

Analysis Effect of Environment Attitude, Health Consciousness and Knowledge in Developing Product Perception and Intention to Buy (A Study on Organic Food Product)

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The research results indicated that there was a positive influence between health consciousness towards environment attitude, consumer's organic product knowledge towards organic product perception, environment attitude and consumer's organic knowledge towards intention to buy organic product. But, there was a negative influence between environment attitude, health consciousness towards consumer's organic product perception, and consumer's organic product towards intention to buy organic product.

This research is to find out the factors that can affect the product perception and consumer intention in buying organic product.

The study is necessary in that it explores at least some of the factors that can affect the product perception and consumer intention in buying organic product.

Keywords: Organic product, Perception product, Intention to buy, East Jakarta

Introduction

Organic product is one of the icons that are relatively new in the world's agricultural industry. The stimulus development of organic product comes from the desire of the community, especially in developed countries to consume healthier and natural foods (www.biocert.or.id). The stimulus arise due to food safety crisis happened to consumers, such as mercury-contaminated fish products, dairy products containing melamine, listeria in ice cream and the presence of high pesticide residues in vegetables. It also has encouraged the increasing demand for organic products and caused the trend of the global community to get back to nature (Indonesia Organic Alliance, 2009). The global trend community to get back to nature has caused a rapid increasing in the organic products demand around the world. It's started since 1997, the organic market trend reached \$10 billion, in 1998 reached \$13 billion, in 2003 reached \$27 billion, so it's estimated that on the year 2010

the organic product market share will reach \$100 billion (Ditjen BPPHP Deptan, 2001).

Based on data reported by Indonesian Organic Alliance, an organic farm in Indonesia has reached 65000 ha. Commodities produced from the organic farm include rice, vegetables, fruits, coconut, vanilla, herbs, spices, coffee, tea and others. In addition to plants, organic product in the form of meat, milk and eggs are also produced by breeders. Currently, organic livestock is still limited to goats, chickens, ducks and several species of fish. In its development, organic farming is increasingly preferred by consumers but until now there are still some debates that occurred in the general public about the benefits of organic food products and non-organic (conventional product). On publication of Coronary and Diabetic Care in the United Kingdom, and the Association of Primary Care

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Groups and Trusts states that by getting used to consume organic food products can be beneficial nutrients, reducing the risk of cancer, coronary heart disease, allergies and hyperactivity in kids. While the contents of pesticides and chemical fertilizers on non-organic food products believed to cause various health problems and pollution of the environment.

Consuming organic food products has become a choice for some people to maintain a healthy lifestyle. However, the price of the products is still expensive and the lack of information about the benefit of organic products makes this lifestyle can only be followed by certain circles of society (www.femina-online.com). Schiffman & Kanuk (2007) analyzed that consumer's perception about a product will influence intention to purchase. Perceptions of organic products will form an attitude and belief that stimulates consumer's intention to buy. Perceptions are formed, whether it is positive (organic food products are healthier and safer) and negative (the high price of organic food products), and derived from information obtained from various sources. Therefore, the intention to purchase organic food products can be observed through positive and negative perceptions.

By noticing a change in lifestyle of the people, the increasing demand for organic food products although the price is quite expensive and the emerge of different perceptions about organic food products, the writer is interested in investigating the factors that influence consumer's intention to purchase organic food products. In the earlier studies, Magistris & Garcia (2008) discussed the consumer behavior based on external and internal factors that affect consumer's intention Campania in buying organic food products. While Lea & Worsley (2005) analyzed the beliefs of organic food products and its relationship with demographic and personal values that affect Australian consumers in purchasing the organic food products.

Literature Review

Since the organic food market has grown rapidly, numerous empirical studies on this market have been done. Pioneers studies analyzed

the consumers' decision-making process for organically produced foods in Southern Italy (Magistris & Gracia, 2008), factors that explain consumers' organic purchase decision (Chryssohoidis & Krystallis, 2005), the Turkish academic staffs' perception of organic foods (Ozcelik & Ucar, 2008) and the relationship between subjective norms and attitudes and intention of Finnish consumers in buying organic food products.

