

# Factors Influencing Consumer Purchase Intention toward Organic Food Products: an Empirical Study in Vietnam Market

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Organic foods have drawn more and more attention from consumers. Consumers perceive organic food products are more nutritious, healthy, and environmentally friendly than conventional alternatives. This study seeks to investigate significant factors influencing on purchase intention toward organic food products in developing and emerging markets, which have received less attention from scholars. By focusing on an emerging market, the study examines whether the consumer behavior for organic foods previously identified in developed countries is relevant in a context such as Vietnam. It also aims at examining the moderating role of trust and limit of availability on consumer attitude towards organic food purchase intention. The data were collected by using a customized and validated survey instrument from a sample of 305 organic food consumers in Vietnam. The findings suggested four factors (food safety, health benefits, nutritional value, lack of knowledge) that significantly influence the consumer attitude towards organic food products. Interestingly, environment-friendly and price barriers did not impact on consumer attitude towards organic foods, but price barriers impact directly on purchase intention. Additionally, the results show that trust in certifications moderate positively and limit of availability moderates negatively the relationship between consumer attitude and purchase intention. This study provides a better understanding of consumer attitude and purchase intention towards organic foods in developing countries. The findings of this study have several implications for organic food manufacturers, retailers, policymakers and marketers that find to develop strategies aimed at increasing organic food product consumption in Vietnam.

**Key words:** Organic food products, lack of knowledge, price barriers, limit of availability, trust, organic labels, Vietnam.

## I. Introduction

The organic market has recently increased considerably and is widely regarded as one of the

biggest growth markets in the food industry (Hughner et al., 2007). The demand for organic foods that used to be prominent in the developed countries has been significantly increasing (Yadav and Pathak, 2016).

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The topic of organic food consumption has captured great attention from scholars and practitioners. However, the earlier researches related to organic food have been conducted in the context of developed economies, specifically in the US and Western Europe (Hughner et al., 2007). There is a need to understand more about organic food consumption in the context of emerging markets, where organic food is still a relatively young and emergent sector and the knowledge of consumer behaviour regarding organic food purchase is still limited (Yadav and Pathak, 2016).

A considerable number of studies on organic food have focused on consumers' personal factors that motivate attitude and purchase behaviour associated with organic food. Key personal factors include values, environmental concern, knowledge, perceived quality, emotions, health consciousness, concerns with respect to nutrition, food taste, and food safety (Rana and Paul, 2017; Verhoef, 2005). Consumer trust is even more important in organic purchase intention than conventional ones. This is because the organic market is rather small and undeveloped in Vietnam so that people generally have limited awareness and knowledge of organic foods. On the other hand, there is no regulation scale for organic food certification in Vietnam and most organic products produced in Vietnam are certified to meet the standards by international organizations to export to European and American markets. Thus, organic products in the Vietnam market that have certificates are mainly imported from abroad. So the production has encountered many difficulties due to no proper certification and marketing of organic products is also facing big challenges as these are very new to

Vietnamese consumers. Moreover, most of the previous researches focus on price barriers while other barriers such as lack of knowledge and limit of availability also play an important role in deciding organic food purchase intention.

Therefore, main objective of this study is to investigate the factors that affect consumer attitude towards purchase of organic foods. Its secondary purpose is to test moderating effect of trust in certifications on the relationship between consumer attitude and purchase intention. It also aims at examining the moderating role of limit of availability in the influence of consumer attitude on purchase intention toward organic food products.

This research is also expected to contribute to enhancing our knowledge of important buying behaviour, that is organic food purchase intention in Asian emerging countries. To our best understanding, the topic has been received only modest research attention in the countries. Especially, this study contributes to better understanding of the impact of the factors on organic food consumption behaviour specifically associated with the economic transformation in Asian emerging economies .

## **II. Theoretical Backgrounds and hypotheses.**

### **1. Antecedents of attitude**

Organic food with fewer chemical residuals has become more popular across the world. In China, the government has adopted a comprehensive food certification system to enhance and ensure safety with

three levels for food production including safe food, green food, and organic food (Yu, 2012).

Through reviewing the related literature, attitude towards organic food attributes (e.g. taste, health, food safety, nutritional concerns, environmental friendliness and animal welfare) have been identified as the key antecedent facilitating consumer decision making processes in relation to organic food consumption (Magnusson et al., 2003).

Hill & Lynchehaun (2002) state personal factors like personality, values, lifestyles, attitudes, extrinsic and intrinsic factors related to packaging, taste, quality, price, and safety, cultural values, and knowledge about organic food that affect consumption decisions. From literature reviews, we could summarize six attributes that include food safety, health benefits, nutritional value, environmental friendliness, lack of knowledge, and price barriers as the main antecedents facilitating consumer attitude towards purchasing organic food products.

