consumers to purchase organic foods in emerging countries or not using Malaysian examples. This is due to the fact that the higher price of organic foods may be an obstacle for consumers to purchase them (Vindigni et al., 2002) as well as lack of the availability of organic products in the market (Lea & Worsley, 2005).

2. ORGANIC FOODS

There are several definitions of organic food and we present the simple definitions to gain a clear understanding about organic food. Then we present the purchase intention of organic food based on early literature. Generally, products can be considered as organic when they are produced in line with standard rights in all the areas of production and a certificate to be awarded by an industrial body (Lyon, et al., 2001). Organic foods are the foods that are not processed by irradiation, industrial solvents or chemical food stabilizers and exclude any additional ingredients (Allen & Albala, 2007).

The purchasing decision process is difficult to define due to the fact that awareness of organic foods does not translate into the actual consumption of organic food products (Briz & Ward, 2009). Some studies have stated that there are differences between behaviors regarding organic foods as some consumers may have positive views on organic foods but may not have an intention to purchase the items (Shepherd, Magnusson & Per-Olow, 2005). Another study observed that the respondents have positive attitudes towards organic foods. However, the authors concluded that there are low purchasing trends among the respondents (Tarkiainen and Sundqvist, 2009). On the contrary, number of researchers found that there is a growing number of consumers interested to buy organic food after considering different issues like, health (Newsom et al., 2005), environment (Saleki and Seyedsaleki, 2012) and so on. Current study will determine the factors that influence consumers to purchase organic food in emerging market using the theory of planned behavior (TPB) model. Before we present in details about how we operationalize the theory, it is worth to explain TPB quickly for our reader.

2.1 THEORY OF PLANNED BEHAVIOR (TPB) MODEL

This study employed the theory of planned behavior (TPB) to address the research objective. Basically, the TPB model proposed by Ajzen (1991) can be used to measure human actions; which means that it can predict consumer behavior, providing that the behavior is intentional. There are three main determinants to predict an intention to perform behavior, which are (a) attitudes, (b) subjective norms and (c) perceived behavioral control; for considerable variance in actual behavior. Not to mention that with the use of the TPB model, many studies have shown that this model had been successfully applied to consumer behaviors (see Conner & Sparks, 1995) as well as health behaviors (Godin & Kok, 1996). Based on the TPB model, the immediate antecedent of behavior is the intention to perform the behavior. Therefore, when the consumers have greater intention to engage in behavior, they are more likely to perform it.

Likewise, the Theory of Planned Behavior had been used in many organic studies (e.g. Aertsens, et al., 2009). Hence, it can be used to predict the purchase intention of organic foods since it had been used in many research studies especially organic studies. With reference to Montano et al. (1997), this theory had been proved to provide an excellent framework in conceptualizing, measuring and identifying factors to determine the behavior and behavioral intention as well as to offer a systematic way towards information campaign development. Robinson and Smith (2002) also demonstrated that attitudes, subjective norms and perceived behavioral control predict the purchase of sustainable products independently.

2.2 FACTORS AFFECTING THE CONSUMERS' PURCHASE INTENTIONS TOWARDS ORGANIC FOOD

There are number of factors that influence the consumers of the emerging market to purchase

organic food. Based on the early literature, the authors determined seven factors that influence buying intention. In this section, the researcher presents an overview from the early literature.

2.2.1 Knowledge

Consumer knowledge can be considered as an important aspect in explaining the consumers' decision making, searching for information and processing (Carlson et al., 2009). It can also influence the level of trust towards a new product in the market. Lack of new knowledge will result in low trust in the consumers about the information they receive. Also, knowledge is a characteristic that can affect the phases of decision process. It can be related to how much of information is being used in making decisions (Brucks, 1985) and how consumers evaluate products and services (Murray & Schlater, 1990). Sufficient knowledge can have favorable impact on food choice by the consumers.

Other studies (e.g. Beharrell & MacFie, 1991; Hill & Lynchehaun, 2002) also concluded that insufficient knowledge about organic products will influence organic food purchase and consumption. Furthermore, consumers need to be exposed to more information about organic food products to improve their knowledge on it (Gracia & de Magistris, 2008). With higher knowledge about organic foods, there is a greater probability to buy organic products among the consumers.

H 1: There is a positive relationship between knowledge and consumer behavior towards organic foods.

