

Analysis of Consumer Behavior of Organic Food in North Sumatra Province, Indonesia

Ihsan Effendi^{1*}, Paham Ginting², Arlina Nurbaity Lubis², & Khaira Amalia Fachruddin²

¹ Faculty of Economics, Medan Area University, Medan, North Sumatra, Republic of Indonesia

² Faculty of Economics and Business, University of North Sumatra, Medan, Indonesia

*Correspondence: Ihsan Effendi, Faculty of Economics, Medan Area University, Jalan Sei Serayu No. 70 A, Medan, Indonesia 20112. Telp: +6261-8225602, E-mail: ihsaneffendi@yahoo.com

DOI: 10.12735/jbm.v4i1p44

URL: <http://dx.doi.org/10.12735/jbm.v4i1p44>

Abstract

This research is driven by lack of knowledge of the marketers about organic consumers and to understand the motivations behind organic purchases. This study explores the effects of variables of organic food knowledge, environmental knowledge, health knowledge, culture, product attribute, subjective norms, and familiarity on organic attitudes, purchase intentions and behavior. This research is conducted by using a sample consisting of 270 respondents that were taken at several organic markets. The results indicate that organic food knowledge, health knowledge and subjective norm variables were able to explain organic food purchases, while the cultural and the food attributes have no effect on attitudes. Theory of Reasoned Action (TRA) was able to provide a framework for studying the behavior of consumer attitudes towards organic food. Practical implications of this study should focus on knowledge of organic food, and health knowledge.

JEL Classifications: D12, M310

Keywords: consumer behavior, knowledge, organic food, organic consumer

1. Introduction

Consumers demand for products of organic farming seemed to have grown in Indonesia. However, the demand of organic consumption in the province of North Sumatra is very low compared to the one in Java. The organic consumers in the province of North Sumatra are in the early phase of growth, therefore the consumption of organic food is small (Jahroh, 2010).

To help understand why consumers are still reluctant to buy organic food is to understand organic food consumer's behavior. Building attitude and intention to buy organic food is the focus to help identify consumer's behavior and their perceptions of organic food (Tarkianen and Sundqvist, 2007). Once producers have a better understanding of the consumers, they can provide a wide range of organic food and customer satisfaction (de Magistris & Gracia, 2008). Previous studies show that consumers' intention in organic food can have led to the purchase of organic food (Shepherd, Magnusson, & Sjöden, 2005; Gotschi, Vogel, Lindenthal, & Larcher, 2010; Tsakiridou, Boutsouki, Zotos, & Mattas, 2008; Wier & Calverley, 2002).

The development of the theory of consumer's behavior was strengthening by the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975). This theory predict and understand

motivational influences on behavior that is under the control of an individual on his own will to provide a framework of consumer's behavior. Sheppard, Hartwick, and Warshaw (1988) showed that the Theory of Reasoned Action (TRA) provides a relatively simple basis for identifying where and how to target changes in consumer's behavior. According to Liu (2007), the best theory to predict the behavior of consumers of organic food is the Theory of Reasoned Action (TRA).

In the past studies on consumers' of organic food behavior did not specifically divide knowledge into three categories i.e., environmental knowledge, organic food knowledge and health knowledge. Tarkianian and Sundquist (2005) did not include environmental knowledge and organic food knowledge in their model. Smith and Paladino (2010) also did not mention environmental knowledge and health knowledge but rather used the term such as environmental concern and health consciousness.

Consumers have a need to know more about what they buy to satisfy their needs and wants. Food knowledge is an important factor that can influence consumer behavior in which knowledge is a cognitive learning (Sapp, 1991). Consumer purchase intention would be different if the consumer has the distinction level of food knowledge (Chiou, 1998). Purchasing eco-friendly product cannot be separated from the knowledge of consumers about the environment (Soonthonsmai, 2001; Finisterra do Poco & Raposo, 2008) and knowledge of organic food (Gotschi *et al.*, 2010; Saleki, Seyedaleki, & Rahimi, 2012).

Organic food is synonymous with healthy food as it is friendly to nature. Motivation for healthy eating is one of the goals of consuming organic food (Liu, 2007; Chakrabarti, 2010; Nguyen, 2007). Knowledge of organic food significantly affects the intention to buy organic food (Saleki *et al.*, 2012; de Magistris & Gracia, 2008; Gracia, de Magistris, & Barreiro-Hurle, 2010). Nguyen (2007) also pointed out that health has significant influence on attitudes toward organic food.

Culture is one of the many variables to get a place in consumer behavior studies. Culture has become an important concept in understanding people and groups of people for a long time (Mowen & Minor, 2002). Culture is a way of life that function to ensure the preservation of human life and the welfare of the community by providing proven experience in an effort to meet the needs of people who are members of the community concerned where culture teaches people how to behave and strive to meet basic needs (Winter & Davis, 2006). Mutlu (2007) distinguishes cultures between developed countries and the third world in organic food consumption and attitudes towards organic food.

Organic food is free from non-organic ingredients. Consumption of organic food is highly dependent on the attributes of the food. The quality attributes consist of food safety; production process, impact on the environment, and including concern for food quality (Rodríguez, Lupin, & Lacaze, 2006). Wier and Calverley (2002) revealed that the attributes of organic food will increase its consumption. Padel and Foster (2005) view that most consumers associate organic products with the produce's attributes.

Organic food is still hard to find in the market, especially in the third world countries. The percentage of organic food is only about 1-2% of total food sales worldwide (Winter & Davis, 2006). It has become more attractive in the province of North Sumatra, especially during the last ten years organic food has begun to enter the market. However, the demand on organic food is still far behind compares to the demand to the non organic food, at the same time the supplies for organic foods is also limited. The availability of organic foods effect on consumers that they easily switch to another product if the product is not available in the market (Magnusson, Arvola, Hursti, Aberg, & Sjöden, 2001).