## **2. Factors influencing organic food purchasing intention**

The consensus of international research provides a clear picture of the reasons why people purchase organic food products. Although there may be differences in the order of preferences according to the specific cultural and demographic factors, the main reasons are health, taste, nutritional value, product quality, and concern for the environment and environmental degradation. Lea & Worsley (2005) indicated that when compared to conventionally produced food products, consumers believe that organic foods are healthier, tastier, and better for the

environment than conventional foods. Hoefkens et al. (2009) found that consumers perceive that organic vegetables have more nutritional value than those of conventional vegetables.

Some studies also found that motivation for healthy eating is one of the reasons of consuming organic food (Chakrabarti, 2010; Nguyen, 2007). Vermeir and Verbeke (2006) found that consumers did not always purchase sustainable products as an outcome of environmental concern or to benefit the community or due to personal beliefs. Consumers give main priority to health, to be part of the social group, to differentiate from others and to accomplish the need to try out new technologies.

According to Krystallis and Chryssohoidis (2006) price is the most important criterion considered by consumers when purchasing food. The high price of organic food has been identified as the most relevant barrier to organic food purchase and consumption (Verhoef, 2005). The price is also considered as a significant variable in organic purchases (Lea & Worsley, 2005; Magnusson et al., 2001; Padel & Foster, 2005). The high price reduces the likelihood of consumers purchasing green products and results in consumers switching to other brands.

Winter and Davis (2006) showed that organic food is still hard to find in the third world countries. However, the demand for organic food is still far behind comparing to the demand for non-organic food and at the same time the supplies for organic foods are also limited. Many studies indicated that the limit of availability of organic foods is another crucial barrier to organic foods purchase and consumption (Krystallis & Chryssohoidis 2006; Lea & Worsley, 2005).

Yiridoe et al. (2005) found that many consumers identify organic products from the organic labels and/or organic logos attached, which consumers generally perceive as an assurance that the product is really organic. However, consumers are also skeptical about organic labels, certification institutions, and uniformity of standardization. Shih-Jui et al. (2012) found that lack of trust and confusing organic food certification is the main obstacle in Taiwan's organic agriculture development. We summarized the benefits and costs of influencing organic food purchasing intention from previous studies (Table 1).

### 3. Development of Hypotheses

#### 3.1 Food safety

Food safety is important as a consumer search for food without chemicals, genetically modified organisms (Michaelidou and Hansan, 2008). They found that consumer concern about health is one of the most important factors influencing consumer's decisions when choosing to buy organic food. The safety concern is the most relevant factor explaining consumer attitude towards organic food purchase. Wilcock et al. (2004) point out that consumers often relate food safety issues with the use of pesticides, fertilizers, antibiotics, artificial additives, and preservatives in the food production process. Rana and Paul (2017) also found that organic production methods are considered as being free of these undesirable chemicals. Based on the discussion, the following has been hypothesized:

H1: Food safety has a positive impact on consumer attitudes towards purchasing organic food.

#### 3.2 Health benefits

Previous research findings show that health benefit is one of the main reasons for consumers to purchase organic foods. Consumers have been increasingly concerned about health and nutrition in food. Michaelidou and Hassan (2008) showed that health variables had a positive impact on consumer attitudes toward organic food products. They concluded that the promotion of a healthy lifestyle has a positive effect on choosing organic foods. Consumers tend to purchase high-quality, nutritious, and healthy food.

Makatouni (2002) also found that health factors are the most important variables affecting consumer's willingness to buy organic foods. A consumer survey points out that 87.6% of respondents perceive organic foods are healthier than conventional alternatives (Tsakiridou et al. 2008). Hence the following has been hypothesized:

H2: Health benefits has a positive impact on consumer attitudes towards purchasing organic food.

#### 3.3 Nutritional value

When comparing organic food with conventional food, many people indicated that organic food has more nutritive value than conventional food. Schuphan (1974) indicated that organic products have lower nitrate content, and higher dry matter and mineral content, compared to conventionally grown alternatives.

**<Table 1> Factors influencing organic food purchase intention**

Benefits	Costs (Barriers)	sources
Environmental concern, Food safety concern, Health consciousness, Organic food knowledge, Green marketing	Price barriers	Nguyen et al. (2019)
Organic food knowledge, Health knowledge, Environmental knowledge, Culture, Subjective norm, Organic food attribute, Availability	Price.	Ihsan et al. (2015)
Environmental responsibility, Socially responsible consumption, Health orientation, Hedonic-Utilitarian Consumption		Nasir and Karakaya (2014)
Subjective norm, Trust, Information revealed on organic labelling, Perceived knowledge		Teng and Wang (2015)
Health consciousness, Knowledge of organic food, Subjective norms, Availability, Socio-demographic factor	Price	Singh & Verma (2017),
Health consciousness, Environmental concern, Organic label trust, Traditional self, Modern self, Subjective norm, Perceived behavioural control		Nguyen et al. (2019)
Demographics, Health Benefit, Availability, Ecological Awareness, Ecological Consumer Behavior		Paul and Rana (2012)

Furthermore, he reported higher vitamin C content in organically grown foods. Hay (1989) concluded that consumers of organic food evaluate the quality of organic food and perceived them to be better in taste, quality, health, and nutritive value.