Nowadays, organic lifestyle is more intense in the big cities. The threat of food security crises happened to customers has triggered many people to look, begin and consume organic food products. Therefore, organic food products are preferred by consumers who are interested in maintaining a healthy lifestyle because health can affect the implementation of activities or tasks and routines. The easiest way to do healthy lifestyle is by maintaining food and life pattern so the body can be free from buildup toxins. Organic lifestyle can cause the composition of good bacteria in the body become more numerous, so there is no buildup of toxins. With the absence of toxins in the body, the body organs will function properly and the body will be free from illness complaints. Addition, organic food products can also provide benefits to the environment. Prohibition the use of certain types of pesticides and fertilizers has helped to reduce pollution to the soil, water, maintain the diversity of plant and animal, and also help to produce a more fertile farmland. Therefore, consumers with high level health awareness and those who try to follow a healthy diet and balanced life are more likely to show positive attitudes towards organic food products and the environment. Based on Schifferstein & Ophuis (1998) (as quoted by Magistris & Gracia, 2008) statement, the first hypothesis proposed is as follows:

H1. There is a positive influence between consumers' health consciousness towards consumers' environment attitudes

Reasons of health, food safety and environmental friendliness are the most common reason used as an important motive in influencing consumers to purchase organic food products. It is because the perception of consumers that always

links organic food products with naturalness and healthiness. Theoretically, cultivation of organic food products is very good for the environment. In terms of energy, cultivation of organic food products contribute to the emission decreasing, mainly CO₂, CH₄ and N₂O (Shepherd, 2005).

Lifestyle is an important exogenous factor in influencing consumers' attitude in the process of making decisions (Engel, 1998, as quoted by Magistris & Gracia, 2008). In general, organic food products are favored by consumers who are interested in maintaining a certain lifestyle associated with the production system, management and handling of food products. Moreover, consumers who care about health and environment usually have more positive attitudes towards organic food products (Magistris & Gracia, 2008). Based on these statements, the second hypothesis proposed is as follows:

H2. There is a positive influence between consumers' environment attitudes towards consumers' organic product perception

Health factor is one of the reasons why consumers consume food. Food safety and fresh and natural food products have become consumers' demands. Quality life and healthy lifestyle improvement have encouraged the movement of a healthy lifestyle all around the world with a global theme back to nature. This movement is based on what comes from the nature is good and useful, and everything is good in nature is always in a state of balance. Organic food products have become the main choice to fulfill this healthy lifestyle. Organic food products are not only free of synthetic ingredients (pesticides or chemical fertilizers) but also must meet international requirements prescribed, such as the prohibition to use GMO (Genetically Modified Organisms) seeds and irradiation technology for preserving the product (www.eurekaindonesia.org).

Earlier research conducted by Tsakiridou, Zotos & Mattas (2008) concluded that the strongest motives in influencing the Greek consumer in consuming organic food products are the health awareness and the importance of protecting the environment. They believe organic food products have more value than conventional

products and they also believe by eating organic food products, they can maintain their healthy lifestyle. This situation happens because they believed organic food products are free of chemical elements and pesticides residues. Based on these statements, the third hypothesis proposed is as follows:

H3. There is a positive influence between consumers' health consciousness towards consumers' organic product perception

Today, there are still debates occurred in the general public about the advantages and disadvantages perception of organic food products to non organic food products (conventional products). According to Khomsan (2004), he confirmed that organic food products, especially vegetables, have bad performance, such as a lot of cavities because it's eaten by the worms and insects. However, if it's viewed from the taste and quality, organic food products are better than conventional products, especially for organic vegetables and fruits that taste crunchier, sweeter and long lasting. Vegetables and fruits from conventional products have high water content so the taste is less sweet and not long lasting. In addition, Khomsan also revealed that organic food products, such as vegetables and fruits, have better level antioxidants and minerals than conventional products. Consumers who have high or more knowledge about it will affect consumers' perception and how the knowledge used in the decision-making process. Based on these statements, the fourth hypothesis proposed is as follows:

