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Antecedents of Purchase Intention toward Organic Food in an Asian Emerging Market: A Study of Urban Vietnamese Consumers

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Abstract: This study aims to investigate some factors influencing purchase intention toward organic food among urban consumers in Vietnam, an Asian emerging economy. The extended Theory of Planned Behavior was used as theoretical framework for this study. In order to test the proposed model and hypotheses, a survey was conducted on a sample including 572 consumers in Hanoi, the capital city of Vietnam. The findings of structural equation modeling indicated that modern self, traditional self, health consciousness, organic-label trust, and subjective norm were significant predictors of attitude toward buying organic food, while environmental concern was not significantly related to attitude. In addition, attitude, subjective norm, and perceived behavioral control toward organic food purchase were found to be positively related to purchase intention. The research findings were discussed and implications for marketers and policy makers were provided.

Keywords: organic food; perceptions of self; health consciousness; environmental concern; trust; Vietnam

1. Introduction

The extant literature has noted the rapid and accelerating growth of the global organic food market [1,2]. The demand for organic food that used to be prominent in the developed countries has been significantly increasing in the context of emerging economies which are facing serious environmental problems and unsustainable consumption [3,4]. The topic on organic food consumption has captured a great attention from scholars and practitioners, since food consumption plays an important role in influencing the environment and individual and public well-being [3]. Most past research related to organic food; however, has been conducted in the context of developed economies, specifically in the US and Western Europe [1,5–9]. There is a need to understand more about organic food consumption in the context of emerging markets, where the organic food industry is still a relatively young and emergent sector, and the knowledge of consumer behavior pertaining to organic food purchase is still limited [3,4,10,11].

Vietnam is an emerging country, which has begun Doi Moi (i.e., economic renovation transforming the centrally planned economy into a market economy) since 1986. Vietnam enjoys one of the world's most dynamic economies [12] and is an important emerging market in Southeast Asia, with both remarkable development record and numerous challenges, including unsustainable consumption and environmental degradation [13,14]. Similar to many other emerging economies, in Vietnam, the organic

food market is still at the early stage of development. Due to significant growth in both demand and supply sides, the topics pertaining to organic food consumption have attracted increasing research attention [3,15,16].

Along with economic reforms in Vietnam, there have been many changes in marketing environment, and also in consumer values, attitudes, and behaviors [17]. It is suggested that in the Asian emerging economies, such as Vietnam, in each consumer there is co-existence of traditional norms, values, and beliefs prevalent before the economic transition began and the modern ones imported from more developed countries thanks to the economic reforms [12]. It is important to investigate how this influences consumer behaviors [12]. Thus, this study attempts to investigate the antecedents driving the intention to buy organic food among urban consumers in the emerging country of Vietnam, with the emphasis on the impact of perceptions of self (i.e., traditional self and modern self), a construct associated specifically with Asian emerging economies. These constructs are integrated into the framework of the Theory of Planned Behavior (TPB). In this study, we propose an extended TPB as a theoretical framework to investigate the antecedents of intention to purchase organic food among urban Vietnamese consumers. Specifically, in addition to three antecedents of purchase intention from the TPB model (i.e., attitude, subjective norm, and perceived behavioral control toward buying organic food), we integrate several factors regarding consumer characteristics as antecedents of attitude toward organic food purchase into the model. These antecedents include health consciousness, environmental concern, organic-label trust, and perceptions of self (i.e., modern self and traditional self). Health consciousness, environmental concern, and trust have been strongly suggested predictors of attitude in the literature, while perceptions of self are specifically associated with the economic transformation process in the context of Asian emerging and transitional economies, such as Vietnam, and not yet examined in the context of organic food purchase.

This research is expected to contribute to enhancing our knowledge of an important buying behavior, organic food purchase, in an Asian emerging country where, to our best understanding, the topic has received only modest research attention. Especially, this study contributes to understand better the impact of the factors specifically associated with the economic transformation in Asian emerging economies on organic food consumption behavior. In this paper, following the introduction section, we first present a theoretical background and hypotheses. We then discuss the research methodology, followed by the research results. Finally, we discuss the findings and provide implications. Future research directions are also suggested.

2. Theoretical Background and Hypotheses

2.1. The Research Context and Organic Food

Vietnam is considered a typical case of an emerging economy with a large population of more than 96 million people [18]. With regard to the food sector, food safety scandals related to such issues as agrochemical contaminations, pesticide residues, and unsafe-processed food regularly appear on popular media news in Vietnam. This has resulted in growing concerns and anxiety among consumers regarding food safety [19]. Many consumers feel confused and doubtful when shopping daily for food. As a result, consumers are now becoming more active in seeking healthier and safer food, and organic food has shown advantages over the conventional ones in this aspect. Organic food now is increasingly available in modern channels such as supermarkets and organic food stores in big cities like Hanoi and Ho Chi Minh City [20]. Urban consumers become more familiar with some store brands where they can find organic food such as Vinmart (a supermarket chain of Vingroup, the Vietnam's largest private company), CleverFood, Orfarm, Sói Biển (Sea Wolf food store), and Bác Tôm.

In this study, we focus on organic food, an important type of green products. In the literature, organic food has been considered as those products that are grown using methods and materials without the use of toxic pesticides, herbicides, and fertilizers [2]. In line with that, according to Liang [10], organic food refers to the products produced without artificial pesticides or chemicals.

It has been suggested that organic food and conventional food are basically different regarding the production methods, and organic food refers to those that are produced through a natural system that enhances biological cycles, reduces pollution, and simultaneously providing livestock and farmers a safe and healthy environment [16]. On the basis of previous studies, in this study, organic food refers to the environmentally friendly food products that are produced and processed using methods and materials without using toxic pesticides, herbicides, fertilizers, and chemicals.