According to Buzby and Skees (1994), freshness and nutritive value were the most important factors

considered in organic buying behaviour. Hence the following has been hypothesized:

H3: Nutritional value of organic food has a positive impact on consumer attitude towards purchasing organic food.

### 3.4 Environmental friendliness

Previous studies have shown that environmental considerations motivate consumer's positive perceptions and greater consumption of organic food products. For example, Schifferstein and Oude-Ophuis (1998) found that environmental friendliness is an important factor that affects organic food demand for Dutch heavy buyers. According to Squires et al. (2001), organic food buyers express interest in protecting the ecology and natural production process. Environmental concerns have a positive influence on attitude towards organic food purchase in both developed and developing countries such as Australia (Smith et al., 2010), Taiwan (Chen, 2009), and India (Yadav, 2016).

Based on the above discussion, the following hypothesis has been developed:

H4: Environmental friendliness has a positive impact on consumer attitude towards purchasing organic food.

### 3.5 Price barriers

Certified organic food products are generally more expensive than conventional alternatives for some reasons. Therefore, price becomes an important factor in organic food marketing. However, the influencing direction of the price on consumer behaviour is somewhat debatable. The previous results have been different according to the researchers.

According to Gan et al. (2008), a higher price has a negative impact on the willingness of consumers to purchase organic products. In a consumer survey about 82 % of the respondents indicate that a high price premium is a good reason for not buying organic

products (Xie et al. 2015), A high price also increases consumers willingness to switch to other products.

However, some consumer groups have a more positive attitude towards organic food products and they show a willingness to buy such a product despite of the high price. They evaluate organic food performance in terms of its ability to deliver economic value. If the price paid for buying organic food can be justified in terms of benefits derived from the product, then they are willing to pay a premium price for organic food (Padel et al., 2005).

From this discussion, the following hypotheses are developed:

H5: Price barriers have a negative impact on consumer attitudes towards purchasing organic food.

H6: Price barriers have a negative impact directly on consumer purchase intention for organic food.

### 3.6 Lack of knowledge

Consumers' awareness and knowledge about organic food products play an important role in their organic food buying decision (Yiridoe et al., 2005). The lack of knowledge about organic food is an obstacle to organic food purchase (Magistris et al. 2008). Demeritt (2002) also revealed that insufficient knowledge and awareness of organic foods are considered important barriers to purchasing organic foods. Consumers tend to have limited knowledge and awareness of organic foods and their production processes, and consequently lack of confidence and understanding of the implications of their food purchasing decisions (Vermeir and Verbeke, 2006). Thus, awareness and knowledge about organically produced foods are essential in consumer buying

decisions. Therefore, hypothesis H7 is stated as follow:

H7: Lack of consumer's knowledge of organic food has a negative impact on consumer attitude towards purchasing organic food.

### 3.7 Attitudes Towards Purchasing Intention

According to the Theory of Planned Behaviour (TPB), attitude serves as a key determinant of behavioural intentions. The more favourable the attitude of an individual towards the behaviour, the stronger his/her intention to perform the behaviour. Similarly, many researches on organic food consumption have demonstrated a positive and significant relationship between consumer attitudes and purchase intention (Padel and Foster, 2005). Aertsens et al. (2011) shows a significant positive relationship between consumer's attitudes about organic food consumption and the proportion of organic food consumed by them.

Coleman et al. (2011) also demonstrated by using the Theory of Reasoned Action (TRA) model to find the relationship between attitude and buying intention for organic products. Consumer should have a good attitude before purchasing organic food. Thus, the following hypothesis can be derived:

H8: Consumers' attitude has a positive impact on purchasing intention for organic food.

### 3.8 The moderating role of trust

According to Kramer (1999), trust has been viewed as "a state of perceived vulnerability or risk that is derived from individual uncertainty regarding the

motives, intentions, and potential actions of others on whom they depend" (p.571). In the organic food market, consumer trust is a delicate issue because consumers cannot know whether a product is organic, even after consumption (Janssen and Hamm, 2012). Because of the importance of trust in organic food consumption, trust in organic foods, as well as their vendors, certifications and labels is a major factor to affect on consumer attitudes and subsequent behaviour.

#### ● Certification

A certification stamp or logo provides a guarantee to the consumer that the product has been produced organically. Barrett et al. (2002) showed that organic certification is based on aspects related to the preservation and regeneration of ecosystems and people. Production has to be accomplished without the use of pesticides and other chemical materials. The study of Janssen & Hamm (2012) revealed that wrong and insufficient knowledge about the production processes and the certification standards can lead the consumer to perceive no difference between a certified and a non-certified product. That is, certification sources and systems affect consumer trust and purchase intention.

#### ● Organic food labels

Many organic consumers identify organic foods based on organic labels and/or organic logos attached. Chang et al. (1991) found a positive relationship between consumer purchase decisions and organic product labelling. Von Alvensleben (1997) showed that organic labelling signals product quality to consumers, and is an important tool to help them identify and

develop positive attitudes towards purchasing organic foods.