H4. There is a positive influence between consumers' organic products knowledge towards consumers' organic product perception

Organic farming is a holistic and integrated agricultural production system which optimizes health and productivity of agro-ecosystem naturally, so it can produce enough food and fibers that are healthy, nutritious and sustainable. Numerous benefits can be obtained from organic farming activities, such as:

- It produces adequate, safe and nutritious food thereby it'll increase the public health

- It can minimize all forms of pollution resulted from agricultural activities
- It can increase and sustain the agricultural productivity in long term
- It can maintain the sustainability of natural resources and environment
- It can increase the competitiveness products in a sustainable agribusiness

Thus, organic farming will enhance health and the welfare of food and environment security (Sulaeman, 2008).

Ajzen (1991) (as quoted by Magistris & Garcia, 2008) explained that the more profitable use of organic food products towards health and environment, the greater the possibility that consumers will buy organic food products. Grunert & Juhl (1995) (as quoted by Magistris & Garcia, 2008) analyzed the environmental attitudes and their relationship with the decision to purchase organic foods. They concluded that positive attitudes towards environmental issues are positively correlated to the buying of organic food products and the frequency of purchase. Based on these statements, the fifth hypothesis proposed is as follows:

H5. There is a positive influence between consumers' environment attitudes towards consumers' intention to buy organic food product

Based on prior studies, there are several reasons why consumers decide to buy organic food products. According to Yiridoe (2005) the reasons are food safety, health, environmental impacts and attributes contained in an organic food product, such as taste, freshness and the packaging of the product. These reasons can form a positive perception of organic food products and it also can give effect to the intention to purchase organic food products.

This statement is also supported by Schiffman & Kanuk (2007). They stated that a person's perception of a product will influence the intention to purchase. Perception of organic food products will form an attitude and beliefs that stimulates consumers' interest to buy and followed by the purchase behavior. Positive perceptions of organic food products show that organic food products have good quality and taste, so this perception will lead more customers

to buy organic food products. Based on these statements, the sixth hypothesis proposed is as follows:

H6. There is a positive influence between consumers' organic product perception towards consumers' intention to buy organic food product

According to Zanolli & Naspetti (2002), to conduct an analysis of consumer motivation in purchasing organic food products can be done through two approaches (cognitive and behavior). Cognitive approach emphasizes more on what's believed to be reliable for consumers against an object, while a behavioral approach emphasizes more on consumers' intention to take action. Knowledge is part of the cognitive approach in conducting an analysis of consumer motivation in purchasing organic food products. Therefore, consumers who have high or more knowledge about organic food products will affect how consumers gather information and how this information is used in determining the decision process in purchasing organic food products (Yiridoe, 2005).

It is also described by Gil (2000) (as quoted by Ozcelik & Ucar, 2008) that consumers who have knowledge of organic food products, are aware of its benefits and think that organic food product are healthier tend to buy organic food products more frequently. Based on these statements, the seventh hypothesis proposed is as follows:

H7. There is a positive influence between consumers' organic product knowledge towards consumers' intention to buy organic food product

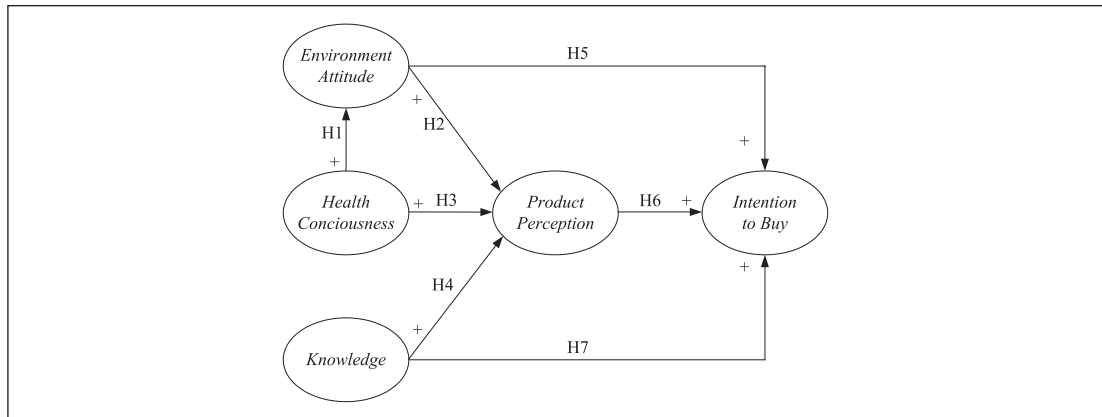
The causal relationship among environment attitude, health consciousness, organic knowledge, product perception and intention to buy organic food products are shown in Figure 1.

