

Article

Integrating the Theory of Planned Behavior and the Norm Activation Model to Investigate Organic Food Purchase Intention: Evidence from Vietnam

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Abstract: Ample research has been conducted in the organic food market and researchers have investigated factors affecting the purchase behavior of consumers in many countries. However, the studies on organic food that integrate the Theory of Planned Behavior (TPB) and Norm Activation Model (NAM) in a transition country like Vietnam are limited. Thus, the purpose of this study is to investigate factors affecting the organic food purchase intention in the Vietnamese context. We combined the TPB and the NAM to propose an integrated research framework with attitude and personal norms as two mediators. Through a self-administered questionnaire survey, we collected 611 valid responses from the three biggest cities in Vietnam. Data were put into SPSS 22.0 and SmartPLS 3.0 for analysis. The structural equation modeling (SEM) technique was employed to test both direct and indirect relationships among factors of TPB and NAM in the research model. Our findings indicated that attitude plays the most critical role in explaining the organic food purchase intention of Vietnamese consumers, followed by social norms and personal norms. Notably, attitude also remarkably mediated the impact of environmental awareness and knowledge of organic food on purchase intention. Meanwhile, personal norms played the mediating role in the NAM that intervened the connection between social norms and purchase intention. Based on our analysis, we suggested policymakers, manufacturers, marketers, and sellers of organic food change their actions for the growth of the organic food market in Vietnam.

Keywords: organic food; purchase intention; Norm Activation Model; Theory of Planned Behavior; Vietnam



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1. Introduction

Changing consumption patterns towards green consumption is a topic of widespread interest as it involves many actors (individuals, households, businesses, and the government) at different levels, from local and national levels to regional and global ones. Several aspects of green consumption are not only concerned with the economic perspective but also refer to society and the environment as well. Along with the green economy concept, green consumption has become a central issue and an inevitable trend worldwide in a search for sustainable development. Buying organic food is a typical green consumption behavior. The production and consumption of organic food are increasingly raising more significant concerns in developed countries and developing countries like Vietnam when problems of environmental pollution, ecological imbalance, diseases, and the like are severely threatening the life of humanity and sustainable development of the planet. Consumers in many countries have been participating in organic food purchasing and consider this purchase part of their contribution to protecting the environment and saving our world.

In Vietnam, the current trend of green consumption is spreading and receiving quite a positive response from the people, manufacturers, and governmental agencies. Although

there is no separate regulation on green consumption, many contents related to green consumption or sustainable consumption were soon included in the policies and integrated into several legal documents. The “green” factor was mentioned for the first time in Vietnam’s socio-economic development strategy from 2011 to 2020. In this strategy, Vietnam determined the transformation of consumption methods towards sustainability to protect and improve environmental quality and proactively respond to climate change is an urgent requirement.

Retail sales in the Vietnamese organic food market in 2014 were about EUR 2 million [1] and have increased significantly since the COVID-19 pandemic occurred. This revenue is still too small compared to other markets such as the U.S. (EUR 27 billion), Japan (EUR 1 billion), or Thailand (EUR 12 million). However, it shows a potential future market when more and more Vietnamese people are concerned about their health and safety in the pandemic [2]. According to the Vietnam Report (2020), approximately 40% of surveyed people have increased their spending on organic food in their monthly budget [3]. However, a majority of Vietnamese people have not yet bought and used organic food. Convincing customers to buy organic products is not easy when many people cannot distinguish organic products from conventional ones. As a result, they feel confused in choosing the right organic food products [4]. However, research on factors influencing Vietnamese consumers’ purchase of organic food is still very limited. Several studies on organic food in the Vietnamese context have just contributed to exploring market segments of organic food consumers using food-related lifestyles [5] or explaining some antecedents of purchase intention toward organic food [6,7]. For example, Nguyen et al. (2019) [6] extended the Theory of Planned Behavior (TPB) with health consciousness, environmental concern, organic-label trust, and perceptions of self to explain the organic food purchase intention of urban consumers in the two most crowded cities in Vietnam (i.e., Hanoi and Ho Chi Minh City).

Similarly, Pham et al. (2018) [7] investigated the organic food market in Vietnam and tested how personal exposure to media, perceived barriers, and food taste influenced attitude and purchase intention. Since there is little research on the organic food market in Vietnam, the underlying mechanism of consumers’ behaviors toward organic food has not yet been sufficiently explored. Previous studies in Vietnam have focused on some personal factors related to consumers’ perceptions that drive the organic food purchase intention. However, little attention was put on Vietnam’s social context as a collectivist nation where people often seek advice when purchasing a new product like organic food. Furthermore, the psychological aspect of the personal ethical purchasing process has not been appropriately discussed in research on organic food in the transition economy context like Vietnam. Notably, it is observed that the simultaneous influence of social norms and personal norms on organic goods purchase intention seems to be neglected. Moreover, previous studies have not addressed the knowledge of organic food and its impact on attitude and intention toward organic food. Consequently, there is still much room for more investigation by applying different psychological theories to explain the behaviors of Vietnamese consumers in this specific emerging market using an integrative approach.