2.2.2 Health Consciousness

Health consciousness can assist consumers in determining the contents of organic products and normal products that are available on the market. Health consciousness defined as "readiness to undertake health actions" (Becker et al., 1977, as cited in Michaelidou & Hassan, 2008). Those people with health consciousness are aware and concerned about their wellness in addition to being motivated to improve or maintain their health, and to prevent any ill health by involvement in health behaviors and being self-conscious about health (Newsom et al., 2005; Kraft & Goodell, 1993). As a result, consumers are now purchasing organic foods as an investment for their good health (Grossman, 1972).

There are some studies that considered a health issue as a key motivator for consumers to purchase organic foods (Grossman, 1972; Schifferstein & Oude Ophuis, 1998). In fact, the consumers will have interests in issues relating food to health when they lose the confidence towards the quality of conventional foods (Fagerli & Wandel, 1999; Rozin et al., 1999).

In addition, most of the consumers will be concerned about their health maintenance or health improvement when buying organic foods (Schifferstein & Oude Ophius, 1998; Tregear et al., 1994). According to the researches done by Oude Ophius (1989) and Schifferstein and Oude Ophius (1998), health consciousness, which can be assessed as the degree of readiness to undertake healthy actions, is a wider construct to reflect a person's readiness to do something for his or her own health.

H 2: There is a positive relationship between health consciousness and consumer behavior towards organic foods.

2.2.3 Environmental Concern

The level of ecological concern among the consumers is related to their intention to purchase green products (Amyx et al., 1994). It can affect the consumption of organic foods directly although it may not be a priority issue (Schifferstein & Oude Ophuis, 1998). Consumer environmentalism can be defined as the environmental concern level and stewardship of the consumer to make product purchase decisions. This factor can be the most significant predictor of consumer behavior.

Besides, consumers understand that the goods that are produced in natural ways will not harm the environment. They know that by purchasing and consuming organic foods, they can help to reduce nature contamination, defend the health of soil and water as well as reduce the use of chemical instruments in agriculture activities Saleki and Seyedsaleki, 2012. Hence, it is clear that there is a positive relationship between consumers who are concerned about mother earth and the intention to purchase organic products.

Moreover, organically produced foods are then regarded as less damaging to the environment than conventional foods (Schifferstein & Oude Ophius, 1998; Williams & Hammit, 2001). This can then be used to explain the reasons for environmental concern as one of the factors in purchasing organic foods (e.g. Schifferstein & Oude Ophius, 1998; Loureiro et al., 2001). The consumers can then know the benefits when they are consuming the organic foods due to increasing concern about food security and environmental issues. And, based on Krause (1993) in his research paper, the finding was that the consumers were now becoming more concerned about how their daily habits impact on the environment.

H 3: There is a positive relationship between environmental concern and consumer behavior towards organic foods.

2.2.4 Price

The price of products had been shown to be a factor that influences demand for organic products (Tshuma, Makhathini, Siketile, Mushunje, & Taruvinga, 2010). Usually the price of organic foods remains high in many markets due to there being an increasing demand for these products. (USDA, 2009b). With reference of Kim, Suwunnamek & Toyoda (2008), Japanese consumers were willing to pay an extra 10 per cent for organic products if compared to conventional foods, but they preferred domestic organic products over imported organic products. Price was not considered as a negative factor if consumers perceived that organic foods are more nutritious compared to conventional foods. However, higher prices of organic foods are mentioned less as a problem by regular consumers if compared to occasional organic consumers (Zanoli & Naspetti, 2002).

Moreover, from a recent review by Volckner & Hofmann (2007), price is not just assumed as a cost in consumers' perspective but also as a cue to product quality. This is due to both also contributing to their overall evaluation of the product and therefore their purchasing behaviour. Consumers are willing to pay a price premium for organic foods even though the products are not 100 per cent organic. The acceptance of price premium varies among consumer groups (Batte, Hooker, Haab & Beaverson, 2007).

H 4: There is a positive relationship between price and consumer behavior towards organic foods.

2.2.5 Perceived beliefs and attitudes

Consumers' beliefs in their ability to solve the environmental problems have been linked directly to the purchase of green products (Samdahl & Robertson, 1989) and it becomes one of the major predictors of ecological conscious behaviour (Roberts, 1996). Ajzen (1991) also stated that belief can influence attitude, which in turn can influence the purchase intention. Due to organic foods were believed as healthier, natural, nutritious and sustainable than conventional foods, the attitude of consumers to organic foods is believed to be positively related to the attitude to organic foods. Attitude had great influence on consumers' purchase intention when they wanted to consume certain products (Cook, Kerr & Moore, 2002).