Methodology

Data Collection

Data were collected from a survey conducted in East Jakarta region in 2010. East Jakarta was chosen because this region had the highest number of resident's income. Questionnaire

Figure 1. Proposed Model



was used to collect the data and designed to analyze consumers' environment attitude, health consciousness, organic food knowledge, organic food product perception and purchase intention. The questionnaire also contained questions on socio-demographic characteristics. The questionnaire was validated using a pilot survey. In total, 165 respondents aged 21 and above (23.03% were respondents age less than 25 years, 44.24% were respondents age 25-35 years and 32.73% were respondents age above 35 years), participated in the study. More respondents were men (52.12%) and married (52.73%). Approximately, 40.61% of the respondents had expenditures more than 5 million rupiah per month, 56.97% were private employee, 61.82% had completed their bachelor degree and 47.88% had a frequency purchase less than three times a month.

Variables definition

In the proposed model, the "environment attitude" is measured by five observed variables, such as: "The current development path is destroying the environment", "Unless we do something, environment damage will be irreversible", "I practice environmental conservation tasks", "I prefer consuming recycled products" and "I dispose of my garbage in different containers".

Consumers' health consciousness were measured by six observed variables, such as: "I do exercise regularly", "I often eat fruit and vegetables", "I rarely eat red meat", "I avoid

eating food products with additives", "I take regular health check-ups" and "I try to have a healthy and balanced life".

Consumers' organic knowledge was measured by five variables to ask them about their degree of agreement with the definition of organic food product, such as: "Product that's not processed with any chemicals", "Product processed without the use of human waste", "Product that can decrease soil pollution", "Product that doesn't use pesticides in the growing process" and "Product that doesn't use chemical fertilizer in the growing process".

Consumers' organic product perception was measured by seven observed variables to be compared with the non organic food product, such as: "Organic product is healthier", "Organic product is of better quality", "Organic product tastes better", "Organic product is safer to eat", "Organic product is more expensive", "The production of organic product is more expensive" and "The price of organic product is very important to me".

Consumers' intention to buy organic product was measured by five observed variables, such as: "I would buy organic product", "I would buy organic product if it's more available", "I feel buying organic product is the right thing to do", "I intend to buy organic product in the near future" and "I hope I can always consume organic product".

All variables were measured on a 1-4 scale where 4 meant the higher level of agreement and 1 meant the lowest level of agreement.

Table 1.

Variables	Indicator	Code	Source
Environment Attitude	The current development path is destroying the environment	EA1	Magistris & Garcia, 2008
	Unless we do something, environment damage will be irreversible	EA2	
	I practice environmental conservation tasks	EA3	
	I prefer consuming recycled products	EA4	
	I dispose of my garbage in different containers	EA5	
Health Consciousness	I do exercise regularly	HC1	Magistris & Gracia, 2008
	I often eat fruit and vegetables	HC3	
	I rarely eat red meat	HC4	
	I avoid eating food products with additives	HC5	
	I take regular health check-ups	HC6	
	I try to have a healthy and balanced life	HC7	
Organic food product is:			
Organic Knowledge	Product that's not processed with any chemicals	EA1	Magistris dan Gracia, 2008
	Product processed without the use of human waste	EA2	
	Product that can decrease soil pollution	EA3	
	Product that doesn't use pesticides in the growing process	EA4	
	Product that doesn't use chemical fertilizer in the growing process	EA5	
If it's compared with conventional food, than:			
Organic Product Perception	Organic product is healthier	OP1	Ozcelik & Ucar, 2008
	Organic product is of better quality	OP2	
	Organic product tastes better	OP3	
	Organic product is safer to eat	OP4	
	Organic product is more expensive	OP5	
	The production of organic product is more expensive	OP6	
	The price of organic product is very important to me	OP7	
Intention to Buy	I would buy organic product	IB1	Magistris & Gracia, 2008 serta Ching-Wen Chu & His-Pheng Lu, 2007
	I would buy organic product if it's more available	IB2	
	I feel buying organic product is the right thing to do	IB3	
	I intend to buy organic product in the near future	IB4	
	I hope I can always consume organic product	IB5	

