Ai Huu Tran[1]

FACTORS OF CONSUMERS ACCEPTANCE OF ORGANIC FOOD

This paper studies the role of personal, economic and social elements in predicting Vietnamese consumer's attitudes and purchase intentions towards organic food. The results show that attitudes to organic food can be explained by risk perception, trust to market agents, institution and subjective norms explaining purchase intention as well as other motivations behind organic purchase.

Keywords: *organic food; consumer behavior; purchase intention; Vietnam.*
JEL classification: F18; K32; M11.
Peer-reviewed, approved and placed: *22.09.2016.*

Аі Ху Тран

ЧИННИКИ СПОЖИВЧОГО СПРИЙНЯТТЯ ОРГАНІЧНИХ ПРОДУКТІВ

У статті досліджено роль особистісних, економічних та соціальних складових прогнозування ставлення в'єтнамських споживачів та їх намірів стосовно придбання органічних продуктів харчування. Результати аналізу демонструють, що ставлення до органічних продуктів пов'язане зі сприйняттям ризиків, довірою до ринкових агентів, інституціональними та суб'єктивними нормами поведінки. Ці фактори можуть пояснити наміри та мотивацію споживачів щодо придбання органічної продукції.

Ключові слова: *органічні продукти харчування; споживача поведінка; намір здійснити покупку; В'єтнам.*
Табл. 4. Літ. 25.

Аи Ху Тран

ФАКТОРЫ ПОТРЕБИТЕЛЬСКОГО ПРИНЯТИЯ ОРГАНИЧЕСКИХ ПРОДУКТОВ

В статье исследована роль личных, экономических и социальных составляющих прогнозирования отношения вьетнамских потребителей и их намерений касательно приобретения органических продуктов питания. Результаты анализа демонстрируют, что отношение к органическим продуктам связано с восприятием рисков, доверием к рыночным агентам, институциональными и субъективными нормами поведения. Данные факторы могут пояснить намерения и мотивацию потребителей относительно приобретения органической продукции.

Ключевые слова: *органические продукты питания; потребительское поведение; намерение совершить покупку; Вьетнам.*

Introduction. People purchase organic food for the reasons of health, environment and animal welfare (Nielsen, 2005). Organic food is produced without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation (Marangoz, 2014). Organic agriculture has been distinguished as a production scheme that mixes the best environmental practices and application of high animal welfare measures, and also prohibits the use of synthetic agrochemicals, drugs and hormones, thus restricting the use of chemical fertilizers and pesticides. This is confirmed by A. Krystallis and G. Chryssohoidis (2006), who also stated that buyers who purchase organic products are more likely to

[1] Van Hien University, Ho Chi Minh, Vietnam.

pay more for these products only because they believe organic products are much healthier.

Possible development of organic agriculture at Vietnamese market has a great potential. The current domestic demand growth is lower than supply, this can be explained by very high prices for organic food, export orientation of many Vietnamese producers, lack of availability and low degree of knowledge of what exactly organic products are. In parallel with increasing requirements to food and the growth of industry overall, food production techniques have switched. A number of new methods appear to obtain more products by using chemicals. Because of pesticides and synthetic fertilizers in food production, several widely spread health problems appeared and also significant ecological problems occurred (Lea and Worsley, 2005).

Literature review. Organic products taste better than conventionally produced foods, they raise less concerns about health and nutrition, use of chemicals and pesticides in farming, while conventional farming is erosing the confidence and raise additional concerns over animal welfare (Squires et al., 2001). T. Magistris and A. Gracia (2008) observed that health consciousness and subjective norms influence the attitudes toward organic foods. In the same way, A. Tarkianen and S. Sundqvist (2006) observe that healthy diet, balanced life and organic knowledge are the elements influencing the most the individual attitudes to organic food. Organic nutrient is one of the elements contributing to sustainable consumption by changing consumption behavior of customers and further – traditional production systems. Consumer behavior is a process, not only affected by macroenvironmental factors, but also one of the central factors actually farming the environment. Briefly, it identifies influential constructs in the decision-making process concerning purchasing intention to organic food such as environmental knowledge, subjective norms, rational choice, food safety, perceived behavioral control etc.