Meanwhile, numerous studies in other countries have employed a variety of theoretical frameworks to investigate organic food behaviors, of which the Theory of Planned Behavior (TPB) is the most popular. In addition, the Norm Activation Model (NAM) is also applied in recent studies to supplement the explanation ability of TPB in pro-environmental behaviors. However, the integration of the NAM into TPB in the organic food sector is rare, particularly in the Vietnamese context. Previous studies have confirmed that environmental awareness and knowledge of organic food directly impact organic food purchase intention. Nevertheless, it is still questionable if these two factors might directly influence purchase intention through the mediating factor, i.e., attitude toward organic food purchase. We take this concern into the context of a transition and collectivist country, i.e., Vietnam, so our study proposes an adapted research model integrating the TPB, the NAM, and environmental awareness and knowledge of organic food as two antecedents of attitude toward organic food purchase.

This paper is structured in seven sections. Section 1 introduces the topic and significance of the study. Section 2 discusses the literature review and hypothesis development.

Section 3 presents the research methods, then the results of the study are mentioned in Section 4. Section 5 includes the discussions and implications of this study. Section 6 reveals the limitations and suggestions for future research. Finally, Section 7 concludes the paper.

2. Literature Review and Hypothesis Development

2.1. Organic Food and Purchase Intention

Organic food (OF) is seen as a byproduct of organic farming. Organic food is produced in a controlled and verified environment. In its norms, IFOAM outlines the production process in terms of principles and standards worldwide (IFOAM, 2005). The organic production method is governed in the European Union by EC Regulations 834/2007 and 889/2008. In addition, international organizations (such as the FAO's Codex Alimentarius and the WHO's Codex Alimentarius and the UN) and national associations (e.g., Bioland, Demeter, Naturland) also have regulations on organic food. Furthermore, various national laws regulate organic food production in several nations across the world, including the United States National Organic Program (www.ams.usda.gov/nop/ accessed on 18 November 2021), China, and Japan [8].

Organic food is defined in EC Regulation 834/2007, related to EC 178/2002 [8]. Organic food can be defined using a variety of features that can be used as quality indicators. Because organic food also has a symbolic value, quality attributes can be directly experienced (determined), judged, or believed in [9].

Organic food includes both organic plants and organic animals, indicating that fruits and vegetables can be grown organically and animals are fed in an organic manner. In other words, organic food is a new form of conventional food that has been improved to change quality and taste through agricultural farming. Organic food targets middle and high-income consumers who are health conscious and care about food safety and hygiene. Krystallis and Ness (2004) [10] found that "high quality", "good or safer for health", "delicious taste", "convenient", and "ethical" are the main features that consumers mention when they think about organic food.

Purchase intention refers to an individual's desire to buy a specific product or service. Numerous studies have investigated purchase intention as it is considered the most crucial direct factor that determines the actual purchase of a product. In the organic food market, organic food purchase intention reflects the desire to own and consume the product of the consumers. Different factors have been discovered to influence consumers' purchase intention, including the Theory of Planned Behavior.

2.2. Theory of Planned Behavior

Many studies have long used the Theory of Planned Behavior (TPB) to explain people's actions. An individual's behavior is determined by their intent to perform such activity, according to TPB. In turn, intentions are linked to some factors such as attitude, subjective norm, and perceived behavioral control. A person's favorable or unfavorable opinions regarding given conduct are referred to as attitude. A person's perceived societal acceptability of an action is referred to as a subjective norm. Finally, perceived behavioral control refers to a person's perception of their ability to do a specific behavior. According to Ajzen (1991) [11] if the attitude, subjective norm, and perceived behavioral control are all strong, the intention will be firm, resulting in the desired behavior. As a result, the TPB considers attitude the most critical component in determining intentions and subsequent behaviors.

TPB has been adopted in numerous studies to explain pro-environmental behaviors such as the adoption of energy-efficient home appliances [12,13], energy saving behavior at workplace [14], environmentally friendly transportation modes [15], and green products [16]. In the organic food sector, many studies in both developed and developing countries have adopted and adapted TPB to explain consumers' purchase behaviors. Some studies include Chakrabarti (2010) [17], de-Magistris and Gracia Royo (2012) [18], De Magistris and Gracia (2008) [19], Dettmann and Dimitri (2009) [20], Katt and Meixner (2020) [21], Maaya et al. (2018) [22], Pham et al. (2019) [7], Nguyen et al. (2021) [23], and Rodriguez et al. (2007) [24].

2.3. Norm Activation Model

Schwartz (1977) [25] proposed the Norm Activation Model (NAM) to describe how people behave regarding moral dilemmas. According to NAM, people participate in pro-environmental actions when their standards reflect moral obligations to act pro-socially and environmentally. NAM has been successfully employed in several studies of consumers' behaviors since its inception.

The NAM has been adapted in studies to explain a variety of pro-environmental behaviors such as electricity-saving behavior [26], environmentally friendly travel choices [27], recycling [28], and purchasing environmentally friendly products [29]. Similarly, van der Werff and Steg (2015) [30] also used NAM to explain energy use with 468 people in the Netherlands.