Moreover, with reference of Thøgersen (2009), individual attitudes towards organic foods were mostly based on beliefs about its benefits. For the consumers to choose organic foods, they have to believe in the positive health effects, environmentally friendly production and better taste of organic food, as demonstrated by many studies (Aschemann, Hamm, Naspetti & Zanolini, 2007). By using a modified version of the TPB model, Honkanen et al. (2006) confirmed that there is a significant relationship between selected ethical values dimensions and attitude and found out there is a relationship between attitude and intention to consume organic food.

With reference to Shepherd, Magnusson and Per-Olow (2005), health benefits were strongly related to attitudes and behaviors of consumers towards organic foods. Organic consumers are motivated to buy organic foods because of the values, beliefs and norms about the environment, personal health, economy as well as religion (Zepeda & Deal, 2009). A study among the Malaysian respondents also showed that perceived beliefs can influence the consumers to purchase organic foods the most (Shaharudin, Pani, Mansor and Elias, 2010).

H 5: There is a positive relationship between perceived beliefs and attitudes and consumer behavior towards organic foods.

2.2.6 Government Support and policy

With the growing demand of organic products in the market, there is a growing attention from the community as well as government. For instance, government policy had affected the consumers' attitude towards organic products as well as their purchase intention of organic food products in Taiwan (Chen, 2007). Furthermore, as a role model, governments should start to promote sustainable activities in order to create awareness in its populace. This can be seen in Malaysia as the government has implemented a few strategies to ensure sustainable consumption and development in the country (Chen & Chai, 2010).

With reference to the research of Wahid et al. (2011), the campaign by the Malaysian government to promote public awareness of eco-labels demonstrated that the trustfulness of eco-labels can have a major impacts on green purchasing behavior. Not only that, the Malaysian government had introduced "Malaysian Farm Accreditation Scheme" by the Department of Agriculture (DOA) in 2002. Then, it changed the name of the scheme to Malaysian Farm Good Agricultural Practice Scheme and operated in environmentally friendly conditions to produce high quality, safe and suitable foods for human beings. Also, the government of Malaysia also introduced the Malaysian Standard, MS 1529:2001 for organic agricultural production systems entitled "The production, processing, labeling and marketing plant-based organic foods", it is also known as Skim Organik Malaysia (SOM). Farmers are encouraged to participate in SOM in

order to get a certification by the organization. (Golnaz, R. et al., 2011). As a result, more than 70 farmers have SOM to produce organic products not only for supply to local people but also to export the food to other countries (Dardak et al., 2009). Therefore, it is clear to see that the Malaysian government has put supportive efforts into the organic food products industry.

H 6: There is a relationship between government support and policy and consumer behavior towards organic foods.

2.2.7 Availability

Due to the growing demand for organic foods in the market, conventional supermarkets have added organic foods to their shelves in order to make organic foods available to their customers. Consumers can purchase organic foods through the conventional supermarket rather than only purchase them from organic stores. With reference to Dettmann & Dimitri (2007), organic foods are now more accessible to consumers due to greater marketing strategies involved in promoting organic products through conventional supermarkets and large retail stores. However, other research finding suggest, it is not easy to get organic food in everywhere. Since, availability acts as one of the factors to encourage the purchase intention of organic foods (Davies et al., 1995), we would like to investigate in details.

There is evidence to show that consumers found difficulty in locating environmentally directed products because of the lack of information (Brown, 2003). Previous studies also identified that lack of organic food availability in the store is considered as one of the impediments for consumers to purchase organic products (Beardworth et al., 2002; Davies et al., 1995). According to Feick & Price (1987), "market maven can be defined as individuals who have information about many kinds of products, place to shop and other facets of the market and initiate discussion with consumers and respond to requests from consumers about market information". Therefore, interaction with consumers with high market maven as well as high product availability may create a preferable attitude towards purchase behavior by consumers.

H 7: There is a relationship between availability and consumer behavior towards organic foods.

The figure below shows the relationship between the independent variables and dependent variable for this study. Based on the mentioned hypothesis on the above the researcher intended to determine the factors influence buying decision. The above figure 3.1 explains that there are seven factors that a consumers buying behavior which eventually lead to take decision to purchase organic food.