Purchasing intention to organic food (PIOF). G. Roddy et al. (1994) viewed organic food products as those of organic farming. Intention to buy may be delineated as the commitment (Ramayah et al., 2010). The analysis of past research found that the intention to purchase can measure the real behavior of consumers. Consumers who are willing to buy would be willing to pay more, in this context, the intention to purchase means interests and not the interests of consumers against products, so this brings the results to the real conduct of consumers, that is, making a decision to buy (Chan and Lau, 2000).

Subjective norms (SN) stand for the influence caused by society or people who are close to consumers. This may amplify the factors influencing on the people (Bearden et al., 1989). The findings of some studies on subjective norm variable showed that subjective norm does not affect much the consumer intention to buy organic food (Magnuson et al., 2001). However, the result of M.K. Chang (1998) indicated that subjective norm has a substantial relationship with the intention to buy organic food.

Perceived behavioral control (PBC) has been found to be a potent predictor of behavioral intentions in earlier studies. Perceived behavioral control concerns individual perceptions of the extent they are able to execute a given behavior (Ajzen, 1991). R.P. Bogers et al. (2004) found that perceived behavioral control was the most potent predictor of intention to consume fruits and vegetables among Dutch con-

sumers. In their study, perceived control was determined to be a better predictor of the intention to eat vegetables than the intention to eat fruits.

Food safety (FS). According to K. Hammit and P.R. Williams (2006), consumers who choose to buy organic products, tend to believe these products, due to their composition, are healthier and less dangerous. Concern for the health factor has a greater impact on the purchase of organic products over the concerns about the food safety.

Food safety is crucial as consumers search for food without chemicals or genetically modified organisms (Michaelidou and Hassan, 2008). Investigation by N. Michelidou and L.M. Hassan (2008) confirmed that this consumer concern about health is one of the most important factors influencing consumer buying decisions.

Environmental knowledge (EK). Consumers' lack of knowledge, misunderstanding about the environment or absence of the background information on the risks of consumption also affect the consumption (Aman et al., 2012). Therefore, knowledge is the best way to add attitude and understanding to organic food purchase. A seller needs to communicate knowledge to consumers on the importance and problems of our environment (Yu-Shan et al., 2012). If consumers are aware of the environmental problems, then they would be more prudent in choosing the organic product (Mostafa, 2007).

Rational choice (RC). For many, purchasing food is a routine that does not require a lot of thought. People buy food because they need to eat and feed their families. Things like flavor, appearance and ease of preparation are first of all considered when purchasing food (Arvola et al., 2008).

Based on the above definitions, this study explores whether the described factors (environmental knowledge, rational choice, subjective norms, food safety, and perceived behavioral control) are influencing purchase intention towards organic food in the context of customers behavior at the market.

Table 1. **Factors of influence and research hypotheses,** *author's*

Factors	Definition	Hypotheses	Source
Subjective norms	The influence caused by groups of people in society or people close to consumers (Bearden et al., 1989).	**H1:** Subjective norm has positive effect on purchase intention as to organic food.	Ajzen, 1991
Perceived behavioral control	People's perceptions of their ability to perform a certain behavior (Ajzen, 2006).	**H2:** Perceived behavioral control has positive effect on purchase intention as to organic food.	Ajzen, 2006
Food safety	Food safety is crucial since consumers search for food without chemicals, genetically modified organisms (Michaelidou and Hassan, 2008).	**H3:** Safety has positive effect on purchase intention as to organic food.	Schifferstein and Oude Ophuis, 1998
Environmental knowledge	Knowledge is the best way to add attitude and understanding in purchasing organic food by consumers (Yu-Shan et al., 2012).	**H4:** Environmental knowledge has positive effect on purchase intention as to organic food.	Aertsens et al., 2011
Rational choice	For many, purchasing food is a routine that may or may not require a lot of thought in its pcocces (Arvola et al., 2008).	**H5:** Rational choice has positive effect on purchase intention as to organic food.	Goode, 1997

Materials and methods.