2.4. Research Framework and Hypotheses

NAM and TPB have been used in previous studies to explain consumers' pro-environmental actions in developed and developing countries. For example, in a survey of recycling intentions, Park and Ha (2014) used these two ideas with 421 American consumers [28]. Similarly, Onwezen et al. (2013) used an integrated NAM–TPB research framework to examine consumers in the Netherlands to study the impact of pride and guilt in explaining ecologically friendly behavior [29]. Meanwhile, Kim and Hwang (2020) [31] and Nguyen et al. (2018) [13] used TPB to investigate drone food delivery services in Korea and green purchase behavior in Vietnam, respectively.

Both NAM and TPB have inevitably been widely used in studies on pro-environmental behaviors. Thus, we integrated the NAM into TPB to investigate the purchase intention toward organic food in Vietnam in this study. So we developed the research framework as Figure 1 follows.

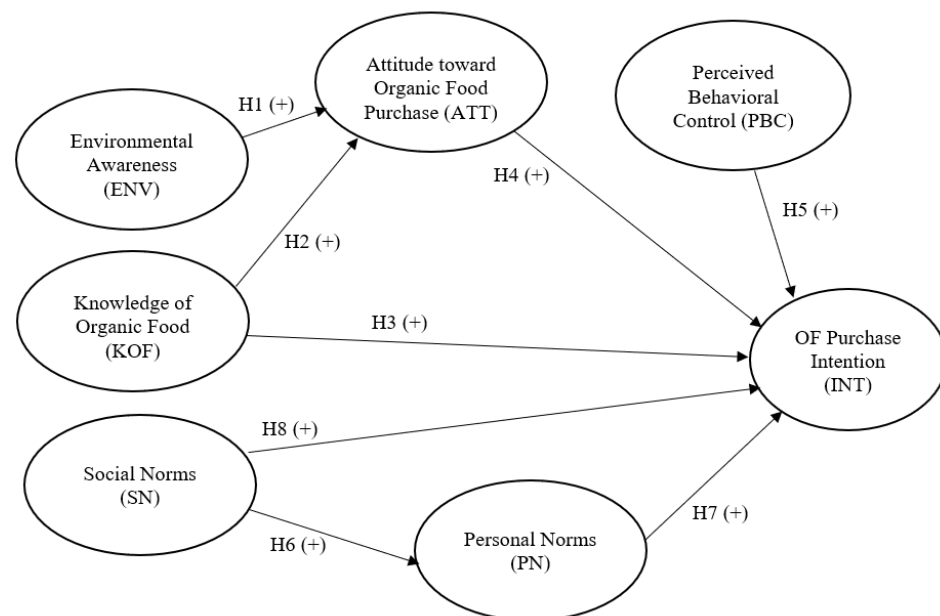


Figure 1. Research framework.

2.4.1. TPB Variables

In this study, we aim to investigate the relationship between environmental awareness and knowledge of organic food and factors of TPB.

Environmental Awareness

Purchasing organic foods is seen as an activity that helps conserve the environment and promotes long-term sustainability [18]. The impact of environmental awareness on consumer decisions to engage in pro-environmental behavior has already been

studied [7,32] and has been linked to a higher frequency of organic food purchases [33]. Environmental awareness has a favorable effect on customers' social and health consciousness, which enhanced their willingness to pay for organic food items [34]. For example, Çabuk et al. (2014) [35] confirmed that consumers who are more aware of environmental problems would have a more positive attitude toward organic food purchase. This finding is also supported by studies of Lockie et al. (2002) [36] and Chekima et al. (2017) [37].

Consequently, we argued that environmental awareness would directly affect the attitude toward organic food purchase. Thus, we initiated the following hypothesis:

Hypothesis 1. *Environmental awareness (ENV) has a positive impact on attitude toward organic food purchase (ATT).*

Knowledge of Organic Food

Knowledge of food ingredients and production is an important aspect influencing consumer behavior during the food purchasing process [38]. Surprisingly, consumers' understanding of the environment, ecology, and organic food cannot be isolated from purchasing ecologically friendly items [39]. As a result, customer awareness and knowledge about organic foods are critical in making purchasing decisions. Several recent research such as Paul and Rana (2012) [40], J. Shin and Mattila (2019) [41], and Singh and Verma (2017) [42] have examined the impact of consumers' awareness and knowledge about organic food.