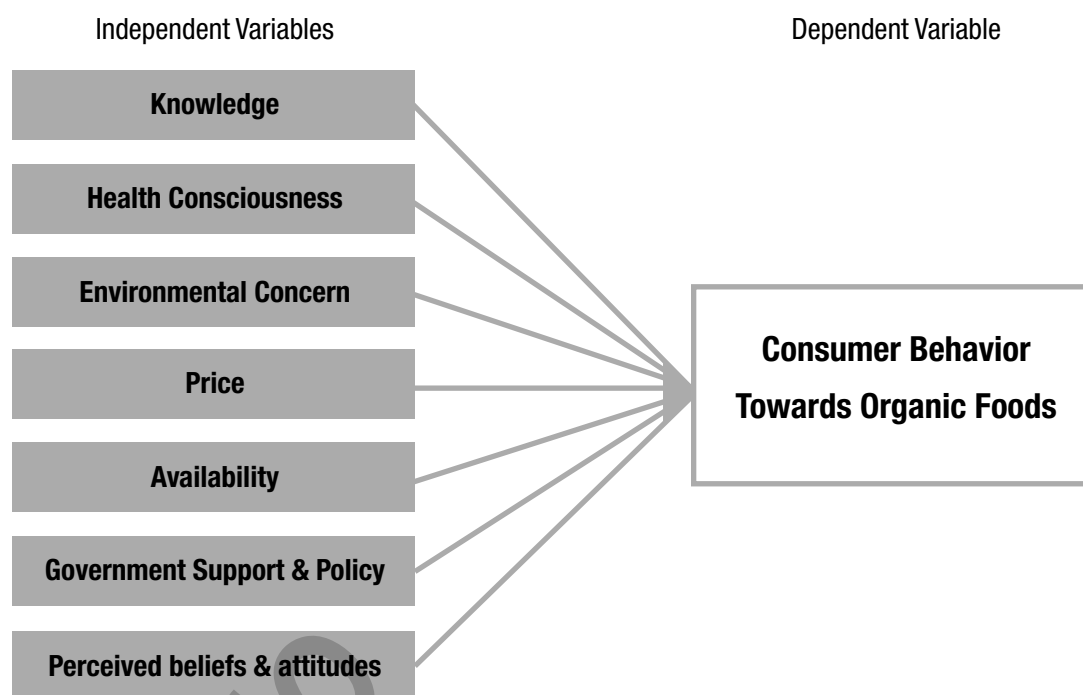


Figure 3.1 Conceptual Framework

3. RESEARCH DESIGN

A successful research design can help the researcher to specify the objectives and strategies to be used as well as the approaches for the research (Lewis & Thomhill, Saunders, 2000). Therefore, this research used the questionnaires to collect the required data and information from the respondents in Penang, Malaysia in order to examine consumer behavior towards organic foods in the local market. According to Roscoe (1975), the rule of thumb when selecting the appropriate sample size is at least 30 and below 500 since this range of sample size can maintain the sample error at an acceptable level. In order to get accurate and reliable results from the respondents, 105 sets of questionnaires had been distributed to the consumers in Penang. Besides, 15 copies of pre-test sample had been distributed before conducting the final survey to make sure the correctness and quality of the questionnaire. Most of the questions in the questionnaire applied the 5-point Likert scale technique. After distributing the questionnaires to respondents, the collected data was then analyzed by using the quantitative approach.

4. FINDINGS FROM EMPIRICAL DATA

Although there are 100 questionnaires being successfully collected back from respondents, only 97 can be used for the following analysis. The data reveals that out of the five options, the majority of the respondents chose that they sometimes purchased organic foods, which made up of 51.5% (50 respondents) of the respondents. There are 18 (18.6%) respondents who rarely purchased organic foods while 15 (15.5%) respondents purchased organic foods frequently. However, there were 12 (12.4%) respondents who never purchase organic foods before. Only 2 (2.1%) respondents regularly purchased organic foods to consume, which can be said that fully support on consumption of organic foods.

Table 1.1: Descriptive Analysis of All Variables

Variables	Amount	Mean	Standard Deviation
Consumer's Purchase Intention	97	4.0560	.50193
Knowledge	97	3.9258	.63529
Health Consciousness	97	4.0742	.58901
Environmental Concern	97	3.9485	.58827
Price	97	3.8515	.63000
Perceived Beliefs and Attitudes	97	3.6742	.57105
Government Support and Policy	97	3.7031	.49423
Availability	97	3.7443	.59354

In reference to the table 1.1, the mean for all of the variables are in the range of 3.6742 to 4.0742. All of these mean indicate that the respondents were generally agreed with or had no comment on the questions in the questionnaire. Variability can be accessed by examining the values in standard deviation. The standard deviation can measure how concentrated the data are around the mean. The standard deviation for consumer purchase intention can be accepted as it is concentrated to its mean. The rest of the variables are less concentrated as the standard deviations are large from the mean value.