The prices of organic product in Medan could be 50% higher than non-organic produce However, there are consumers who prefer organic produce. Smith, Huang, and Lin (2009) found that price awareness was not confirmed. However, other result shows that price is a significant variable in

organic purchases (Lea & Worsley, 2005; Magnusson *et al.*, 2001; Padel & Foster, 2005). The high prices reduce the likelihood of consumers purchasing green products and result in consumers switching to other brands (Blend & van Ravenswaay, 1999; D'Souza, Taghian, & Lamb, 2006). Price also has direct influence in purchasing organic food among Hispanics descendant whose income is lower than other segments of society in the United States (Smith *et al.*, 2009).

Theory of Reasoned Action (TRA) is widely applied to explain the behavior of a particular purchase. The theoretical framework developed by Fishbein and Ajzen (1975) is to understand, explain, predict, and influence human purchasing behavior where one's attitude toward a behavior can lead to an intention to act. If the outcome seems beneficial to the individual, he or she may then intend to or actually participate in a particular behavior. This study used Structural Equation Modeling (SEM) which is an interactive model that refers to Kenny and Judd (1984) and Bagozzi, Baumgartner, and Yi (1992).

Gotschi *et al.* (2010) found out that the knowledge of organic food significantly influence consumers' attitudes and behaviors. Likewise Saleki *et al.* (2012) said that the knowledge of organic food will significantly affect consumers' attitudes to be willing to buy organic food. De Magistris and Gracia (2008) revealed that knowledge about organic food has an effect on the intention, then Gracia *et al.* (2010) also found the knowledge of organic foods significantly effect the intention to buy organic food. Thus, the following hypothesis can be derived:

H1: Organic food knowledge significantly influences consumer's attitude towards organic food

Previous studies have investigated the role of knowledge towards organic food in both developed and developing countries (Chakrabarti, 2010). Finisterra do Poco and Raposo (2008) concluded that environmental knowledge significantly influences consumers to buy green food. That result also supported by (Laroche, Toffoli, Kim, & Muller, 1996), who stated knowledge has a positive influence on purchasing environmentally friendly goods. People who have knowledge of the environment are willing to pay more and will be more likely to buy environmentally friendly food (Soonthonsmai, 2001). Thus, the following hypothesis can be derived:

H2: Environmental knowledge significantly influences consumer's attitude towards organic food

One of the reasons why organic food is being cultivated is to improve the health of those who consume it. Liu (2007) showed health has a significant influence on attitudes, but not related with subjective norm. Likewise, Salleh, Ali, Harun, Jalil, and Shaharudin (2010) found that health variables have a significant effect on attitudes towards organic food in Malaysia and Michaelidou and Hasan (2008) found similar results. Makatouni (2002) concluded that health factors are the most significant variables influencing consumer's intentions to purchase organic food. Kim and Chung (2011) also mentioned that health awareness is the most important factor in influencing consumers' behaviors. Thus, the following hypothesis can be derived:

H3: Health knowledge significantly influences consumer's attitude towards organic food

Gotschi *et al.* (2010) states that culture can influence a consumer's purchase intention significantly. Contrary to Balderjahn (1988) using the Theory of Reasoned Action found that culture had no effect on attitudes toward the environment. Park and Levine (1999) do not see the relationship between culture and attitude. Bagozzi and Lee (2002) disclose the results of differences in which attitudes and subjective norms are influenced by the local culture. Harmon-Jones, Brehm, Greenberg, Simon, and Nelson (1996) in cross-cultural studies on the consumption of organic food culture found to have an effect on creating a customer's intention to buy organic food. Thus, the following hypothesis can be derived:

H4: Culture significantly influences consumer's attitude towards organic food

Several studies have revealed a relationship between food's attributes and attitudes. Sukato and Elsey (2009) used the TRA and found a significant association between food's attributes and consumer attitudes towards organic food. This revealed a significant correlation between food's attributes with the intention to buy organic food. There is also a significant relationship between attributes of organic food and buying organic food (Soler, Gil, & Sánchez, 2002). Thus, the following hypothesis can be derived:

H5: Food attributes significantly influence consumer's attitude towards organic food

Barriers to consumption of organic produce including organic food availability itself (Makatouni, 2002). In many developing countries one of the main problems of organic food demand is the lack of access to markets and market information (Zundel & Kilcher, 2007). In the United States however, it shows a lack of supply of organic food among African-American population (Zepeda, Chang, & Leviten-Reid, 2006). Caldwell, Kobayashi, DuBow, and Wytinck (2009) revealed the importance of access to the produce to increase consumption. Magnusson *et al.* (2001) revealed that there was no significant relationship between the availability of organic products to the intention to buy. Thus, the following hypothesis can be derived:

H6: Availability significantly influence consumer intentions to purchase organic food

Certified organic food is generally more expensive than conventional products for a number of reasons. Price becomes important in organic marketing. According to Gan, Wee, Ozanne, and Kao (2008) a higher price have an impact on consumers in buying green products. These results are consistent where higher price have a negative impact on the likelihood of consumers purchasing green products. Furthermore, D'Souza *et al.* (2006) also revealed a high price also result in consumers switching to other product. Some consumer groups have a more positive attitude towards organic products, and they show a willingness to pay higher prices for organic products (Radman, 2005). Consumer attitudes towards organic food are also associated with the price and quality for environmentally friendly products (Canavari, Bazzani, Spadoni, & Regazzi, 2002). Some consumer groups have a more positive attitude towards organic products, and they show a willingness to pay higher prices for organic products (Radman, 2005). Consumer attitudes towards organic food are also associated with the price and quality for environmentally friendly products (Canavari *et al.*, 2002). Smith *et al.* (2009) revealed the role of price organic food which price does not have a significant effect on the intention to buy organic food. Thus, the following hypothesis can be derived:

H7: The price of organic food significantly influences consumer's intention towards purchasing organic food

The relationship between attitude and intention has proven that attitude has been the main factor in creating the intention (Bagozzi *et al.*, 1992; Saba & Messina, 2002; Jackson, Quaddus, Islam, & Stanton, 2006; Thøgersen, 1999; Ajzen, 2001; Kim & Chung, 2011). Coleman, Bahnan, Kelkar, and Curry (2011) also revealed by using TRA to find the relationship between attitude and intention to purchase organic food. That said, to become consumer of organic food someone has to have good attitude before buying organic food. Thus, the following hypothesis can be derived:

H8: Attitude significantly influences consumer's Intention to buy organic food

The major theory in this study is the theory of reasoned action by Fishbein and Ajzen (1975) with two basic determinants, the first is dealing with the attitude and the second is related to the social influence subjective norms. Subjective norms are understood as the affect of external factors on consumer's intentions. Sparks and Shepherd (1992) conducted a study with the TRA, but found no significant effect of subjective norm on the intention. However, this does not mean subjective norms play a small role. Vallerand, Deshaies, Cuerrier, Pelletier, and Mongeau (1992), Sheppard *et*

al. (1988), Shimp and Kavas (1984), and Bagozzi *et al.* (1992) found the role of subjectives norm in creating the intention to buy organic food. Thus, the following hypothesis can be derived:

H9: Subjective norms significantly influence consumer intentions to purchase organic food

In previous studies (Saba and Messina, 2002; Kim & Chung, 2011; Coleman *et al.*, 2011) they found a positive and significant relationship between intentions and purchasing of organic food. Several other studies also pointed out the relationship between the intentions to purchase of organic food (Sheppard *et al.*, 1988; Tarkiainen & Sundqvist, 2005). Thus, the following hypothesis can be derived:

H10: Intention to purchase organic food significantly affects consumer behavior

Based on the above hypothesis, it can be drawn that consideration of environmental knowledge, knowledge of organic food, health knowledge, culture, food attributes will affect the attitude, whereas attitude and subjective norms influence intentions. Finally intentions influence behavior (Figure 1)

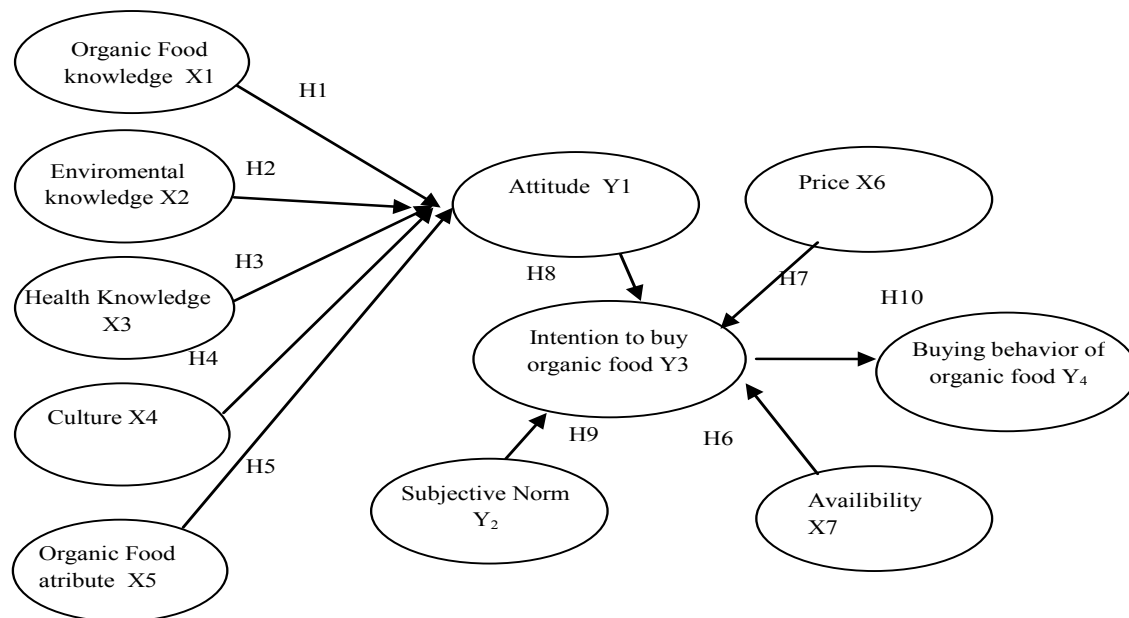


Figure 1. Research framework

2. Method

Consumers of organic food are a unit of analysis in this study. This study focused on consumers who buy organic food in the province of North Sumatra. A questionnaire had been used to collect data and verify the framework of research that led to the hypothesis. The goal is to determine the purchasing behavior of organic food consumers. Responses to this measure were collected with a five-point Likert scale from "completely disagree" to "completely agree"

The study sample consisted of 270 individuals who buy organic foods to meet nutritional needs in the form of rice, vegetables, and fruits. Sampling was carried out in markets that sell organic food. Samples were taken for a month. Reasons for sampling for a month is because the consumer will come back to buy organic food, especially rice, usually after a month in which the supply of rice of the consumer is low and would buy again. There are markets that sell organic food in North

Sumatra Province, as follows: JAPPSA Market; Balige market, Serdang Market Supermarket Berastagi, Rame Market, Sambu Market, Peringgan Market, Petisah Market and Beruang Market. The sampling method used quota sampling is a method that enables process control sampling to obtain a sample that is similar to the population (Kinnear & Taylor, 1987).