Results and Discussion

SEM approach has been used to test the hypothesis and analyze the factors affecting consumers' intention to buy organic food products, by examining the general fit of the proposed model showed in Figure 1. The data analysis procedure consists of a Confirmatory Factor Analysis (CFA) to assess the measurement model, and the SEM analyses to examine the overall relationship among the constructs shown in Figure 1.

Testing the measurement model

This stage is intended to evaluate the level of fit between the data with the model, the validity and reliability of measurement model and also the coefficient significance of the structural model. SEM shows the relationship between constructs that have been hypothesized.

Testing the validity

The validity test in this research uses PASW

Statistic 18 factor analysis method. In Table 2, it can conclude that the data are valid because the value of KMO (Kaiser-Meyer-Olkin) and MSA (Measures of Sampling) is higher than 0.5.

Testing the reliability

The reliability test in this research uses PASW Statistic 18 reliability analysis method. In Table 3, it can conclude that the data are reliable because the value of Cronbach's Alpha is higher than 0.6.

Testing the structural model

The model component in Figure 1 connecting the endogenous and exogenous variables called the structural model. The assessment of the overall fit of the proposed model, which ensures that it is an adequate representation of the entire set of causal relationship, is shown in Table 4, where measures of absolute fit, incremental fit and parsimonious fit measures were used.

Absolute fit measures determine the overall degree proposed model at which the proposed

Table 2.

Variable	Code	KMO	MSA	Note
Environment Attitude	EA1	0.643	0.618	valid
	EA2		0.709	valid
	EA5		0.626	valid
Health Consciousness	HC1	0.827	0.886	valid
	HC2		0.824	valid
	HC3		0.880	valid
	HC4		0.787	valid
	HC5		0.777	valid
	HC6		0.822	valid
Organic Knowledge	OK1	0.806	0.815	valid
	OK2		0.822	valid
	OK3		0.802	valid
	OK4		0.814	valid
	OK5		0.781	valid
Organic Product Perception	OP3	0.746	0.771	valid
	OP4		0.752	valid
	OP5		0.739	valid
	OP6		0.728	valid
Intention to Buy	IB1	0.774	0.748	valid
	IB2		0.786	valid
	IB3		0.801	valid
	IB4		0.798	valid
	IB5		0.741	valid

Table 3.

Testing	Cronbach's Alpha	Note
<i>Environment Attitude</i>	0.648	<i>Reliable</i>
<i>Health Consciousness</i>	0.819	<i>Reliable</i>
<i>Organic Knowledge</i>	0.774	<i>Reliable</i>
<i>Organic Product Perception</i>	0.695	<i>Reliable</i>
<i>Intention to Buy</i>	0.775	<i>Reliable</i>

model predicts the observed covariance or correlation matrix. Incremental fit compares the proposed model with the independence model. Parsimonious fit measures represent the degree of model fit per estimated coefficient.

Based on the results, it can be concluded that the proposed model explaining consumers' intention to buy organic food products is statistically reasonable.

Hypotheses verification

The path diagram and T-values of the structural model for the intention to buy organic food product is shown in Figure 2 and 3.

These figures represent the latent variables as ellipses; the single-headed arrows are the causal relations. Path coefficient and T-values are placed on the arrows from latent variables to indicators, or from one latent to another one.