4.1 RELIABILITY ANALYSIS

A reliability test is used to examine the stability and consistency with which the research instrument measures the construct. Table 4.2 shows the Cronbach's alpha and items of independent variables and dependent variable. The coefficients of Cronbach's alpha for all variables were ranged from 0.757 to 0.850, which indicated that the inter-item consistency for each factor is good.

Table 1.2 Results of Reliability Test

Variables	Number of Items	Items Dropped	Items Receded	Cronbach's Alpha	Remarks*
Consumer Behaviour – Purchase Intention	7	-	7	0.830	DV
Knowledge	5	-	5	0.828	IV
Health Consciousness	5	-	5	0.850	IV
Environmental Concern	5	-	5	0.817	IV
Price	5	-	5	0.794	IV
Perceived Beliefs and Attitudes	5	-	5	0.818	IV
Government Support and Policy	5	-	5	0.757	IV
Availability	5	-	5	0.782	IV

* IV= Independent Variable; DV= Dependent Variable

The closer the reliability coefficient gets to 1.00t indicates that the instruments used in the research are good. As illustrated in Table 1.2 above, the value for consumer purchase intention indicates that the variables used were good enough and able to measure the accuracy of consumers' purchase intention on organic foods. All the independent variables also obtained good and reliable values because the reliability coefficients were mostly over 0.80 for knowledge (0.828), health consciousness (0.850), environmental concern (0.817), and perceived beliefs and attitudes (0.818). The exceptions were price (0.794), government support and policy (0.757) and availability which obtained 0.782 as its reliability coefficient.

4.2 CORRELATION PEARSON ANALYSIS

Pearson's correlation coefficient is used to measure the strength of a linear relationship between two variables. The first correlation is between knowledge and consumer behaviour; the finding reveals that the r-value is 0.514 or 51.4% at 99% confidence interval.

Table 1.3 Correlation Statistics for All Variables

	BV	KW	HC	EC	Price	PBA	GSP	AV
Pearson Correlation								
Behaviour (BV)	1							
KW	.514**	1						
HC	.349**	.469**	1					
EC	.351**	.300**	.629**	1				
Price	.488**	.480**	.479**	.396**	1			
PBA	.590**	.406**	.496**	.503**	.538**	1		
GSP	.581**	.222**	.089	.153	.103	.268**	1	
AV	.473**	.278**	.148	.240*	.377**	.280**	.322**	1

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

* Correlation is significant at the 0.05 level (2-tailed).

According to the rule of thumb, this figure shows a strong relationship. The second correlation is between health consciousness and consumer behavior; the result shows that the r-value is 0.349 or 34.9% at 99% confidence interval. This indicates that there is a moderate relationship between these two variables. Next, there is also a moderate relationship between environmental concern and consumer behavior as the r-value is 0.351 or 35.1% at 99% confidence interval. The next correlation is between Pprice and consumer behavior, the r-value from the table is 0.488 or 48.8% at 99% confidence interval. These two variables indicate that there is also a moderate relationship as well. Then, for the correlation between perceived beliefs and attitudes and consumer behavior, the result shows that r-value is 0.590 or 59% at 99% confidence interval. This value represents that there is a strong relationship in between these two variables. The correlation continues to correlate between government support and policy and consumer behavior. The r-value is 0.581 or 58.1% at 99% confidence interval. This proposes that these two variables have a strong relationship. For the last independent variable, availability correlates with consumer behavior and results that the r-value is 0.473 or 47.3% at 99% confidence interval, which also indicated that there is a moderate relationship between these two variables.

4.3 MULTIPLE REGRESSION ANALYSIS

Multiple regression analysis can be used to determine the effects or impacts of several independent variables on a dependent variable. From the table 1.4, it is clear that the standard coefficient for knowledge is 0.206, health consciousness is -0.017, environmental concern is 0.000, price is 0.142, perceived beliefs and attitudes is 0.288, government support and policy is 0.394 and availability is 0.157. R-square is the proposition of the variance in dependent variable (consumer behavior) which could be predicted from the independent variables.