Prior to data analysis, measurement reliability and validity of the data is done. The validity measure and reliability of the measurement model was tested. The evaluation performed on each construct or measurement models. Loading standards can be obtained directly from the output of the measurement error of Lisrel 8.5 for any errors of any indicators or observed variables. Extract variance reflects differences in the overall number of indicators are explained by latent variables. Reliability is a measure by Variance Extracted (VE) which must be greater than 0.5. Evaluation of the validity of the measurement model is said to have good validity if the value t of factor loading greater than the critical value (1.96). Build or measurement model has good validity when Standard Loading Factor (SLF) > 0.5 (Igbaria, Guimaraes, & Davis, 1995).

A good-fitting measurement model is required before interpreting the causal paths of the structural model. In structural equation modeling, the fit indices establish whether, overall, the model is acceptable. If the model is acceptable, then establish whether specific paths are significant. The hypotheses are tested by applying Structural Equation Modeling (SEM) with LISREL 8.5 (Wijanto, 2008). Because different measures of fit capture different elements of the fit of the model, it is appropriate to report a selection of different fit measures. To avoid problem with missing value, maximum likelihood estimation was used (Kenny & Judd, 1984). Evaluation of the suitability of the model criteria i.e.: p-value, RMSEA, NFI, NNFI, CFI, IFI, RFI, Std. RMR and GFI. From Table 1 shows that if one of the requirements of the goodness of fit is met, then the model is considered good.

Table 1. The Measurement model Goodness of Fit Index (GOFI) (Wijanto, 2008)

Fit Index	The Fit Criteria
p-value	$p\text{-value} \geq 0.05$
RMSEA	$RMSEA \leq 0.08$
NFI	$NFI \geq 0.90$
NNFI	$NNFI \geq 0.90$
CFI	$CFI \geq 0.90$
IFI	$IFI \geq 0.90$
RFI	$RFI \geq 0.90$
Std. RMR	$Std. RMR \leq 0.05$
GFI	$GFI \geq 0.90$

3. Results

The sample comprised of 63% women and 37% men, something that is likely because women are the primary food buyers and decision makers in households. Respondents aged varied from 20-65

years with the majority aged between 41 to 50 years old. Almost all of them have a university education background (97%), approximately 3% had completed high school and about 73% of respondents received a monthly income of more than 5,000,000 Rupiah.

Table 2. Validity for the Indicator Retained in the Measurement Model

Construct		Item	Measurement
			SLF
Organic Food Knowledge, X1	X11	I know the food is organic or not organic	0.98
	X12	I know the taste of organic foods	0.44
	X13	I know the process of organic products	0.39
Environmental Knowledge, X2	X21	I know about environmental issues	0.02
	X22	I am aware of the activities for the environment	0.19
	X23	I know about the government's policies on the environment	0.27
Health Knowledge, X3	X31	I know eating organic products reduce health risks	0.72
	X32	I know that organic food is more nutritious	0.98
	X33	I know that organic food is not contaminated with chemicals that are harmful to health	0.33
Culture, X4	X41	I have a healthy lifestyle	0.72
	X42	I have environmental values	0.75
Product Attribute, X5	X51	I know organic food is more hygienic	0.65
	X52	I know organic food is more delicious	0.93
	X53	I know organic food has a longer durability	0.37
Price	X61	the price of organic food in accordance with benefit	0,51
	X62	The price paid in accordance with the quality of organic food	0.59
Availability	X71	Organic products are easily obtained in the market	1.00
Attitude toward Organic Food, Y1	Y11	I believe organic food is very useful to meet the nutritional needs	0.38
	Y12	I am convinced in organic food better for my family	1.16
	Y13	I am convinced the consumption of organic food is a reasonable action	0.34
Subjective Norm, Y2	Y21	According to my friends, that I am better off buying organic products	0.79
	Y22	Many people persuade me that I should buy organic products in order to better lives	0.80
Intention to buy organic food, Y3	Y31	I intend to consume organic products in the future	0.44
	Y32	I plan to consume organic products for the nutritional needs of the family	0.57
	Y33	I am always interested in buying more organic food for the family's needs	0.37
	Y34	I always intend to look for organic foods, although outside the city	0.55
Buying behavior of organic food, Y4	Y41	I've been a regular buyer of organic foods	0.26
	Y42	I always purchase organic food for future needs	0.90
	Y43	I always purchase organic products, although hard to come by in the market	0.60

Validity measurement is done by evaluating the model fit test. The evaluation performed on each construct or measurement models. Validity is achieved if the validity of the corresponding results for the generalization to the population of interest. Validity was assessed by reviewing the t-tests for the factor loadings. This measurement applies if the t-value of factor loading greater than the critical value (1.96).

The results (Table 2) the measurement and evaluation of indicators were observed with t-value is greater than the critical value (1.96) is considered good and acceptable in the model and indicators with t-value is lower than the critical value (1.96) is considered bad and not included in the model. Evaluation of the validity of the measurement model can be seen in Table 3 which shows the Standard Loading Factor (SLF).

Table 3. Construct Reliability, Variance Extracted, Reliability Model Stability Alienation

Variable	CR	VE	Result
Organic Food Knowledge (X1)	0.73	0.53	Good
Environmental Knowledge (X2)	0.74	0.58	Good
Health Knowledge (X3)	0.72	0.53	Good
Culture (X4)	0.72	0.57	Good
Product attribute (X5)	0.75	0.60	Good
Attitude toward Organic Food (Y1)	0.86	0.69	Good
Subjective Norm (Y2)	0.80	0.53	Good
Behavior to buy Organic food (Y3)	0.83	0.64	Good
Intention to buy organic food (Y4)	0.80	0.62	Good

The results of the reliability calculations above can be summarized in table 3 and which all result of Construct Reliability (CR) is greater than ≥ 0.70 and Variance Extracted (VE) ≥ 0.5 . Therefore, all these latent variables have good results and include in the model.