For example, the study by Smith and Paladino (2010) [43] found that consumers' knowledge of social and environmental issues positively affects their attitude and purchase behavior towards organic food products. Other studies insisted that knowledge directly affects green purchase intention [13,44]. Based on the above arguments, we hypothesized that knowledge of organic food simultaneously indirectly and directly influences purchase intention as the followings:

Hypothesis 2. *Knowledge of organic food (KOF) has a positive impact on attitude toward organic food purchase (ATT).*

Hypothesis 3. *Knowledge of organic food (KOF) has a positive impact on organic food purchase intention (INT).*

Attitude

Attitude has long been thought to be a predictor of pro-environmental intention and behavior [7,13,45,46]. Previous studies on organic food, on the other hand, yielded mixed results. According to several surveys, customers who have a good attitude about green items are more likely to make green purchases [7]. The considerable favorable association between attitude and intention toward organic produce among Australian students was also validated by Smith and Paladino (2010) [43] and Singh and Verma (2017) [42]. Yazdanpanah and Forouzani (2015) [47] found that mindset is the most important factor in increasing the intention of young Iranian consumers to buy organic food. However, in emerging nations such as India, Tandon et al. (2020) [48] discovered that attitude had no significant relationship with organic food purchasing behavior. It is observed from existing literature that there are contradictory research results about the relationship between attitude and OF purchase intention. Therefore, more investigation should be carried out in various contexts to verify the relationship between the two variables.

Apart from the mixed results, various studies have investigated the attitude as a mediator that explains the organic food purchase intention. For example, some studies considered attitude as a linkage between organic food purchase intention and health consciousness, environmental concern [35], knowledge of organic food [42]. Meanwhile, Koklic et al. (2019) [49] insisted that attitude mediates the relationship between past organic food consumption and organic food buying behavior. Consequently, it is reasonable to assume that the attitude toward organic foods as a mediator can explain why and how there's

a link between the desire to buy organic food and its predictors including environmental awareness and knowledge of organic food.

From the above arguments in existing literature, in this study, we hypothesized as follows:

Hypothesis 4. *Attitude (ATT) has a positive impact on organic food purchase intention (INT).*

Perceived Behavioral Control

Perceived behavioral control is known as the amount to which people believe they can do a particular behavior [11]. Several studies on individual behavior have identified perceived behavioral control as an essential component in the sustainable consumption of organic food.

According to Wang et al. (2020) [50], perceived behavioral control was the second most powerful latent variable in influencing customers' propensity to buy pork with certified labeling in China. Similarly, de-Magistris and Gracia Royo (2012) [18] and Bredahl (2001) [51] found that perceived behavioral control influenced the propensity to buy organic food.

As a result, we came up with the following hypothesis:

Hypothesis 5. *Perceived Behavioral Control (PBC) has a positive impact on organic food purchase intention (INT).*

2.4.2. NAM Variables

According to Ajzen (1991) [11], social norms (subjective norms), are people's subjective judgments about the rules of society or organizations to which they belong. Social norms are widely held beliefs about how people should act in specific situations enforced by the threat of sanctions or the promise of rewards [52]. Individuals develop a sense of moral duty due to their awareness and internalization of these norms, resulting in self-expectations of specific actions in various settings [25].

Social norms have been investigated in several studies on organic food and positively influence consumers' intention to purchase [53,54].

A personal norm is defined as a self-expectation of specific action in a particular situation, experienced as a feeling of moral obligation [25]. This definition is widely accepted in social psychological research [11,55,56]. It is usually assumed that individuals adhere to personal norms for internal reasons, that is because they feel it is the (morally) right thing to do [57]. Previous studies, including Mørk et al. (2017) [53], have found that personal norms positively influence the intention to purchase organic food .

Therefore, in this study, we also assumed that social norms positively impact personal norms and intention to purchase organic food. Hypotheses 6 and 7 were raised.

Hypothesis 6. *Social norms (SN) have a positive impact on personal norms.*

Hypothesis 7. *Personal norms (PN) have a positive impact on organic food purchase intention (INT).*

In addition, subjective norms are also believed to have a direct impact on OF purchase intention. Consequently, Hypothesis 8 was formulated.

Hypothesis 8. *Social norms (SN) have a positive impact on organic food purchase intention (INT).*

3. Research Methods

3.1. Measurements

Scale items were adapted from existing literature and were measured on a 5-point Likert scale ranging from "1 = Totally disagree" to "5 = Totally agree". The survey instruments include TPB variables which are attitude toward organic food purchase (ATT), perceived behavioral control (PBC), intention to purchase organic food (INT). The measurement scales

of ATT (3 items), PBC (3 items), and INT (3 items) were adopted and modified from the studies of Pang et al. (2021) [58], Chakrabarti (2010) [17], and Kaiser (2006) [55].

We also include environmental awareness (ENV) as a determinant of attitude toward OF purchase. This scale has three items adapted from the study of Kumar and Smith (2018) [59] and Ahn et al. (2012) [60]. Meanwhile, knowledge of organic food is also used to test its relationship with attitude and purchase intention. We include three items in this scale adopting from the study of Pagiaslis and Krontalis (2014) [44] and Nguyen et al. (2018) [13].

In addition, the NAM was adopted in our study with two variables, including social norms (SN) measured by five items and personal norms (PN) measured by three items. We modified the items of NAM from the studies of Park and Ha (2014) [28] and van der Werff and Steg (2015) [30].

Details of survey instruments are presented in the Appendix A, Table A1.