The study of Angulo et al. (2005) demonstrated that consumer confidence in food labels is deemed the most important factor among the influences on buying willingness. Trust can be stated to significantly and positively affect both attitudes and purchase intentions for organic foods. Providing sufficient and credible information on organic food labels and certifications is important to enhance consumer trust and favorable attitudes towards purchase intention of organic food products. Therefore, this study hypothesizes the following:

H9: Trust positively moderates the relationship between consumer attitude and purchase intention for organic food.

### 3.9 The moderating role of limit of availability

Some researches indicated that availability has a positive impact on attitude toward purchase intention for organic products. Lea and Worsley (2005) have demonstrated that consumers would like to see an increase in the availability and range of organic products. The majority of consumers would like to purchase organic food if it was more readily available. Davies et al. (1995) suggested that the availability of a product is one of the prime factors which encourage consumer purchase organic foods.

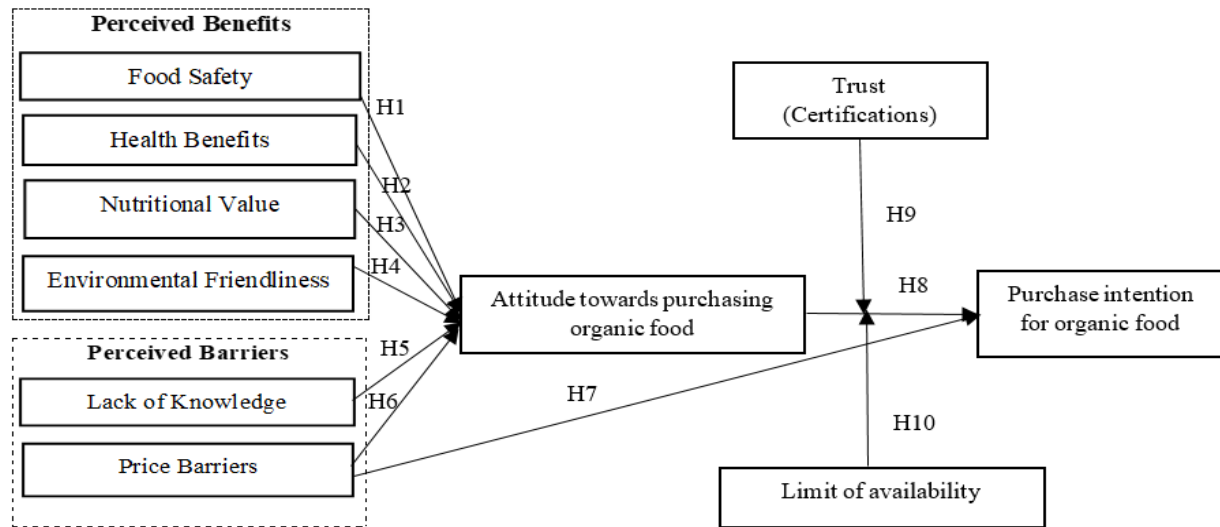
Conversely, several studies have demonstrated that the lack of organic food availability is considered one of the obstacles to consumer purchasing behaviour. For examples, Magnusson et al. (2001) found that consumers easily switch to another product if the product is not available in the market. Makatouni (2002) also found similar findings that one of the barriers to consumption of organic products is availability itself.

Most studies indicated that limited availability and difficulties in accessing organic food products are major hindrances to purchasing environmentally sustainable products (Padel and Foster, 2005; Young et al., 2010). Young et al. (2010) reported that limited availability had a negative impact on consumer attitude and purchase behaviour towards organic food. In a survey conducted by Zundel and Kilcher (2007) indicated that the main difficulty to access organic food products is due to the lack of markets and market information in many developing countries.

Similar to many developing countries, the limit of availability will have a negative impact on Vietnamese consumer attitudes and purchase intention of organic products. Based on the discussion, the following has been hypothesized:

H10: Limit of availability negatively moderates the relationship between consumer attitude and purchase intention of organic food.





<Figure 1> Research Model

### III. Methodology

#### 1. Research design

To test the proposed hypotheses, empirical data have been collected through a structured questionnaire; the items in the questionnaire were adopted from previous studies such as Gil et al. (2000), Chen (2009), Chakrabarti (2010), Effendi et al. (2015), and Michaelidou & Hassan (2008). The items were rated by using five-point Likert scales anchored by 1 = strongly disagree and 5 = strongly agree. The questionnaire contained two main sections, which were originally designed in the English language and translated into Vietnamese version by the common method. The questionnaire includes 51 questions: 44 main items to measure variables and seven questions about the information of respondents.