Table 1.4 Relationship between Independent Variables and Dependent Variable

Independent Variables	Dependent Variable (Consumer Behavior)	Sig.
Knowledge	0.206*	0.009
Health Consciousness	-0.017	0.852
Environmental Concern	0.000	0.996
Price	0.142	0.099
Perceived Beliefs and Attitudes	0.288**	0.001
Government Support and Policy	0.394**	0.000
Availability	0.157*	0.034
R ²	0.643	-
Adjusted R ²	0.615	-
F Change	22.872	-

This value indicates that 64.3% of the variance in consumer behavior can be predicted from the independent variables, which include knowledge, health consciousness, environmental concern, price, perceived beliefs and attitudes, government support and policy and availability. Meanwhile, the adjusted R-square attempts to yield a more honest value in order to estimate the R-squared for the population. Therefore, the value for adjusted R-square is 0.615 while the value for R-square is 0.643. Also, based on the table above, the F value is proven to be significant at 22.872. The overall regression model with knowledge, health consciousness, environmental concern, price, perceived beliefs and attitudes, government support and policy as well as availability work well in explaining the variation in consumer purchase intention towards organic foods.

The p-value is compared to the alpha level and if it is small, it means that the independent variable reliably predicts the dependent variable. As a result, only knowledge, perceived beliefs and attitudes, government support and policy as well as availability could be used to reliably predict consumer behavior. Since the other variables have the p-value greater than 0.05, it means that they do not show a statistically significant relationship with the dependent variable. Thus, health consciousness, environmental concern and price could not be used to predict the consumer behavior towards organic foods.

In a conclusion, perceived beliefs and attitudes and government support and policy are the variables that have significantly and positively affected consumer behavior towards organic foods and these hypotheses are supported due to p value less than 0.01. For knowledge and availability, although their p-value is less significant due to the standardized coefficient, at 0.206 and 0.157 (p<0.05) respectively, the hypothesis is still supported.

Table 1.5 Testing Hypothesis based on Multiple Regression Analysis

Hypothesis	Remarks
H1. There is a significant positive relationship between knowledge and consumer behavior towards organic foods.	Supported
H2. There is a significant positive relationship between health consciousness and consumer behavior towards organic foods.	Not Supported
H3. There is a significant positive relationship between environmental concern and consumer behavior towards organic foods.	Not Supported
H4. There is a significant positive relationship between price and consumer behavior towards organic foods.	Not Supported
H5. There is a significant positive relationship between perceived beliefs and attitudes and consumer behavior towards organic foods.	Supported
H6. There is a significant positive relationship between government support and policy and consumer behavior towards organic foods.	Supported
H7. There is a significant positive relationship between availability and consumer behavior towards organic foods.	Supported

From the table above, *Hypothesis 1* which states that a higher knowledge level will lead to higher purchasing behavior of consumers towards organic foods is supported. This was due to knowledge being found to have a significant effect (sig. $t = 0.009$) on consumer behavior. This finding reveals that consumer purchasing behavior towards organic foods depends on knowledge. This finding is consistent with the studies done by Hill and Lynchehaun (2002) that insufficient knowledge about organic foods will directly affect organic food purchase and consumption.

Next, health consciousness does not have any significant effect with consumer behavior with (sig. $t = 0.852$). This finding shows that there is no significant relationship between health consciousness and consumer behavior. Hence the *Hypothesis 2* is not supported. This may be due to consumers realizing the health benefits of organic foods but not considering it as the major factor influencing them in the purchase of organic foods (Michaelidou & Hassan, 2008).

For environmental concern, it also shows that there is no significant effect on the consumer behavior towards organic foods with its (sig. $t = 0.996$). Again, the hypothesis is not supported that higher concern for the environment will thus lead to higher consumer purchasing behavior towards organic foods, but it is consistent with the findings from Cleveland et al. (2005). This is due to their finding that there is a low relationship between environmental friendly products and green behavior by the consumer.

Hypothesis 4 which states that price will influence consumer behavior towards organic foods is not supported with its (sig. $t = 0.099$). This means that price does not have any significant relationship with consumer purchasing behavior towards organic foods. This was due to consumers not considering price issue as an important criteria when purchasing organic foods as they were regular consumers and organic foods had become a lifestyle choice for them (Aschemann Hamm, Naspetti and Zanolli, 2007).

Hypothesis 5 shows that there is a significant relationship between perceived beliefs and attitudes and consumer behavior towards organic foods. This can be shown with its (sig. $t =$

0.001) and the hypothesis is supported. This finding means that when consumers have strong beliefs on the health benefits of organic foods, they will have positive attitudes towards the purchasing of organic foods. The result obtained is similar to the research done by Magistris and Gracia (2008).