3.2. Sampling and Participants

We administered an online questionnaire survey to collect data. Our respondents came from the three biggest cities of Vietnam, including Hanoi, Ho Chi Minh City, and Da Nang. The snowball and convenient sampling methods were applied. We chose the snowball method as it is acceptable for surveying rare populations [61]. In Vietnam, the number of people that buy and consume organic food is quite rare. As a result, we must target several small groups of people who have heard about organic food and probably have bought organic food, then we asked them to spread our survey to potential consumers of organic food.

Initially, 50 potential respondents were selected from Facebook and Zalo friend lists of the research team. Then, these respondents were encouraged to circulate the questionnaire to their friends. After two months, we received 611 valid questionnaires. SPSS software version 22 was employed for data analysis. The sample characteristics are presented in Table 1.

Table 1. Sample characteristics (N = 611).

Characteristic	Frequency	Percent (%)
Gender		
Female	420	68.7
Male	191	31.3
Monthly Personal Income		
Below VND 5 million (USD 225)	356	58.3
From VND 5 to 15 million (USD 225 to USD 675)	150	24.5
From VND 15 to 25 million (USD 675 to USD 900)	60	9.8
e Over VND 25 million (over USD 900)	45	7.4
Family Size		
Single	25	4.1
Two persons	52	8.5
From 3 to 5 persons	449	73.5
More than 5 persons	85	13.9
Educational Background		
High school graduates	43	7.0
University graduates	454	74.3
Postgraduates	114	18.7

It is shown in Table 1 that nearly 70% of our participants were female who were regularly in charge of food buying in Vietnamese families. In terms of monthly personal income, most

of our respondents were low-middle-income citizens with an income of less than VND 15 million (approximately USD 675) a month. Notably, most of our respondents lived in families with three to five persons, so they might be supported by their family members in monthly spending, including organic food purchases. Furthermore, our respondents had a high education background with 90% of the respondents having a university degree or higher.

4. Results and Discussion

4.1. Assessment of Measurement Model

The reliability of measurements was checked in SmartPLS version 3.0 using several criteria, including Cronbach's alpha, item loadings. The validity of the measurements was evaluated based on the Variance Composite reliability (CR), Variance Inflation Factor (VIF), and Average Variance Extracted (AVE). Table 2 shows the results.

Table 2. Reliability of measurements.

Constructs	Items	Loadings	VIF	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Environmental Awareness (ENV)	ENV1	0.802	1.431	0.801	0.883	0.716
	ENV2	0.873	2.205			
	ENV3	0.862	2.081			
Knowledge of OF (KOF)	KOF1	0.779	1.730	0.737	0.844	0.644
	KOF2	0.799	1.801			
	KOF3	0.829	1.256			
Attitude toward OF Purchase (ATT)	ATT1	0.902	2.656	0.846	0.907	0.766
	ATT2	0.914	2.802			
	ATT3	0.806	1.616			
Perceived Behavioral Control (PBC)	PBC1	0.841	1.980	0.816	0.891	0.731
	PBC2	0.890	2.272			
	PBC3	0.832	1.578			
Social Norms (SN)	SN1	0.834	2.244	0.897	0.924	0.709
	SN2	0.873	2.867			
	SN3	0.851	2.487			
	SN4	0.853	2.496			
	SN5	0.795	1.934			
Personal Norms (PN)	PN1	0.859	2.092	0.876	0.887	0.924
	PN2	0.914	2.670			
	PN3	0.912	2.597			
OF Purchase Intention (INT)	INT1	0.884	2.280	0.887	0.930	0.816
	INT2	0.900	2.616			
	INT3	0.925	3.097			

Table 2 shows that seven measurement scales in the research framework have Cronbach's alpha values and all item loadings higher than 0.7, reporting a good reliability. Moreover, the CR values were above 0.8, AVE values were above 0.5, Meanwhile, the VIF values of all items were below 5. Thus, the convergent validity and discriminant validity of the measurements were good. In addition, the discriminant validity was checked using the Fornell–Larcker test. Table 3 shows the details.

Table 3. Discriminant validity of measurements.

	ATT	ENV	KOF	INT	PBC	PN	SN
ATT							
ENV	0.747						
KOF	0.710	0.664					
INT	0.753	0.667	0.652				
PBC	0.567	0.559	0.609	0.578			
PN	0.483	0.447	0.464	0.569	0.459		
SN	0.710	0.631	0.643	0.738	0.577	0.703	

Note: ATT: Attitude, ENV: Environmental Awareness, KOF: Knowledge of Organic Food, INT: OF Purchase Intention, PBC: Perceived Behavioral Control, PN: Personal Norms, SN: Social Norms.

According to Fornell and Larcker (1981) [62] and Hair et al. (2010) [63] the discriminant validity is satisfactory when the square root of AVE for each endogenous variable is higher than the correlations of latent variables. Moreover, the discriminant validity of measurements is confirmed if the Heterotrait–Monotrait ratio (HTMT) values are below 0.85. Thus, Table 3 reveals that the validity of measurement scales was achieved. The following criterion taken in this study was R-squared. Table 4 means that the coefficient determination was confirmed as all R-squared values of endogenous variables were above 0.5 [63].