Food safety was evaluated using 6 items which were modified from the studies of Michaelidou &

Hassan (2008), and Ueasangkomsate & Santiteerakul (2016). Health benefits were evaluated using 4 items from the studies of Gil et al. (2000) and Effendi et al. (2015). Nutritional value was evaluated using 3 items from Chakrabarti et al. (2010). Environmental friendliness was evaluated using 5 items from the studies of Gil et al. (2000), and Ueasangkomsate & Santiteerakul (2016). Price barriers were evaluated using 5 items from the studies of Tanner & Kast (2003), Chen (2009), and Verhoef (2005). Lack of knowledge was evaluated using 4 items from the study of Wang et al. (2019). Attitude was evaluated using 5 items from the studies of Dean et al. (2012), Ihsan et al. (2015), and Teng & Wang (2015). Purchase intention was evaluated using 5 items from the studies of Ihsan et al. (2015), Teng & Wang (2015), and Nasir & Karakaya (2014). Trust was evaluated using 4 items from the studies of Krystallis & Chryssohoidis (2006), and Siegrist (2000). Limit of availability was evaluated using 3 items from the

authors' development.

Before distributing the formal questionnaire, we conducted a pilot test to evaluate the quality of the measurement items in the questionnaire. The interview was conducted by calling video through Facebook with 25 Vietnamese respondents participated in the pilot test. After the pilot test, some of the wording of the questions was revised to reduce ambiguity.

## 2. Data collection

The research model developed based on the hypothesis needs to be validated empirically using a quantitative research model. To do this, the questionnaire was used to collect data from the Vietnamese respondents aged 18 and over, who have bought organic food. The surveys containing 51 questions were designed by Google form tool and were distributed via-online through social media such as Facebook, Kakao Talk and Instagram. A total of 352 questionnaires were collected and valid questionnaires were 305. Then, the data were analyzed using descriptive analysis, factor analysis, and structural equation modeling. SPSS and Amos version 24 were used to test research hypotheses.

## 3. Profile of respondents

The demographic features of respondents were analyzed. The results indicated that about 58.4% of the respondents were females while the remaining 41.6% were males. The majority of respondents were between 18-30 years of age (87.9%). And 92.6% of respondents have the experience to use and buy

organic food products. 73.1% of respondents were single. The majority of the respondents (45.2%) were university undergraduates followed by high school or lesser education (22.6%) and postgraduates (15.7%). And almost 41% of respondents were students followed by employee (37.4%) and self-employed (14.4%). The sample analysis results also show the most of the respondents had an income under VND 10,000,000 (49.2%) and between VND 10,00,001-20,000,000 (37.4%).

## IV. Results and findings

### 1. Measurement Model, Construct Reliability and Validity

The reliability of the constructs was tested using Cronbach's alpha value analysis. The Cronbach's alpha value of the constructs ranged from .742 to .890 indicating adequate internal consistency of the measures. Factor analysis was conducted to test discriminant validity. The extraction method was principal component analysis. Ten factors emerged with Eigenvalues greater than 1, accounting for 70.095% of the variance. Each item loaded on its appropriate factor with no significant cross-loading. All factor loadings higher than .60 were retained for further data analysis. One item of price barriers and one item of health benefit were deleted due to high loadings in both factors. One item of price barriers was deleted due to its low loading. One item of food safety, two items of environmental friendliness, and one item of purchase intention were deleted to improve composite reliability and average variance

extracted (AVE). The results show the acceptable discriminant validity for the constructs (Hair, Anderson, Tatham, & Black, 1998). All of the variables have the AVE value above .50, suggesting the construct’s convergent validity. In terms of discriminant validity, the AVE of each construct is

higher than the squared correlations among the constructs (see Table 2), indicating that each construct has good discriminant validity (Fornell and Larcker, 1981). Confirmatory factor analysis (CFA) was carried out with the Amos program.

**<Table 2> Means, standard deviations, and correlations of the constructs**

Construct	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Attitude	3.47	0.744	<b>0.79</b>									
2. Food safety	3.92	0.645	0.293***	<b>0.725</b>								
3. Purchase Intention	3.99	0.566	0.185**	0.285***	<b>0.716</b>							
4. Environmental friendliness	4.16	0.582	-0.064	0.321***	0.278***	<b>0.717</b>						
5. Trust	3.69	0.65	0.494***	0.376***	0.268***	0.145*	<b>0.757</b>					
6. Lack of knowledge	3.13	0.878	-0.134*	0.05	-0.015	-0.052	-0.09	<b>0.763</b>				
7. Limit of availability	3.14	0.853	-0.007	0.172*	0.063	0.128†	0.01	0.625***	<b>0.831</b>			
8. Nutritional value	3.59	0.734	0.272***	0.555***	0.188**	0.178*	0.316***	0.096	0.220**	<b>0.787</b>		
9. Price barrier	2.17	0.594	0.063	0.015	0.247**	0.136†	-0.130†	-0.125†	-0.100	-0.276***	<b>0.715</b>	
10. Health benefits	4.27	0.645	0.581***	0.352***	0.311**	0.274***	0.237**	-0.066	0.071	0.243**	0.239**	<b>0.708</b>

Notes: the square roots of AVE for discriminant validity are made bold the diagonal; significance of correlation:

† p < 0.100, \* p < 0.050, \*\* p < 0.010, \*\*\* p < 0.001.