3.1. Data Analysis

Structural Equation Modeling (SEM) techniques had been used to confirm the model, where it should be determined properly based on the type of analysis to confirm the model. Establishing the correct model had been done by using two kinds of variables i.e., exogenous and endogenous variables. Exogenous variables can be used in the graphical version of the model as an arrow sender variable, which indicates the variable is a variable that predicts the endogenous variables. Endogenous variables in the model are the recipient of arrows.

In this model there are several endogenous variables, i.e., attitudes towards organic foods (Y1), subjective norms (Y2), the intention to buy organic food (Y3), behavior to purchase organic food (Y4) and some exogenous variables, i.e., knowledge about organic foods (X1), knowledge of the environment (X2), health knowledge (X3), culture (X4), the attributes of organic food (X5), price (X6) and availability (X7).

Once the measurement standard solution for this model was done, the next step is to analyze the structural model related to the study hypothesis test analysis. The research hypothesis is accepted if the value of the absolute number of t values greater than 1.96 with a coefficient signs consistent with the hypothesis put forward (positive or negative).

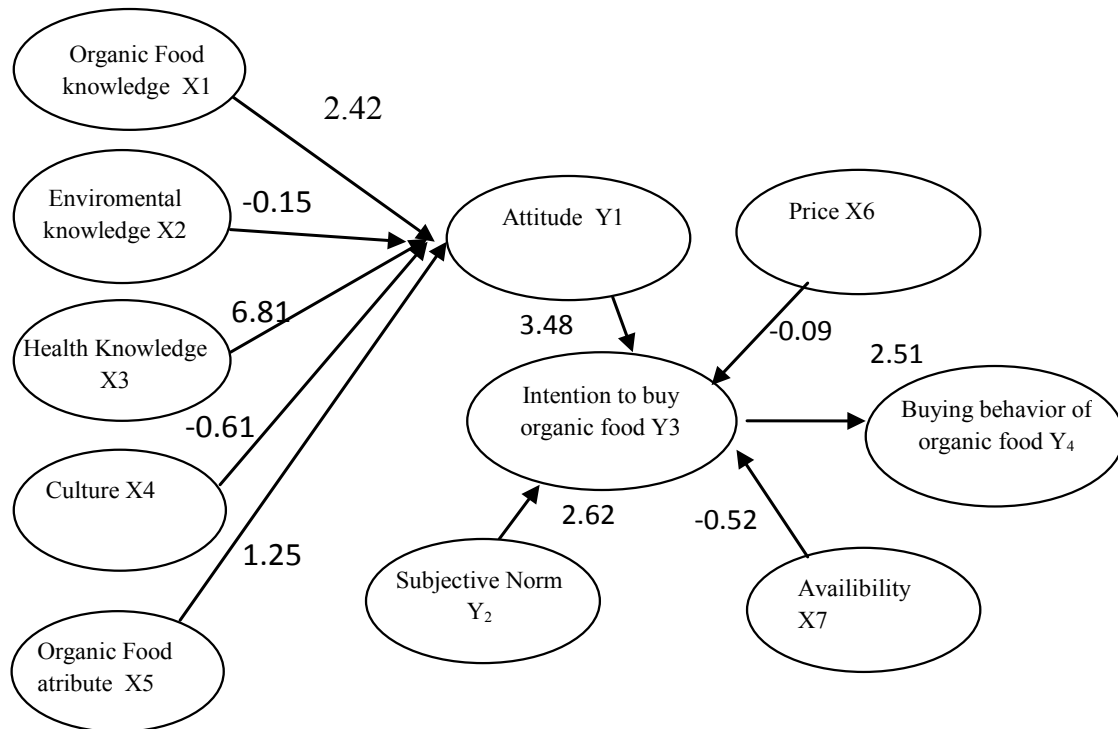


Figure 2. Significance test results of structural equation modeling T

Table 4. Significance test results of structural equation modeling

Hypothesis	Variable	t - value	Conclusion
Hypothesis 1	Organic food knowledge significantly influence attitude toward organic food	2.42	Significant
Hypothesis 2	Environmental knowledge significantly influence attitude toward organic food	-0.15	Not Significant
Hypothesis 3	Health knowledge significantly influence attitude toward organic food	6.81	Significant
Hypothesis 4	Culture significantly influence attitude toward organic food	-0.61	Not significant
Hypothesis 5	Food attributes significantly influence attitude toward organic food	1.25	Not significant
Hypothesis 6	Product availability significantly influence attitude toward organic food	-0.52	Not significant
Hypothesis 7	Price significantly influence attitude toward organic food	-0.09	Not significant
Hypothesis 8	Attitude toward organic food significantly influence Intention to buy organic food	3.48	Significant
Hypothesis 9	Subjective norm significantly influence Intention to buy organic food	2.62	Significant
Hypothesis 10	Intention to buy organic food significantly influence buying behavior of organic food	2.51	Significant

From the analysis of data as in Table 4, it appears that both attitudes and subjective norms have been found to predict actual behavior. Organic knowledge, environmental knowledge and health knowledge were found to be related significantly to attitudes toward organic food and intention to buy organic food significantly influences the behavior of buying organic food. The Goodness of Fit Index (GOFI) of chi-square, p-value RMSEA, NFI, NNFI, CFI, IFI, and GFI is summarized as follow.