Table 4. R-squared results.

	R Squared	R Squared Adjusted
Attitude toward OF Purchase (ATT)	0.640	0.639
Personal Norms (PN)	0.495	0.494
OF Purchase Intention (INT)	0.669	0.667

As shown in Table 4, the adjusted R-squared values of ATT and INT are higher than 0.5, meaning that the independent variables can explain more than 50% of the variance of attitude and intention toward OF purchase. In other words, there is a moderate effect size of factors in the structural model that explains attitude and intention of organic food. On the other hand, the R-squared value of PN is approximately 0.5, indicating a relatively small effect size. However, it is still accepted for further analysis as it is within the proposed rule-of-thumb range suggested by Henseler et al. (2009) [64].

4.2. Structural Equation Modeling Analysis

We ran the bootstrapping analysis with 5000 samples and 0.05 significant level to evaluate the statistical significance of variables in the structural model. Results are presented in Figure 2 and Table 5 below.

As shown in Table 5, all hypotheses were accepted with p-values lower than 0.05. The standardized path coefficients revealed that ENV ($\beta_1 = 0.493$) has a higher effect on ATT than KOF ($\beta_2 = 0.383$). Furthermore, ATT ($\beta_4 = 0.388$) has the strongest impact on INT, followed by SN ($\beta_8 = 0.276$) and PN ($\beta_7 = 0.099$). Notably, PBC ($\beta_5 = 0.095$) and KOF ($\beta_3 = 0.094$) have very small impact on INT.

In this study, we also concern the mediating role of attitude and personal norms in the structural model of organic food purchase intention. Thus, we ran the bootstrapping analysis, and the results were shown in Table 6 below.

Table 6 revealed that ATT was a significant mediator between ENV and INT with $\beta = 0.191$. In addition, KOF positively affected ATT, and then ATT positively affected INT. So ATT also mediated the relationship between KOF and INT with $\beta = 0.149$. Notably,

KOF ($\beta_3 = 0.094$) also was confirmed to have a direct positive impact on INT. These results indicated that ATT partially mediated the relationship between KOF and INT.

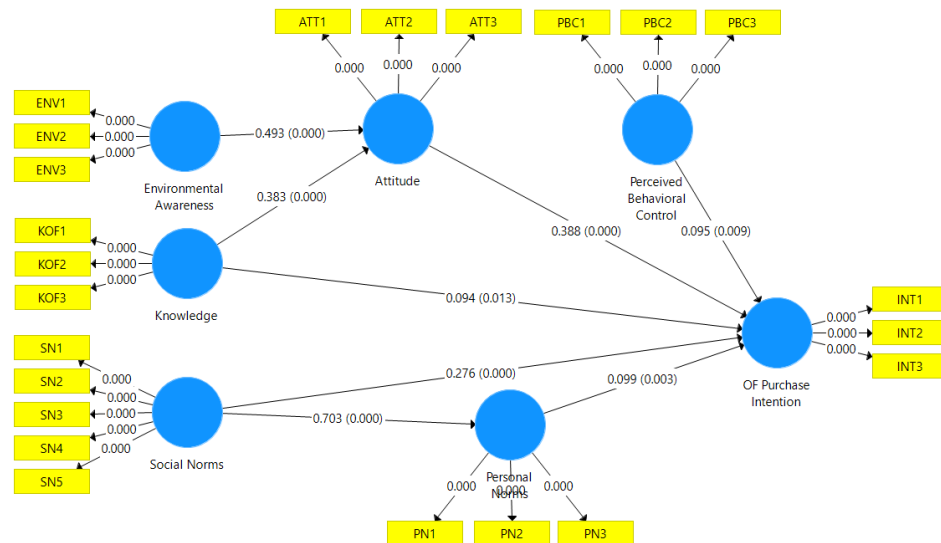


Figure 2. Structural equation modeling results.

Table 5. Hypothesis—path coefficients.

Hypothesis	Path	Path Coefficient	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	p Values	Result
H1	ENV → ATT	0.493	0.492	0.038	13.050	0.000	Accepted
H2	KOF → ATT	0.383	0.383	0.036	10.597	0.000	Accepted
H3	KOF → INT	0.094	0.094	0.038	2.484	0.013	Accepted
H4	ATT → INT	0.388	0.388	0.047	8.271	0.000	Accepted
H5	PBC → INT	0.095	0.096	0.037	2.603	0.009	Accepted
H6	SN → PN	0.703	0.703	0.024	29.497	0.000	Accepted
H7	PN → INT	0.099	0.099	0.033	2.968	0.003	Accepted
H8	SN → INT	0.276	0.277	0.044	6.310	0.000	Accepted

Furthermore, SN predicted PN ($\beta_6 = 0.703$) which then was associated with INT ($\beta_7 = 0.099$). SN also had a direct impact on INT ($\beta_8 = 0.276$). Consequently, PN was found to have a partially mediating role in the relationship between SN and INT.