A total of 37 items were used to conduct confirmatory factor analysis, the model’s fit indices with  $\chi^2$  of 902.574, df of 583,  $\chi^2/df$  of 1.548, GFI (goodness of fit index) of .865, IFI (incremental fit index) of .938, TLI (Tucker-lewis index) of .928, CFI (comparative fit index) of .937, RMSEA (root mean square error of approximation) of .042 suggest a good model fit.

## 2. Hypotheses Testing

SEM was applied to test the proposed hypotheses.

The model fit indices demonstrated a good model fit. Precisely,  $\chi^2$  of 756.769, df of 394,  $\chi^2/df$  of 1.921, satisfying Hair et al.’s (1998) suggested criterion of 3:1. GFI is .860, AGFI is .835, meeting the suggested threshold values of above .80 for an acceptable model. Several other indices of the model contributively suggest a good fit including CFI=.907, IFI=.908, TLI=.897, RMSEA=.055.

The results of the hypotheses testing are illustrated in Table 3. Specifically, food safety ( $\beta = .147$ , p < .05), health benefit ( $\beta = .715$ , p < .05), nutritional

value ( $\beta = .154, p < .05$ ) had a significantly positive impact on attitude towards purchasing for organic food, so Hypothesis 1, Hypothesis 2 and Hypothesis 3 were supported. In contrast, lack of knowledge was a negative influence on consumer attitude towards purchasing organic food ( $\beta = -.135, p < .05$ ), so Hypothesis 5 was supported.

Interestingly, the relationship between environment-friendly and consumer attitude was negative significantly ( $\beta = -.315, p < .05$ ), thus Hypothesis 4 was not supported. Furthermore, price barriers had a positive influence on attitude towards purchasing for organic food, but not significant ( $\beta = .008, p > .05$ ), so

Hypothesis 6 was not supported.

However, price barriers had a significantly negative and direct impact on purchase intention for organic food ( $\beta = -.275, p < .05$ ), which supported Hypothesis 7. As expected, consumer attitude had a significantly positive influence on purchase intention of organic food ( $\beta = .150, p < .05$ ). Therefore, Hypothesis 8 was supported.

To obtain the interaction term for the model, items of attitude and trust as well as items of attitude and limit of availability were mean-centered and then multiplied. This helps to reduce multi-collinearity between the main effects and the interaction terms

<Table 3> Estimated from the structural models

Direct effects			Coefficient	S.E.	T-value	P	Outcomes
Food Safety	-->	Attitude	.147	.072	2.038	.042	Supported
Health Benefits	-->	Attitude	.715	.102	6.978	***	Supported
Nutritional Value	-->	Attitude	.154	.073	2.105	.035	Supported
Environmental friendliness	-->	Attitude	-.315	.075	-4.215	***	Not Supported
Lack of Knowledge	-->	Attitude	-.135	.059	-2.312	.021	Supported
Price Barriers	-->	Attitude	.008	.075	.103	.918	Not supported
Price Barriers	-->	Purchase Intention	-.275	.080	-3.415	***	Supported
Attitude	-->	Purchase Intention	.150	.055	2.713	.007	Supported

\*\*\* $p < .001$

<Table 4> Moderating effect: trust

Model		Unstandardized Coefficients			Collinearity Statistics		R2	$\Delta R2$	$\Delta F$
		$\beta$	t	Sig.	Tolerance	VIF			
1	(Constant)	3.483	22.864	.000			.036	.036	11.430
	Attitude	.145	3.381	.001	1.000	1.000			
2	(Constant)	3.049	15.504	.000			.072	.036	11.540
	Attitude	.077	1.640	.102	.814	1.228			
	Trust	.182	3.397	.001	.814	1.228			
3	(Constant)	2.873	14.882	.000			.140	.068	23.712
	Attitude	.073	1.629	.104	.814	1.228			
	Trust	.218	4.174	.000	.798	1.253			
	Interaction 1	.255	4.870	.000	.978	1.023			

**<Table 5> Moderating effect: limit of availability**

Model		Unstandardized Coefficients			Collinearity Statistics		R2	ΔR2	ΔF
		β	T	Sig.	Tolerance	VIF			
1	(Constant)	3.483	22.864	.000					
	Attitude	.145	3.381	.001	1.000	1.000	.036	.036	11.430
2	(Constant)	3.356	17.354	.000					
	Attitude	.146	3.393	.001	1.000	1.000	.040	.004	1.119
	Limit of availability	.040	1.058	.291	1.000	1.000			
3	(Constant)	3.355	17.694	.000					
	Attitude	.156	3.710	.000	.995	1.005			
	Limit of availability	.028	.747	.456	.992	1.008	.080	.040	13.118
	Interaction 2	-.147	-3.622	.000	.987	1.014			

(attitude × trust and attitude × limit of availability) and also to increase the interpretability of the beta-weights for the interaction term.