Government support and policy also has significant relationship with consumer behavior towards organic foods with its (sig. $t = 0.000$). Therefore, the *Hypothesis 6* is supported; higher the support and policy by government will lead to higher consumer purchasing behavior towards organic foods. This finding is consistent with the research done by Chen (2007) which also stated that government policy can influence the consumer purchasing behavior towards organic foods.

The last Hypothesis states that there is a significant relationship between availability and consumer behavior towards organic foods and this hypothesis is also supported with its (sig. $t = 0.034$). Previous studies also found that lack of organic food availability in the stores can create a barrier for consumers to purchase organic products (Beardworth et al., 2002; Davies, 1995).

5. DISCUSSION AND CONCLUSION

Hypothesis 1 examined the relationship between knowledge and consumer behavior towards organic foods and this hypothesis is accepted. Based on the results obtained, knowledge is considered as one of the factors that can influence the consumer purchase intention towards organic foods. According to Aertsens et. al (2011), most people would like to join as organic foods consumers but they do not have enough knowledge about organic foods and are not able to differentiate between organic foods and conventional foods.. When the people decided to purchase a product, they were mostly depending on their knowledge about the product as well (Smith & Paladino, 2010).

Then, *Hypothesis 2* examined the relationship between health consciousness and consumer behavior towards organic foods and this hypothesis is not accepted. According to several previous studies, health is always an important factor in human life. With reference to Huber, Rembialkowska, Srednicka, Bugel and van de Vijver (2011), the organic ingredients can indeed help to improve cancer problems. However, it was actually consistent with the previous studies done by Brunso and Scholderer (2001). According to them, health consciousness was being indicated to be the least important factor in shaping behavior of consumers towards organically produced foods.

For the *Hypothesis 3*, the research examined the relationship between environmental concern and consumer behavior towards organic foods and again this hypothesis is not accepted. The result obtained is not consistent with the previous studies. This may due to the respondents not really being concerned about the environment even if they purchased organic foods. The environment is now undergoing many threats like pollutions and global warming issues and hence there is a need for consumers to alter their ways of consumption. The consumers are aware of the impacts and consequences of old farming practices to the environment as well (Saleki and Seyedsaleki, 2012). Growth of concern about nature can help to increase the purchase intention of organic foods as all the organic foods produced are environmental friendly foods.

Hypothesis 4 examined the relationship between price and consumer behavior towards organic

foods and this hypothesis is not accepted. The majority of the respondents stated that they were not paying a premium for organic products. Their views were actually consistent with previous study results that showed the consumers may choose not to purchase organic foods due to their high prices (Akbari & Asadi, 2008; Ekelund, Fernqvist & Tjarnemo, 2007). The price of organic foods seems to be a barrier for the consumers (Fotopoulos & Krystallis, 2002). It depends on the consumers to prioritize the criteria in purchasing goods, whether to focus on quality, taste or only the price of the products.

While for *Hypothesis 5*, the study examined the relationship between perceived beliefs and attitudes and consumer behavior towards organic foods and this hypothesis is accepted. This result is again consistent with the previous findings (Bredahl, 2001; Chen, 2007; Michaelidou & Hassan, 2010). According to Schegelmilch et. al (1996), the attitudinal component was being observed to be the most important predictor of green purchasing decisions. With the strong beliefs towards the benefits of organic foods, the consumers will definitely mediate the influence of perceived beliefs into actual attitudes.

Hypothesis 6 examined the relationship between government support and policy and consumer behavior towards organic foods and this hypothesis is accepted. This finding is quite surprising as the majority of the consumers will behave based on the significant impact of government policies on the consumption of organic foods. It is in another saying that government can have direct positive relations with organic foods consumption. According to Siderer, Maquet and Anklam (2005), the government will need to show consideration to organic food agriculture since it has been established. With such control by the government, the public will expect to purchase high quality organic foods with safety and health provided as well.

Last but not least, *Hypothesis 7* examined the relationship between availability and consumer behavior towards organic foods and this hypothesis is accepted. This result obtained is consistent with the findings done by Davies et. al (1995) that availability is one of the significant factors in encouraging the purchase intention of organic foods. When the organic foods can be easily accessible by the consumers in the market, the probability for the consumers to choose consuming organic foods will be higher.