Table 6. Indirect effects testing results.

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	p Values
ENV → ATT → INT	0.191	0.191	0.029	6.615	0.000
KOF → ATT → INT	0.149	0.149	0.023	6.540	0.000
SN → PN → INT	0.070	0.070	0.024	2.912	0.004

5. Discussion and Implications

In this study, we combined variables of TPB and NAM to investigate the organic food purchase intention of Vietnamese people. Our findings asserted that integrating relevant elements from different theories shed light on factors influencing consumers’ purchase intention toward organic food, particularly in a transition economy like Vietnam.

Firstly, it is confirmed in our study that the TPB serves as a strong theoretical foundation to explain consumers' purchase intention in the organic food market. Three factors of TPB, attitude, social norms, and perceived behavioral control, were found to positively influence the purchase intention. Notably, the attitude was insisted to be the most influential factor that affected organic food purchase intention. Our findings align with previous studies in Vietnam on organic food [23] and pro-environmental behaviors [13,46,65]. We also found similar results with studies on organic food in other countries, including Italy, the U.S., China, India, Malaysia [17,18,35,42,66].

Secondly, unlike other studies, we hypothesized that attitude might be critical in connecting environmental awareness and purchase intention. Consequently, our bootstrapping analysis proved that attitude plays the role of a strong mediator in the relationship between environmental awareness and purchase intention. Our finding is supported by Magnusson et al. (2003) [67] and Çabuk et al. (2014) [35], who also confirmed that attitude is a strong mediator in the model that explains organic food purchase. This result is attributed to the reality that Vietnam is facing serious environmental problems due to the rapid growth of industries. As a result, the current situation of food in our country has reached an alarming level, threatening the health and life of the community. Currently, people are still insecure about food hygiene and safety. The foods produced, grown, processed domestically, and imported are more and more diverse. Still, the state management and law observance of many people are not high, so the potential risks of food contamination are overwhelming. Considering the severe risks of food contamination, Vietnamese people are more interested in organic food and gradually change their attitude toward purchasing organic food.

Thirdly, it is proved in this study that knowledge of organic food both directly and indirectly affects purchase intention through attitude. This finding is in line with Paul and Rana (2012) [40], Shin et al. (2019) [41], Singh and Verma (2017) [42], who all found that knowledge played a critical role in shaping purchase intention. Our finding is also supported by Nguyen et al. (2018) [13] and Nguyen et al. (2019) [6] in other studies of green purchase intention in Vietnam. Moreover, it is observed that the biggest issue that Vietnamese consumers care about is the transparent origin of the product as well as the effectiveness of the law in encouraging genuine organic food producers and punishing those who sell "dirty" food. This implies that organic food manufacturers and traders need to pay more attention to supporting customers to trace the origin of products.

Fourthly, our analysis confirmed the partially mediating role of personal norms in the relationship between social norms and purchase intention. This result indicated that Vietnamese consumers are motivated to purchase organic food by intrinsic rewards (personal norms) and extrinsic ones (social norms). Particularly, the impact of social norms on purchase intention was higher than that of personal norms, meaning that Vietnamese consumers tend to seek advice and follow the references others (i.e., family members, relatives, important people to them) when they intend to purchase organic food. This type of behavior is attributed to the fact that organic food is still a new concept for many Vietnamese people. They might have information about the products but still, hesitate to buy without the references of trustworthy people around them. Our findings comply with other studies on pro-environmental behaviors in Vietnam [6,13] and other emerging countries like India [17] or Argentina [24]. However, some studies on pro-environmental behaviors have contradictory results with our study. For example, Park and Ha (2014) [28] found that subjective norms (social norms) did not directly influence recycling intention but indirectly affect the purchase intention through attitude, personal norms, and perceived behavioral control. The inconsistent findings of the impact of the NAM variables on purchase intention of organic food and other environmentally friendly behaviors imply that there still exists a compelling research gap for further studies in the Vietnamese context and comparative studies in different countries. Furthermore, our findings indicate that producers and marketers in Vietnamese organic food should pay attention to the way consumers are internalizing the references of important others around them into their purchase intention. The marketing campaigns of organic food should drive the consumers toward their self-awareness of moral obligations regarding organic food purchasing.

From the above discussions, our study has several theoretical and practical implications. In terms of theory, this study fills in the gap in the existing literature regarding the mediating role of attitude and personal norms in explaining the purchase intention of organic food. Unlike previous scholars that mainly use TPB or NAM independently with other extended variables, we adapted and integrated the TPB and NAM to focus on the simultaneous impact of variables in these two theories on organic food purchase intention. In terms of practice, we propose some suggestions for policymakers, manufacturers, marketers, and retailers in the Vietnamese organic food sector. Currently, most Vietnamese people still do not have comprehensive knowledge of organic food. Thus, manufacturers and retailers should have various communication activities to educate consumers and help them to be familiar with organic products. Moreover, it is implied from our findings that marketers should direct their marketing messages of organic food toward the moral obligations of consumers. Advertisements of organic food should also aim at raising environmental awareness of consumers as this factor will significantly change the attitude and then the purchase intention of consumers. From the perspective of the government, policymakers should amend the laws and regulations in the food industry in general and in the organic food segment in particular to set a transparent and suitable law framework for manufacturers, wholesalers, retailers of organic food. Manufacturers that violate the laws and cause severe damage to consumers, such as food contamination, must be strictly punished. It is observed from the reality in Vietnam that violators in the food industry have not yet been discovered and appropriately redressed. Thus, the law to protect consumers has not yet been fully enforced.