The positive estimates coefficients between health consciousness and environment attitude (path coefficient=0.31 and T-values (2.90)>1.96)

indicate that the first hypothesis stated in the model can be verified. It can be said that consumers who concern about their health tend to have positive effect towards the environment attitude. This finding is in agreement obtained by Schifferstein & Ophuis (1998), who stated that health concern, such as additional exercise and habits related to food intake, affects positively towards the organic food choice and environment attitude.

Regarding the second hypothesis, the estimate parameters for environment attitude and organic product perception (path coefficient=0.05 and T-values (0.46)<1.96) indicate that the second hypothesis stated in the model can't be verified. It can be said that consumers who have positive attitude towards environment don't tend to have positive effect on organic product perception. According to Tsakiridou, Zotos & Mattas (2008), older consumers (aged over 50) have more positive attitude and perceptions towards organic food product and environment, while younger consumers (aged 18-30) are not so concerned with such matters. The statement

Figure 2. Path Diagram

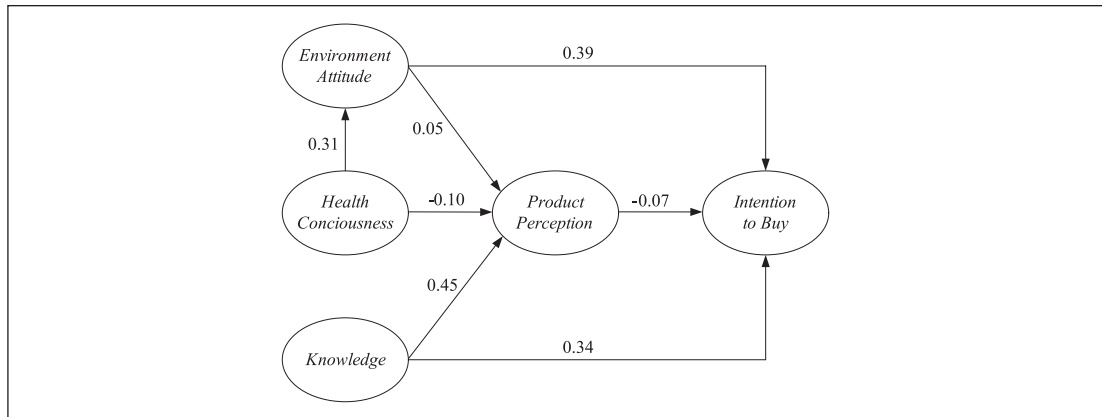
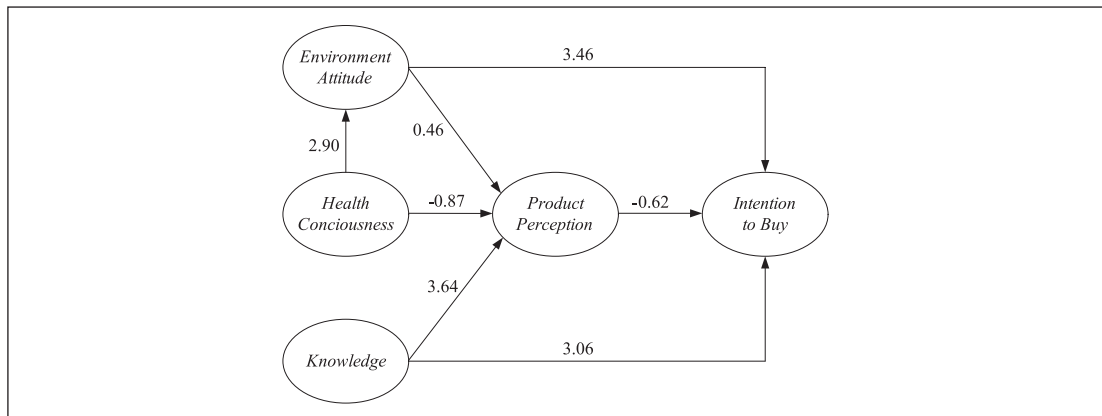


Figure 3. T-values



doesn't not conform to the results in this research (67.27% respondents are younger consumers (18-34 years), thus causing the results in which environment attitude doesn't have positive effect on organic food product perception.