5.1 IMPLICATIONS

The results obtained in the previous chapter represent the relationship between dependent variables and independent variables. The major impact may be positive social change which includes better understanding of consumer behavior towards organic foods. Thus, the number of people consuming organic foods may increase once they have some exposure to it. This study can provide quality information about the food preferences of Penang consumers. It is good inspiration for everyone to change their perceptions towards organic foods, which is good for both health and the environment. The consumers can shift their purchasing patterns and become more aware of the foods products that they consumed. The manufacturers and marketers of organic foods can implement suitable strategies by knowing the main concerns from the consumers towards organic foods. Also, the researcher can see that there is a lack of understanding and knowledge in the areas associated with organic foods. Therefore, there is a need to educate younger generations about organic farming as well as organic food consumption and their respective benefits to human beings and the environment. With such knowledge and information provided, the consumers' perceptions and behavior may change to

be concerned more about health and the environment.

5.2 LIMITATIONS OF RESEARCH

Although this research reached its objectives, there were some limitations found in this research. The main limitation is the time constraint. This is due to the researcher being given about two semesters time to complete the whole research, which was a challenge as the researcher requires to spend much time in developing the research title and questionnaires, distributing the questionnaires as well as analyzing the data collected with SPSS software. As a result, accuracy of the data collected may be affected when the researcher is rushing to complete the research before the due date.

In addition, the respondents chosen in Penang may not represent the exact behavior of all consumers in Penang towards the consumption of organic foods. Sometimes, the respondents chosen do not really want to take part in answering the questionnaires since it took some of their time. They may refuse to fill in the questionnaires or simply fill in their answers without thinking, which may then lead to inaccuracy in the data collected.

Also, the limitation on the number of samples leads to some difficulties in interpreting the data collected. As the current study only used 105 samples of questionnaires to carry out, the results obtained at the end would not be as precise and accurate if compared to a larger sample size. Enlarging the sample size would increase the representativeness of the target population and hence improve the research precision. However, from another perspective, the 100 samples that were collected saved a lot of time, both in entering the data into SPSS software and in time to interpret the data collected.

5.3 SUGGESTIONS FOR FURTHER RESEARCH

There are a few suggestions which have been made for further research on consumer behavior towards organic foods. First of all, further research can expand the sample size in order to get more accurate results for the research. Besides, researcher should develop a better model and the respondents should be diversified into various backgrounds to ensure that the data obtained is reliable. The researcher can conduct detailed research by managing and arranging time well. This can help to produce a good research with sufficient time. Furthermore, face to face interview is more suitable to obtain reliable result for the research paper. This is due to the researcher being able to get the direct response or feedback from the respondents, which may then help to provide extra information or inspiration to the researcher in continuing the study.

Consumption of organic foods can bring many health benefits to human beings as well as to reduce environmental pollution. This research is conducted to determine the factors that can influence the consumer behavior towards organic foods in Penang. With a better understanding, the manufacturers as well as marketers of organic foods can implement suitable strategies in order to gain greater sales on organic foods from the consumers. Therefore, seven independent variables have been used to determine the consumer behavior towards organic foods. Among the seven independent variables, only knowledge, perceived beliefs and attitudes, government support and policy as well as availability have the significant positive relationship with the consumer behavior towards organic foods in Penang as well.

This study provides valuable insights for the consumers in determining the most influential

factors in consuming organic foods in daily life. From the findings, the researcher realizes that most of the respondents will purchase and consume organic foods based on the support and policy by the government. Therefore, government should provide sufficient information, guidelines and programs in encouraging the organic farming practices as well as consumption of organic foods. The government can help to manage the inconvenience to approach organic foods by helping the farmers to extend their growing areas and productivity. According to Chen (2009), the government and related institutions should serve as a monitoring mechanism and to provide safety assurance for organic foods in order to alleviate consumer's suspicions and help consumers to maintain positive attitudes to organic foods.

Moreover, the fact that availability of organic foods can affect the intention to purchase organic foods is actually providing information for the marketers to rethink their marketing strategies in order to ensure that the consumers can purchase the organic foods via proper distribution channels. Although currently availability of organic foods are important for the consumers in consuming organic foods, the growth area and distribution channels of organic foods are still limited in Malaysia.

Also, in order to make sure that the consumers have positive attitudes and beliefs towards the organic foods, the marketers can provide useful promotional appeals about the organic foods. This can help to enhance the perceptions of consumers towards the benefits of organic foods. It is time consuming if we want to make attitudes into habits. Therefore, the marketers and manufacturers of organic foods should be more patient and implement suitable strategies in order to establish positive attitudes from the consumers towards the consumption of organic foods.

Last but not least, the present research should have some improvement in order to overcome all the limitations mentioned in the previous section. For example, the sample size should be expanded in order to obtain better results for the factors presented in the paper. A better model can then be proposed for future research as to provide better insights for manufacturers, marketers and consumers of organic foods.

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