6. Limitations and Future Research

Although our study has achieved some results, some limitations still exist. Firstly, the sampling methods and the sample size have hindered us from generalizing the results of our study. Our sample mainly includes urban citizens in Vietnam, and the majority of respondents are female with low-middle income. These characteristics of the sample might lead to potential bias in explaining purchase intention. Thus, future studies might expand the sample size and use random sampling methods for more comprehensive research. Secondly, in our research model, we have not included demographic factors as controlling variables. We mainly focus on the variables in TPB and NAM. As a result, the question about how demographic factors influence the purchase intention of Vietnamese consumers is left unanswered in our study. Future research may elaborate more on our current limitation to investigate Vietnamese people's organic food purchase behavior. Thirdly, our research model has paid more attention to purchase intention rather than the actual purchase behavior of consumers. We have not explored factors that bridge the intention–actual behavior gap in the Vietnamese organic food market. For example, trust has not yet been included in our study while other studies have mentioned trust as a mediator that influences the purchase of organic food. Fourthly, we did not focus on how the social conformity issue might affect organic food purchases in Vietnam. Therefore, further investigation should be conducted to fill in this gap. Fifthly, our study has addressed only one type of popular green product, which is organic food. Other products such as green cosmetics, green fashion, and green vehicles are potential research fields in the Vietnamese context that need more investigation. Thus, we suggest future research to expand our research framework to other industries.

7. Conclusions

Being a young and dynamic economy in the Asian region with more than 95 million people, Vietnam is expected to be a fast-growing market for organic food in the coming future. The current low percentage of consumers using organic food is a positive sign for the manufacturers and sellers. Furthermore, the Vietnamese government has recently formulated and declared the green growth grand strategy to promote sustainable development nationwide. Therefore, the organic food market will be more strongly supported by the government. In such a context, it is essential to understand the factors influencing consumers'

purchase behavior to alter the production process and selling strategies to attract and retain more Vietnamese customers. There seems to be a tremendous impetus for in-depth research in the Vietnamese organic food market. Our study attempts to fill in the existing research gap with an integrated research model of both TPB and NAM. We have successfully validated the variables of the TPB and NAM in the new context of a transition country like Vietnam. We also tested hypotheses reflecting a complicated relationship among environmental awareness, knowledge of organic food, attitude, perceived behavioral control, social norms, personal norms, and purchase intention. Our findings have contributed to existing literature and paved the way for more detailed explanations and studies in this field.

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Abbreviations

The following abbreviations are used in this manuscript:

ATT	Attitude
ENV	Environmental Awareness
KOF	Knowledge of Organic Food
INT	Intention
NAM	Norm Activation Model
PBC	Perceived Behavioral Control
PN	Personal Norms
SN	Social Norms
TPB	Theory of Planned Behavior

Appendix A

Table A1. Survey instrument.

Constructs	Number of Items	Item(s)
Environmental Awareness (ENV)	ENV1	The environment quality is becoming worse.
	ENV2	Environment damage will be irreversible if we do not quickly act to protect the environment.
	ENV3	My primary concern is the environmental problems in my country.
Knowledge of Organic Food (KOF)	KOF1	I know the food is organic or non-organic.
	KOF2	I know the process of making organic food products.
	KOF3	I know that organic food is safer to eat.
Attitude toward OF purchase (ATT)	ATT1	I think that organic food is beneficial to meet my nutrition needs.
	ATT2	I think buying organic food is a wise choice.
	ATT3	I have a favorable attitude toward organic food purchases.
Perceived Behavioral Control (PBC)	PBC1	Buying organic food is easy for me.
	PBC2	I am confident that if I want, I can buy organic food.
	PBC3	To buy or not to buy organic food is up to me.

Table A1. Cont.

Constructs	Number of Items	Item(s)
Social Norms (SN)	SN1	My family thinks that I should buy organic food.
	SN2	My friends expect me to buy organic food.
	SN3	Many people around me persuade me to buy organic food.
	SN4	Most people that I adore would buy organic food if available.
	SN5	Consuming organic food is fashionable.
Personal Norms (PN)	PN1	I feel personally obliged to buy organic food for the sake of the environment.
	PN2	I feel bad when I buy conventional food instead of organic food.
	PN3	I am willing to put extra effort into buying organic food on a more regular basis.
OF Purchase Intention (INT)	INT1	I definitely will buy organic food in the near future.
	INT2	I plan to spend more on organic food rather than conventional food.
	INT3	I am always interested in buying more organic food for the family's needs.

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