To assess the moderating effects, as recommended by (Cohen, Cohen, West, & Aiken, 2003), hierarchical multiple regression analysis was performed to examine the moderating effect of moderators on the relationship between independent and dependent variables. First, the main effect represented by the independent variables was entered in the first model; second, the main effect represented by the moderators was also entered in the second model; and third, the moderation effect, as known as interaction variable was entered in the third model.

Results show that trust positively moderates the influence of consumer attitude and purchase intention ( $\beta = .255$ ;  $p < .05$ ), and limit of availability negatively moderates the influence of consumer attitude and purchase intention ( $\beta = -.147$ ,  $p < .05$ ), which supported Hypothesis 9 and Hypothesis H10 (Table 4 and Table 5).

## V. Conclusion and Discussion

### 1. Conclusion

This study endeavours to extend the previous studies by incorporating various facilitators and barriers associated with organic food attitude and purchase intention in an emerging economy context such as Vietnam. The importance of research on organic food purchases in developing and emerging countries has been emphasized in the literature (Rana and Paul, 2017; Pham et al., 2018). This study, therefore, provides fascinating compassion with prior research, particularly those conducted in Western economies. A notable finding in this study is that the environment does not play a significant role in the formation of consumer attitudes towards organic food purchase intention. This negates the importance of environmental concern in predicting organic food attitudes demonstrated in prior studies in both developed countries (e.g. Smith & Paladino, 2010) and emerging markets (e.g. Yadav & Pathak, 2016).

However, several authors suggest that consumers in poorer countries, like developing and emerging markets (e.g., Vietnam), are less likely to take environmental quality into account when making a buying decision (Mostafa, 2007). This finding can be partly explained by the fact that the respondents were students or employees, the majority of whom were low-income earners. These consumers might not fully understand how organic food benefits the environment.

This study has also extended the findings of previous studies by comprehensively examining various determinants of attitudes towards organic food. The findings echo the extant literature suggesting that food safety (Michaelidou et al., 2008; Truong et al., 2012), health benefits (Yadav et al., 2016), and nutritional value (Amodio et al., 2007) significantly strengthen attitudes towards purchasing organic food. It shows that Vietnamese consumers are conscious about their health-related issues and consider health as an important parameter. Therefore, health-related benefits of organic food should be disseminated among consumers as organic foods are perceived as healthier in comparison to conventionally grown foods (Lea & Worsley, 2005).

Lack of knowledge about organic food had a negative impact on attitudes towards organic food. This finding may be due to the low level of knowledge about organic food demonstrated by the respondents in this study (Mean = 3.13). The majority of respondents were students, employees between 18-30 years of age, and low income, so they did not comprehensively understand the process, taste, types, and terms organic food, which might have adversely affected their attitudes towards purchase intention the products.

Similar to earlier work (Verhoef, 2005), the findings reveal that price barriers negatively affect consumer purchase intention of organic food. Specifically, consumers perceive that organic food is too expensive and such a high price represents an obstacle to their purchase intention. This can be explained by the widespread financial constraints of consumers in emerging markets (Nguyen et al., 2017). However, contrary to the hypothesis, the result indicates that price barriers positively affect consumer attitude toward organic foods. This result may be interpreted that consumers perceive that high price means high quality. If the price paid for organic food products is justified in terms of benefits and quality derived from the product, then it results in an increasing consumer attitude toward organic products. Further, consumer's intention to buy organic food was also determined by their attitude towards organic food. This signifies the importance of a positive attitude towards organic food among consumers while buying it.

The result supports that trust plays the moderating role between consumer attitude and purchase intention. Specifically, organic labelling information and certifications have a critical effect on consumer trust in organic food, which in turn will increase their attitudes towards purchase intention. Thus, this result confirms the essential role of trust in the process of consumer organic buying intention. If the products have certifications and are labelled fully, it can help increasing consumer's trust in organic food. Then increased trust will make the relationship of attitude and intention stronger.

This study demonstrated that limit of availability moderates negatively in the relationship between

consumer attitude and purchase intention for organic food. The consumer demand for clean and organic food products has been increasing, but paradoxically, the retail market for clean and organic food products only accounts for a very small proportion of the total consumption of agricultural products, as well as the consumer's everyday food. Furthermore, there are a few stores selling organic products, mainly concentrated in big cities such as Ha Noi, Ho Chi Minh. Therefore, it is difficult for consumers in accessing organic products, which in turn to a negative impact on the attitude toward purchase intention.

## 2. Managerial implications

The findings from this study provide several practical implications for organic product companies, retailers, market regulatory agencies, and marketers to foster organic food consumption among Vietnamese consumers. First, the demand for organic products can be encouraged by making such products less costly in terms of value for money. In this regard, organic food producers should make every effort to increase their efficiencies, which would result in lower prices, while distributors should consider decreasing the price of organic products whenever possible.

Second, policymakers should facilitate the development and implementation of the national organic labelling program and also develop relevant policies to support the production and distribution of organic food products, as well as educate consumers to engage more in organic food consumption and to become smarter and more responsible ones.