Questionnaire. The research was conducted with the help of questionnaire which is the most popular method irrespective the sector. This study deals with the problems of organic food buying decisions in HCM, Vietnam. The research design elaborates that the constraints were identified from the responses of customers, as they know best about the problems they normally and frequently face while purchasing. Serving that purpose, it is required to prepare a structured questionnaire. The questionnaire was prepared on the basis of literature review and context of the region. It consists of 24 questions in total on 5 variables affecting the acceptance of organic food. A five-point Likert scale is applied (1 = strongly disagree, or 5 = strongly agree). Data analysis has been carried out by utilizing both quantitative and qualitative techniques. This study has been conducted with the application of SPSS software, version 23.0. To ensure that the questionnaires' content and design would be unambiguously understood by the respondents, it had pretested by 9 experts and 30 experimental customers.

Statistics and analyses. A survey questionnaire was sent by email directly to customers. Quantitative data were collected using a three-page survey; a sample of 327 customers was drawn, using the systematic sampling method. The respondents who fully completed their questionnaires were taken as the sample. 302 valid samples were analyzed, representing an effective response rate of 92.35%. Statistical analyses were done in two phases: first, an explanatory factor analysis was performed and then a linear regression model employed to determine which factor groups have greater effect on purchase intentions as to organic food.

Data analysis and interpretation.

Motives for purchasing organic food. When asked to show their position on reliable statements, 32% from the "Urban Market" group stated they "Agree" and 34% said they "Strongly Agreed" with the statement "I buy organic food to support farm workers" (Table 2). From the online group, 27% agreed with this statement and 31% said they "Strongly Agree". 15% of the respondents from the "Urban Market" group "Either Disagreed" or "Strongly Disagreed" with this statement. From the "Online" group, 16% indicated "Either Disagree" or "Strongly Disagree" on this statement.

Table 2. **Percent of people who marked "Agree" and "Strongly Agree" on the statements related to organic food,** *author's*

Site	"I buy organic food to support local farm owners"	"I buy organic food to support farm workers"
Urban Market n = 104	32% Agree, 43% Strongly Agree	38% Agree, 34% Strongly Agree
Online n = 76	27% Agree, 32% Strongly Agree	24% Agree, 31% Strongly Agree

"Restrict pesticides or chemicals" ranks as the highest priority for consumers in the "Urban Market" group with 74% ranking this as the "Top Priority". "Applying natural farming methods" was ranked the highest by the "Online" group, with 34% of the participants ranking this as "Top Priority". Of the 5 food issues, "Perishable and easily infected" and "Expensive price, many times more than food typically" were ranked 4th and 5th respectively by the "Urban Market" group. These same issues were ranked

3rd and 4th respectively by the "Online" group. Consumers from the "Online" group ranked "Natural farming methods used" as their 1st priority (Table 3).

Table 3. **Percentage of consumers who ranked these food issues as "Top Priority",** *author's*

Food issue	Urban Market, %	Ranking	Online, %	Ranking
Meat without antibiotics or hormones	42	2	22	5
Perishable and easily infected	37	4	28	3
Restrict pesticides or chemicals	64	1	46	2
Expensive price, many times more than food typically	36	5	34	4
Natural farming methods used	44	3	57	1

Using SPSS, the measurement model was examined to assess reliability and validity before testing the proposed research model. Reliability has been tested in this study through Cronbach alpha, composite reliability (CR), average variance extracted (AVE), and factor loadings. Table 4 shows the results of model measurement, where factor loadings for all items were higher than 0.70, Cronbach alpha value for all constructs were greater than 0.70 and AVE of all constructs were more than 0.50, and the composite reliability values of all variables were much above the threshold value of 0.70, thus confirming the quality of measurement model.

The results of EFA, summarized in Table 4, had 5 factors with 20 observed concepts, KMO coefficient = 0.845, EFA matches the data and the statistical test Chi-square Bartlett 3107.712, p = 0.000 significance level. Thus, the observed concepts are correlated with each other. Therefore, the scale draw is acceptable. The scales have observed concepts excluded by of EFA, Cronbach's alpha coefficients were recalculated, and the results achieved the reliability requirements.