Table 5. Goodness of Fit Index (GOFI) model

Fit Index	Result	The Fit Criteria	Model Evaluation
p-value	0.05801	$p\text{-value} \geq 0.05$	Good Fit
RMSEA	0.020	$RMSEA \leq 0.08$	Good Fit
NFI	0.77	$NFI \geq 0.90$	Bad Fit
NNFI	0.96	$NNFI \geq 0.90$	Good Fit
CFI	0.97	$CFI \geq 0.90$	Good Fit
IFI	0.97	$IFI \geq 0.90$	Good Fit
GFI	0.92	$GFI \geq 0.90$	Good Fit
AGFI	0.90	$AGFI \geq 0.90$	Good Fit

After the process of structural equation modeling, the result of RMSEA, NNFI, CFI, IFI, GFI and AGFI are good fit as seen in table 5. The result measurement of p value, NFI, RFI, and Std RMR are bad fit. As a whole, the model of environmental knowledge, organic food knowledge, health knowledge, attitude toward organic food, price, availability intention to buy organic food and buying behavior organic food are fit to empirical data in the field.

4. Discussion

The theory of reasoned action is able to predict human behavior in a variety of different social conditions. Predictive ability of this model has widespread support in the psychological sciences and social marketing. This theory allows researchers to better understand how and in what situations people make and implement decisions related to food choice behavior as described by Schlenker (2001). Furthermore, this study also describes attitudes and common values, intelligence, and also the role of the organic consumer society, past experience, information exposure, and social support in the formation of intentions and end up buying organic food.

The Theory of Reasoned Action (TRA), showed a strong predictor in understanding a variety of different behaviors, including consumer behavior in the purchase of organic food. Tarkiainen and Sundqvist (2005) stated that subjective norms have a relationship with an attitude, which is different from the theory of reasoned action of Fishbein and Ajzen (1975) in which subjective norms and attitudes is independent of each other and the decision to purchase or not purchase organic food has nothing to do with knowledge, but it depends on the information conveyed between people. This means that consumers actually only influenced by other consumers that may affect attitudes on

organic food. Tarkiainen and Sunqdvist (2005) models was followed by other researchers (Saleki *et al.*, 2012; Smith and Paladino (2010) that also found the affect of subjective norms on attitudes. Coleman *et al.* (2011) reject the notion that subjective norm impact attitude, however subjective norm directly influence intention to buy organic food. A statement that the organic consumer behavior can only be formed from person to person (Subjective Norms) is rejected; this study proves that the intention of organic food can be formed from the attitude and subjective norm. Both proved to have a significant effect on intention. The influence of attitude turns out to be stronger than the effect of subjective norm. This means that the formation of the intention to buy more organic food depends on consumer attitudes persuasion rather than subjective norm. This has been also supported by several studies (Guido, Prete, Peluso, Maloumy-Baka, & Buffa, 2010; Gotschi *et al.*, 2010; Coleman *et al.*, 2011; de Magistris & Gracia, 2008) where attitude has more important role.

Consumers who considered themselves to have knowledge concerning organic food and health showed continuously consuming organic food. Health and organic knowledge benefits have been reported as a major drive for acquiring organic foods by previous studies (de Magistris & Gracia, 2008; Tsakiridou *et al.*, 2008). This study has also shown that organic shoppers consider price and availability of organic food as a restraining factor in the purchase of organic food products. Consumers still consider organic foods as expensive compared to the price of the conventional foods. Therefore, in addition to the shortage of organic foods as an obstacle and the price is still considered expensive then when making the decision to buy, they still can switch to conventional foods. Consumers buy organic foods based on the knowledge gained from other people such as friends and family.

5. Conclusion

Theory of reasoned action can explain the buying behavior of organic food where the intention to buy organic food have a significant influence on the buying behavior of organic food. Furthermore, this study also shows the attitude toward the organic food and subjective norm significantly effect the formation of the intention to buy organic food. Thus, consumers of organic food are not only formed under the influence of other people, but also by the attitude of the consumer. This study confirms previous studies that demonstrate knowledge is an important variable in shaping attitudes on organic food. If the consumer already has a good knowledge of organic food and health then it is easier to form purchasing of organic food. Expanded Rational Expectations Model (ERE) which is the development of a model of TRA (theory of reasoned action) was able to predict the behavior of organic consumers in the Province of North Sumatra. Environmental knowlegede, price, availability, Culture, and food attributes, cannot explain the behavior of organic food consumers where these variables did not significantly influence the attitude toward organic food.

6. Managerial Implications

This study has contributed to the research in organic food purchases. It has addressed organics in Indonesia perspective, therefore filling a gap in the current literature. With this research, manufacturers and marketers are expected to know the reasons consumers buy organic products. Marketing programs should be designed around health education and organic product knowledge. Education campaigns about organic products are also iimportant. Marketing of organic product should be designed at new and existing organic buyers and social pressure on a consumer's attitude of organic products.

7. Future Research

Future research studies should look at diverse samples in Indonesia to see if the theories can be used with other consumer groups. The same research should be conducted with consumers from other part of Indonesia to verify if the result can be generalized.