Regarding the third hypothesis, the estimate parameters for health consciousness and organic product perception (path coefficient=-.10 and T-values (-0.87)<1.96) indicate that the third hypothesis stated in the model can't be verified. It can be said that consumers who have higher consciousness about health don't tend to have positive effect on organic product perception. According to Tsakiridou, Zotos & Mattas (2008), attitudes towards environment and health care are strong factors in shaping the perceptions, attitude and the consumption of organic food products. Health consciousness is the driving force behind the level of consumption by older consumers as

well as women who have children and families. The statement doesn't not conform to the results in this research (67.27% respondents are younger consumers (18-34 years) and 52.12% respondents are male), thus causing the results in which health consciousness doesn't have positive effect on organic food product perception.

Regarding the fourth hypothesis, the positive estimates parameters between organic product knowledge and organic product perception (path coefficient=0.45 and T-values (3.64)>1.96) indicate that the fourth hypothesis stated in the model can be verified. It can be said that consumers who have higher knowledge about organic food product tends to have positive effect towards organic product perception. This finding is in agreement obtained by European Commission (2004), which stated that the improvement knowledge about organic food

product is a vital part in the development of organic foods demands, because this knowledge affects consumer attitudes towards organic food products and directly influence the decision or interest to buy organic food products.

Regarding the fifth hypothesis, the positive estimates parameters between environment attitude and intention to buy (path coefficient=0.39 and T-values (3.46)>1.96) indicate that the fifth hypothesis stated in the model can be verified. It can be said that consumers who have positive attitude towards environment tend to have positive effect towards intention to buy. This finding is in agreement obtained by Magistris & Gracia (2008), who stated that consumers who are more concerned about environmental damage (they believe that environment is being destroyed and irreversible) and more involved in environmental activities (through recycling activities and nature reserve) will be more interested and willing to buy organic food products.

Regarding the sixth hypothesis, the estimate parameters for organic product perception and intention to buy (path coefficient=-0.07 and T-values (0.62)<1.96) indicate that the sixth hypothesis stated in the model can't be verified. It can be said that consumers who have positive perception about organic food products don't tend to have positive effect on intention to buy. According to Lea & Worsley (2005), older consumers (aged over 44) have more positive attitude and perceptions towards organic food product and environment, while younger consumers (aged 18-30) are not so concerned with such matters. The statement doesn't conform to the results in this research (67.27% respondents are younger consumers (18-34 years), thus causing the results in which consumers' organic product perception doesn't have positive effect on intention to buy.

Regarding the seventh hypothesis, the positive estimates parameters between organic knowledge and intention to buy (path coefficient=0.34 and T-values (3.06)>1.96) indicate that the seventh

hypothesis stated in the model can be verified. It can be said that consumers who have higher knowledge about organic products tend to have positive effect towards intention to buy. This finding is in agreement obtained by Yiridoe (2005), stated that knowledge on organic food products can affect consumers' organic buying decision for two reasons (lack of knowledge and can't clearly differentiate the unique attributes of organic from conventionally grown alternatives because of the minimum detailed information).

Conclusions

The aim of this paper is to find out the factors that can affect the product perception and consumer intention in buying organic product. Main results show that there are positive effects between consumers' health consciousness towards environment attitude, organic knowledge towards organic product perception, environment attitude and organic knowledge towards intention to buy.

However, in this paper also shows that consumers' environment attitude and health consciousness don't have positive influence towards organic product perception. Also, consumers' organic product perception doesn't have positive influence towards intention to buy.

Limitations and future research

There is couple limitations related to the research to be considered for the generalization of the results. First, the study concerned only organic green vegetables therefore the results can't be expected to explain for all organic products. Second, the study only examined just one area of consumers' organic product; it's likely that consumers' characteristics differ between areas. In the future, the role of subjective norms and social environment's influences could be examined for different types of organic food products.

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