Regression analysis. The estimated results of the multiple regression models indicate a good fit to the data ($F = 38.557$, $p < 0.000$; $R^2 = 63.2\%$; Dubin-Watson $1.833 > 1$; all $VIF < 2.0$). The dependent variable has quite strong linear correlation in the sense $\alpha > 0.05$ with 5 independent concepts RC, SF, PBC, SN and EK. Since all absolute correlation coefficients between the concepts are in the range between 0.584 and 0.831 satisfying $-1 \geq r \geq +1$, all the concepts satisfy the rule for multiple linear regressions.

Correlation matrix also shows that variables of perceived behavioral control (PBC) have the strongest impact on the dependent variable of purchase intention as to organic food. In contrast, environmental knowledge and food safety has negative impact on the dependent variable.

There are three factors RC, FS and PBC – affecting purchase intention organic food, that have a positive impact on PIOF sith Sig = 0.000–0.001 < 0.05. The remaining factors SN, EK (Sig = 0.235 and 0.524 > 0.05), are not statistically significant. Thus, we can conclude that the hypothesis H1 (RC), H2 (FS), and H4 (PBC) are accepted.

Conclusion. When consumers decide whether to buy organic food products or not, it clearly involves a complex set of factors that cannot easily be interpreted. In Vietnam, organic food is at the introductory stage, still not many people are aware of

it. Consumers have knowledge on the factors contributing to sustainable environment, thus they may have a convenience feeling about their current consumption patterns, but it will not change much their perception of organic food products.

Table 4. **Organic food properties of measures,** *author's*

Construct	Cronbach's alpha Composite reliability Average variance extracted	Item	Loading
Rational choice (RC)	α = 0.779; CR = 0.928; AVE = 0.867	Rationalchoice4 Rationalchoice5 Rationalchoice1 Rationalchoice3 Rationalchoice2	0.867 0.862 0.857 0.808 0.614
Food safety (SF)	α = 0.830; CR = 0.942; AVE = 0.914	Safetyfood6 Safetyfood5 Safetyfood3 Safetyfood2 Safetyfood4	0.891 0.833 0.758 0.711 0.613
Perceived behavioral control (PBC)	α = 0.840; CR = 0.973; AVE = 0.866	Perceivedbehavioralcontrol4 Perceivedbehavioralcontrol3 Perceivedbehavioralcontrol2 Perceivedbehavioralcontrol1	0.913 0.810 0.801 0.640
Subjective norms (SN)	α = 0.866; CR = 0.879; AVE = 0.853	Subjectivenorms1 Subjectivenorms2 Subjectivenorms3	0.916 0.877 0.864
Environmental knowledge (EK)	α = 0.810; CR = 0.881; AVE = 0.825	Environmentalknowledge3 Environmentalknowledge2 Environmentalknowledge1	0.898 0.843 0.729

Our results confirm there is a positive relationship between perceived behavioral control (PBC) with purchase intention organic food (Beta = 0.426, p = 0.000 < 0.05). The government should include environment knowledge into studying programs while future consumers are still young. Finally, changing customer attitudes is one of the most important elements in future purchases of organic food.

The findings show a positive effect from rational choice (RC) to purchase intention to organic food (Beta = 0.241, p = 0.000 < 0.05).

The findings also show a positive effect of food safety (FS) to purchase intention to organic food is the weakest (Beta = 0.226, p = 0.001 < 0.05). It is understood that customers pay more attention to their health, worry about food safety, and getting more sensitive about environmental protection. Susceptibility about the environment and health of increases perception of organic foods thus leading consumers to more positive intentions toward organic foods.

Finally, the results show a negative relationship between environmental knowledge (EK) and subjective norms (SN) with purchase intention as to organic food (Beta = 0.077, p = 0.235 > 0.05) and (Beta = 0.043, p= 0.524 > 0.05).

The limitation of this research is that the sample was restricted to a single geographic area in Vietnam. Therefore, additional studies will be necessary to better differentiate between consumer groups to determine which segments of consumers are

most reactive to the market in terms of organic food promotion on our common way to building sustainable consumption patterns. Further research should also employ a larger sample in a different national setting to validate the findings of this study and to see if the measures developed here are statistically reliable and valid across different national settings.