References

- [1] Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology*, 52, 27–58.
- [2] Bagozzi, R. P., Baumgartner, H., & Yi, Y. (1992). State versus action orientation and the theory of reasoned action: An application to coupon usage. *Journal of Consumer Research*, 18(4), 505-518.
- [3] Bagozzi, R. P., & Lee, K. H. (2002). Multiple routes for social influence: The role of compliance, internalization, and social identity. *Social Psychology Quarterly*, 65(3), 226-247.
- [4] Balderjahn, I. (1988). Personality variables and environmental attitudes as predictors of ecologically responsible consumption patterns. *Journal of Business Research*, 17(1), 51–56.
- [5] Blend, J. R., & van Ravenswaay, E. O. (1999). Measuring consumer demand for ecolabeled apples. *American Journal of Agricultural Economics*, 81(5), 1072-1077.
- [6] Caldwell, E. M., Kobayashi, M. M., DuBow, W. M., & Wytinck, S. M. (2009). Perceived access to fruits and vegetables associated with increased consumption. *Public Health Nutrition*, 12(10), 1743–1750.
- [7] Canavari, M., Bazzani, G. M., Spadoni, R., & Regazzi, D. (2002). Food safety and organic fruit demand in Italy: A survey. *British Food Journal*, 104(3/4/5), 220-232.
- [8] Chakrabarti, S. (2010). Factors Influencing Organic Food Purchase In India - Expert survey insight. *British Food Journal*, 112(8), 902-915.
- [9] Chiou, J. S. (1998). The effects of attitude, subjective norm, and perceived behavioral control on consumers' purchase intentions: The moderating effects of product knowledge and attention to social comparison information. *Proceedings of the National Science Council*, 9(2), 298-308.
- [10] Coleman, L. J., Bahnan, N., Kelkar, M., & Curry, N. (2011). Walking The walk: How the theory of reasoned action explains adult and student intentions to go green. *Journal of Applied Business Research*, 27(3), 107-116.
- [11] De Magistris, T., & Gracia, A. (2008). The decision to buy organic food products in Southern Italy. *British Food Journal*. 110(9), 929-947.
- [12] D'Souza, C., Taghian, M., & Lamb, P. (2006). An empirical study on the influence of environmental labels on consumers. *Corporate Communications: An International Journal*, 11(2), 162-173.
- [13] Finisterra do Poco, A. M., & Raposo, M. L. B. (2008). Determining the characteristics to profile the “green” consumer: An exploratory approach. *International Review on Public and Nonprofit Marketing*, 5(2), 129-140.
- [14] Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, Massachusetts: Addison Wesley Publishing Company.
- [15] Gan, C., Wee, H. Y., Ozanne, L., & Kao, T. H. (2008). Consumers’ purchasing behavior towards green products in New Zealand. *Innovative Marketing*, 4(1), 93-102.
- [16] Gotschi, E., Vogel, S., Lindenthal, T., & Larcher, M. (2010). The role of knowledge, social norms, and attitudes toward organic products and shopping behavior: Survey results from high school students in Vienna. *The Journal of Environmental Education*, 41(2), 88-100.

- [17] Gracia, A., de Magistris, T., & Barreiro-Hurle, J. (2010, June 30–July 2). *Why do we buy organic? Integrating knowledge, attitudes and concerns in a simultaneous equation model for Spanish consumers*. Paper presented at the 119th EAAE Seminar ‘Sustainability in the Food Sector: Rethinking the Relationship between the Agro-Food System and the Natural, Social, Economic and Institutional Environments’. Capri, Italy.
- [18] Guido, G., Prete, M. I., Peluso, A. M., Maloumy-Baka, R. C., & Buffa, C. (2010). The role of ethics and product personality in the intention to purchase organic food products: A structural equation modeling approach. *International Review of Economics*, 57(1), 79–102.
- [19] Harmon-Jones, E., Brehm, J. W., Greenberg, J., Simon, L., & Nelson, D. E. (1996). Evidence that the production of aversive consequences is not necessary to create cognitive dissonance. *Journal of Personality and Social Psychology*, 70(1), 5-16.
- [20] Igbaria, M., Guimaraes, T., & Davis, B. D. (1995). Testing the determinants of microcomputer usage via a structural equation model. *Journal of Management Information Systems*, 11(4), 87-114.
- [21] Jackson, E. L., Quaddus, M., Islam, N., & Stanton, J. (2006). Hybrid vigour of behavioural theories in the agribusiness research domain: Is it possible? *Journal of International Farm Management*, 3(3), 1-15.
- [22] Jahroh, S. (2010, June 28-30). *Organic farming development in Indonesia: Lessons learned from organic farming in West Java and North Sumatra*. Paper presented at Innovation and Sustainable Development in Agriculture and Food (ISDA) 2010, Montpellier, France.
- [23] Kenny, D. A., & Judd, C. M. (1984). Estimating the nonlinear and interactive effects of latent variables. *Psychological Bulletin*, 96(1), 201-210.
- [24] Kim, H. Y., & Chung, J. E. (2011). Consumer purchase intention for organic personal care products. *Journal of Consumer Marketing*, 28(1), 40–47.
- [25] Kinnear, T. C., & Taylor, J. R. (1987). *Marketing research: An applied approach* (3rd ed.). Singapore: McGraw-Hill Co.
- [26] Laroche, M., Toffoli, R., Kim, C., & Muller, T. E. (1996). The influence of culture on pro-environmental knowledge, attitudes, and behavior: A Canadian perspective. *Advances in Consumer Research*, 23, 196-202.
- [27] Lea, E., & Worsley, T. (2005). Australians' organic food beliefs, demographics and values. *British Food Journal*, 107(11), 855-869.
- [28] Liu, M., E., (2007). *U.S. college students' organic food consumption behavior*. Dissertation in Hospitality Administration, Texas Tech University. Retrieved from <https://repositories.tdl.org/ttu-ir/handle/2346/16263?show=full>.
- [29] Magnusson, M. K., Arvola, A., Hursti, U.-K. K., Aberg, L., & Sjöden, P.-O. (2001). Attitudes towards organic foods among Swedish consumers. *British Food Journal*, 103(3), 209-227.
- [30] Makatouni, A. (2002). What motivates consumers to buy organic food in the UK?: Results from a qualitative study. *British Food Journal*, 104(3-5), 345-352.
- [31] Michaelidou, N., & Hasan, L. M. (2008). The Role of Health Consciousness, Food Safety Concern and Ethical Identity on Attitudes and Intentions towards Organic Food. *International Journal of Consumer Studies*, 32(2), 163–170.
- [32] Mowen, J. C., & Minor, M. (2002). *Perilaku konsumen, Jilid I*. Jakarta: Penerbit Erlangga.