Third, since organic food is still a new concept in

Vietnam, effective education programs and communication campaigns should be jointly developed by the stakeholders. Food topics and issues (e.g. sustainable food consumption, environmental friendliness food consumption) should be promoted via mass media (e.g. TV, advertisement, radio) and social media (e.g. Facebook, Instagram, Zalo, Tiktok) to increase consumers' knowledge about organic products as well as their awareness about the safety and environmental and health benefits of organic food.

Fourth, this study provides guidelines and suggestions for retailers who are selling organic foods. Retailers should create a more convenient and pleasant shopping atmosphere for consumers such as more attractive displays and organic sections. The study can provide insights for the health and wellness companies to reorient their production and marketing strategies to cater for increasing consumer demand of healthier food. Serious efforts should be made to improve the distribution channel of organic food so that consumers can easily buy organic food from nearby markets and stores.

Fifth, the current study provides useful information about the characteristics of the organic consumer. Organic food marketers can get useful information for segmenting their market and targeting relevant segments cautiously. Also, this knowledge helps to frame their marketing strategy to convince and raise the recognition of the potential consumers about its benefits. For example, firms' products should convey health benefits and useful information attached to the label and certification to gain customer trust and to facilitate the purchase decision process of the 'traditional consumers' who are often cautious in purchasing new products such as organic ones.

### 3. Limitation and future research

This study provides some useful findings to identify factors and to assess the degree of influence on different factors about customers' buying intention. However, the research still contains some limitations, which should be considered for future research. First, the study is limited to measuring the purchase intention of organic food, there is no measure of actual buying behaviour. Although prior findings have supported that intention to act is positively impact actual behaviour, it is necessary to incorporate actual buying behaviour along with the intention in future studies.

Second, since the research data were collected in the Vietnam market, so the implication of the results is limited. Future studies should extend to other countries, and it could be valuable in conducting a cross-cultural comparison. Third, the majority of the sample was consisted of students and employees who had low income. Therefore, it is necessary to obtain data from respondents of higher income in future study, which enables a comparative analysis between high and low incomes. Fourth, as price barriers showed a non-significant effect on consumer attitude in this study, future studies can explore these in detail for clearer understanding of price impact on purchase attitude and intention. Finally, the study has performed on the overall level of organic foods whereas prior studies have shown that consumption pattern of organic food can be different among various food products such as organic meat, organic vegetable, organic rice, organic milk, which may limit the generalization of the findings. It will be valuable to test and compare consumer intention and behaviour

towards various ranges of organic food products.

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Received: October 27, 2020

Revision received: November 27, 2020

Accepted: December 13, 2020

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## 유기농식품에 대한 소비자의 구매의도 영향요인 분석: 베트남 시장에서 연구

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### ABSTRACT

최근 유기농 식품을 찾는 소비자들이 늘어나고 있다. 소비자들은 유기농 식품이 일반 식품보다 영양 가치가 높고, 건강한 먹거리이며 환경 친화적인 식품이라고 생각한다. 본 연구는 상대적으로 유기농식품 구매행동에 대한 연구가 덜 된 개발도상국시장에서 유기농 식품에 대한 소비자의 태도 및 구매의도 형성과 관련된 선행요인을 확인하고자 하였다. 이머징마켓에 초점을 맞추므로써 선진국에서 연구된 유기농 식품에 대한 소비자 구매행동이 베트남과 같은 나라에도 적합한지 조사하였다. 이를 위해 유기농식품에 대한 베트남 소비자의 태도, 구매의도, 신뢰성, 이용 가능성을 중심으로 검토하였다. 연구모형의 검증에 위해 유기농식품을 이용하고 있는 베트남 거주 소비자를 대상으로 총 305명의 자료를 수집하여 실증 분석에 사용하였다. 결과는 다음과 같다. 식품의 안전성, 건강 이점, 영양 가치, 친숙함은 소비자의 유기농 식품 구매 가능성에 긍정적인 영향을 미치는 것으로 나타났다. 환경 친화성과 가격 장벽은 유기농 식품에 대한 소비자의 태도에 유의한 영향을 미치지 않았지만, 가격 장벽은 구매의도에 직접적인 영향을 미치는 것으로 나타났다. 또한, 인증서 신뢰성은 소비자의 태도와 구매의도에 긍정적인 조절변수 역할을 하고 가용성 제한은 부정적인 조절변수 역할을 하는 것으로 나타났다. 이 연구는 개발도상국의 유기농 식품에 대한 소비자의 태도와 구매 의도를 더 잘 이해하는데 기여하고 있다. 본 연구의 결과는 유기농 식품 제조업체, 소매업체, 정책 입안자들에게 시사점을 제공하며, 베트남 시장에서 유기농 식품 소비를 증가시키기 위한 전략을 개발하는데 도움을 줄 것이다.

**주제어:** 유기농 식품, 지식 부족, 가격 장벽, 가용성 제한, 신뢰, 유기농 라벨, 베트남.

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