References:

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50: 179–211.

Ajzen, I. (2006). Constructing a TpB Questionnaire: Conceptual and Methodological Considerations http://www.people.umass.edu.

Aman, A.H.L., Harun, A., Hussein, Z. (2012). The Influence of Environmental Knowledge and Concern on Green Purchase Intention the Role of Attitude as a Mediating Variable. British Journal of Arts & Social Sciences, 7(2): 145–167.

Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lahteenmaki, L. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the theory of planned behavior. Appetite, 50(2–3): 443–454.

Bearden, W.O., Netemeyer, R.G., Teel, J.E. (1989). Measurement of consumer susceptibility to interpersonal influence. Journal of Consumer Research, 473–481.

Bogers, R.P., Brug, J., Van Assema, P., Dagnelie, P.C. (2004). Explaining fruit and vegetable consumption: the theory of planned behavior and misconception of personal intake levels. Appetite, 42: 157–166.

Chan, R.Y., Lau, L.B. (2000). Antecedents of green purchases: a survey in China. Journal of consumer marketing, 17(4): 338–357.

Chang, M.K. (1998). Predicting unethical behavior: a comparison of the theory of reasoned action and the theory of planned behavior. Journal of Business Ethics, 17(16): 1825–1833.

Essoussi, L.H., Zahaf, M. (2008). Decision making process of community organic food products consumers: an exploratory study. Journal of Consumer Marketing, 25(2): 95–104.

Goode, W.J. (1997). Rational choice theory. The American Sociologist, 28(2): 22–24.

Hair, J.F. jr., Anderson, R.E., Tatham, R.L., Black, W.C. (1998). Multivariate Data Analysis. 5th ed. Upper Saddle River, NJ: Prentice Hall.

Hammitt, K., Williams, P.R. (2006). Perceived Risks of Conventional and Organic Produce: Pesticides, Pathogens and Natural Toxins. Risk Analysis Journal, 21(2): 319–330.

Krystallis, A., Chryssohoidis, G. (2006). Consumers' willingness to pay for organic food products: Factor that affect it and variation per organic product type. British Food Journal, 107(6): 320–343.

Lea, E., Worsley, A. (2001). Influences on meat consumption in Australia. Appetite, 36(2): 127–136.

Magistris, T., Gracia, A. (2008). The decision to buy organic food products in Southern Italy. Journal of British Food, 110(9): 929–947.

Marangoz, M. (2014). Modeling attitude towards organic foods: A research on adolescents. Business Management Dynamics, 3(7): 40–49.

Michaelidou, N., Hassan, L.M. (2008). The role of health consciousness, food safety concern and ethica identity on attitudes and intentions towards organic food. International Journal of Consumer Studies, 32(2): 163–170.

Mostafa, M.M. (2007). Gender differences in Egyptian consumers' green purchase behavior: the effects of environmental knowledge, concern and attitude. International Journal of Consumer Studies, 31(3): 220–229.

Nielsen, W.L, Kim, Y., Hubisz, M., Clark, A., Bustamante, C. (2005). Genomic scans for selective sweeps using SNP data. Genome Research, 15: 1566–1575.

Ramayah, T., Lee, J.W.C., Mohamad, O. (2010). Green product purchase intention: Some insights from a developing country. Resources, Conservation and Recycling, 54(12): 1419–1427.

Roddy, G., Cowan, C., Hutchinson, G. (1996). Consumer attitudes and behavior to organic foods in Ireland. Journal of International Consumer Marketing, 9(2): 1–19.

Schifferstein, H.N.J., Oude Ophuis, P.A.M. (1998). Health-related determinants of organic food consumption in the Netherlands. Food Quality and Preference, 9: 119–133.

Squires, L., Juric, B., Bettina Comwell, T. (2001). Level of market development and intensity of organic food consumption: cross-cultural study of Danish and New Zealand consumers. Journal of Consumer Marketing, 18(5): 392–409.

Tarkiainen, A., Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. British food Journal, 107(11): 808–822.

Yu-Shan, C., Ching-Hsun, C. (2012). Enhance green purchase intentions: the roles of green perceived value, green perceive risk and green trust. Management Decision (3).