- [33] Mutlu, N. (2007). Consumer attitude and behaviour towards organic food: Cross-cultural study of Turkey and Germany. Master Thesis in Institute for Agricultural Policy and markets. Universitat Hohenheim. Retrieved from: <http://orgprints.org/13727/>.
- [34] Nguyen, T. H. (2007). *Attitude, motivation and consumption of seafood in Bacninh Province, Vietnam*. Thesis in International Fisheries, Management Departement of Social and Marketing Studies Norwegian College of Fisheries Science, University of Tromso.
- [35] Padel, S., & Foster, C. (2005). Exploring the gap between attitudes and behaviour: Understanding why consumers buy or do not buy organic food. *British Food Journal*, 107(8), 606-625.
- [36] Park, H. S., & Levine, T. R. (1999). The theory reasoned of action and self construal: evidence fram three cultures. The theory of reasoned action and self-construal: Evidence from three cultures. *Communacation Monographs*, 66, 199-220.
- [37] Radman, M. (2005). Consumer consumption and perception of organic products in Croatia. *British Food Journal*, 107(4), 263-273.
- [38] Rodríguez, E. M., Lupin, B., & Lacaze, M. V. (2006, August 12-18). Consumers' perceptions about food quality attributes and their incidence in Argentinean organic choices. Paper presented at the International Association of Agricultural Economist Conference, Gold Coast, Australia. Retrieved from <http://ageconsearch.umn.edu/bitstream/25791/1/pp062633.pdf>.
- [39] Saba, A., & Messina, F. (2003). Attitudes towards organic foods and risk/benefit perception associated with pesticides. *Food Quality and Preference*, 14(8), 637-645.
- [40] Saleki, Z. S., Seyedsaleki, S. M., & Rahimi, M. R. (2012). Organic food purchasing behavior in Iran. *International Journal of Business & Social Science*, 3(13), 278-285.
- [41] Salleh, M. M., Ali, S. M., Harun, E. H., Jalil, M. A., & Shaharudin, M. R. (2010). Consumer's peception and purchase intention toward organic food products: Exploring attitude among academicians. *Canadian Social Science*, 6(6), 119-129.
- [42] Sapp, S. G. (1991). Impact of nutritional knowledge within an expanded rational expectations model of beef consumption. *Journal of Nutrition Education and Behavior*, 23(5), 214-222.
- [43] Schlenker, E. D. (2001). The evolution of research in family and consumer sciences: Food, Nutrition, and Health. *Family and Consumer Sciences Research Journal*, 30(2), 140-196.
- [44] Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 15(3), 325-343.
- [45] Shepherd, R., Magnusson, M., & Sjöden, P.-O. (2005). Determinants of consumer behavior related to organic food. *Ambio*, 34(4/5), 352-359.
- [46] Shimp, T. A., & Kavas, A. (1984). The theory of reasoned action applied to coupon usage. *Journal of Consumer Research*, 11(3), 795-809.
- [47] Smith, S., & Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing Journal*, 18(2), 93-104.
- [48] Smith, T. A., Huang, C. L., & Lin, B.-H. (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.
- [49] Soler, F., Gil, J. M., & Sánchez, M. (2002). Consumers' acceptability of organic food in Spain: Results from an experimental auction market. *British Food Journal*, 104(8), 670-687.

- [50] Soonthonsmai, V. (2001). *Prediction intention and behavior to purchase environmentally sound or green products among Thai consumers: An application of the theory of reasoned action*. PhD Dissertation in Nova Southeastern University. Retrieved from <http://202.28.199.34/multim/3012840.pdf>.
- [51] Sparks, P., & Shepherd, R. (1992). Self-identity and the theory of planned behavior: assessing the role of identification with "green consumerism". *Social Psychology Quarterly*, 55(4), 388-399.
- [52] Sukato, N., & Elsey, B. (2009). A model of male consumer behaviour in buying skin care products in Thailand. *ABAC Journal*, 29(1), 39-52.
- [53] Tarkiainen, A., & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British Food Journal*, 107(11), 808-822.
- [54] Thøgersen, J. (1999). The ethical consumer: Moral norms and packaging choice. *Journal of Consumer Policy*, 22(4), 439-460.
- [55] Tsakiridou, E., Boutsouki, C., Zotos, Y., & Mattas, K. (2008). Attitudes and behaviour towards organic products: An exploratory study. *International Journal of Retail & Distribution Management*, 36(2), 158-175.
- [56] Vallerand, R. J., Deshaies, P., Cuerrier, J. P., Pelletier, L. G., & Mongeau, C. (1992). Ajzen and Fishbein's theory of reasoned action as applied to moral behavior: A confirmatory analysis. *Journal of Personality and Social Psychology*, 62(1), 98-109.
- [57] Wier, M., & Calverley, C. (2002). Market potential for organic foods in Europe. *British Food Journal*, 104(1), 45-62.
- [58] Wijanto, S.H. (2008). *Structural Equation Modeling using LISREL 8.8. Tutorial concept*. Yogyakarta: Graha Ilmu.
- [59] Winter, C. K., & Davis, S. F. (2006). Organic Food. *Journal of Food Science*, 71(9), R117-R124.
- [60] Zepeda, L., Chang, H. S. & Leviten-Reid, C. (2006). Organic food demand: A focus group study involving Caucasian and African-American shoppers. *Agriculture and Human Values*, 23(3), 385-394.
- [61] Zundel, C., & Kilcher, L. (2007, May 3-5). Issues paper: Organic agriculture and food availability. In N. Scialabba (Ed.), *Organic agriculture and food availability*. Paper presented at International Conference on Organic agriculture and food security, Rome, Italy (pp. 1-25). Rome, Italy: FAO.

Copyrights



Copyright for this article is retained by the author(s), with first publication rights granted to the journal. This is an open-access article distributed under the terms and conditions of the [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