2.2. Antecedents of Purchase Intention toward Organic Food

This study employs the extended TPB model to examine several antecedents of purchase intention toward organic food for urban Vietnamese consumers. It has been suggested that the TPB may be the most useful theory in predicting a wide range of intentions and behaviors that are under volitional control although the sufficiency of TPB is still being questioned [21]. In the literature, the TPB model has been widely and successfully used to predict green purchase behaviors [5,14,22], including organic food purchase [4,7,10,23,24]. However, previous studies about factors influencing organic food purchases, including the TPB's variables have provided some inconsistent findings and past research has suggested the important role of the context [4,9,25]. Specifically, in addition to the variables from the TPB model as direct antecedents of purchase intention (i.e., attitude, subjective norm, and perceived behavioral control), some individual difference variables are integrated into the model as indirect antecedents of purchase intention via attitude, including perceptions of self (i.e., traditional self and modern self), health consciousness, environmental concern, and trust.

2.2.1. The Direct Antecedents of Purchase Intention from the TPB Model

In the TPB model, behavioral intention construct plays the role as a central factor and a powerful predictor of the behavior [26]. In our study, we focus on explaining the consumers' purchase intention toward organic food (PI), rather than the purchase behavior. The TPB model indicates three important antecedents of behavioral intention, including attitude toward the behavior, subjective norm, and the perceived behavioral control [27]. In this study, based on the TPB model, attitude (ATT) refers to the consumer's positive or negative evaluation of organic food purchase. The second variable from the TPB model, subjective norm (SN), can be defined as the perceived social pressure that encourages one to engage in buying organic food. The third variable, perceived behavioral control (PBC), refers to the difficulty or ease perceived by an individual to perform the purchase of organic food.

Previous studies have provided empirical evidence for supporting the positive impact of the antecedents from the TPB model on purchase intention with regard to green products in general, and organic food in particular [2,10,28,29]. Although the findings regarding the impact of the three antecedents from the TPB have been inconsistent and dependent on the specific research context, generally these variables have been found to have direct and positive impact on PI. For example, the findings from a study by Chen [28] in Taiwan showed that all three variables of the TPB model (i.e., ATT, SN, and PBC) were positively related to PI toward organic food. In line with this, in a recent study by Lee et al. [2] examining consumer motives for purchasing organic coffee in the context of urban South Korea, ATT, SN, and PBC were also found to be significant predictors of PI, of which PBC was found to have weakest impact on PI. In the context of buying organic food online of Taiwanese consumers, Liang [10] also found that all three TPB's variables were significantly related to PI with the highest prediction magnitude of ATT and the lowest one of SN. However, the findings from another study of organic food purchase among urban Taiwanese by Teng and Wang [30] showed that SN was more powerful than ATT in predicting PI.

In Vietnam, ATT, SN, and PBC have also been found to be positive predictors of purchase intention toward green products [14]. In this study, we examine the relationships between three important variables of the TPB model and purchase intention toward organic food in the context of urban Vietnam. On the basis of the above arguments, we expect to see the similar findings pertaining to the significantly positive impact of these antecedents on PI. Therefore, the following hypotheses are presented:

Hypothesis 1 (H1). *The consumer attitude toward organic food purchase is positively related to organic food purchase intention.*

Hypothesis 2 (H2). *The consumer subjective norm toward organic food purchase is positively related to organic food purchase intention.*

Hypothesis 3 (H3). *The consumer perceived behavioral control toward organic food purchase is positively related to organic food purchase intention.*

2.2.2. The Indirect Antecedents—Factors Influencing Attitude toward Organic Food Purchase

Subjective Norm and Attitude toward Organic Food Purchase

The relationship between SN and ATT has been indicated in previous studies. Chang (1998) [31] found that with the causal path linking SN to ATT added to the TPB model when predicting unethical behavior, the model fit was significantly improved. Further examination of this causal relationship is also suggested [31,32]. In the context of organic food purchase for Finnish consumers, the findings from a study by Tarkiainen and Sundqvist [9] also found that SN was a significant predictor of ATT. Similarly, the role of SN in predicting ATT toward buying organic food was confirmed in a study in Pakistan by Al-Swidi et al. [20]. Therefore, we present the following hypothesis:

Hypothesis 4 (H4). *Subjective norm is positively related to the consumer attitude toward organic food purchase.*

Health Consciousness

In the literature, despite the various findings pertaining to the hierarchy of motives to buy organic food in different contexts, consumers' concerns for health have generally been considered to be the primary motive for purchasing organic food and the most frequently mentioned reason for organic food selection [1,2,22,29,30]. Organic foods are generally marketed and perceived as being more nutritious, healthier, and safer compared with the conventional alternatives [8,18,22,30]. Therefore, consumers are more likely to have a favorable attitude toward buying organic food regarding its better health benefits.

The construct of health consciousness (HC) refers to an individual's readiness to do something to his/her own health [22]. In line with this, according to Jayanti and Burns [33], HC can be defined as the degree to which health concerns are integrated into an individual's daily activities. Past research has provided empirical evidence to support the positive impact of HC on attitude toward organic food purchase in both developed and developing countries [4,18,22,34]. For example, the findings from Lee [34] found that HC significantly influenced attitude toward buying organic food among consumers in the US. In line with this, consumers' perception of health attribute of organic food had significant and positive effect on both utilitarian and hedonic attitudes toward organic food purchase [18]. In Taiwan, a study by Chen [22] confirmed the important role of HC in predicting Taiwanese consumers' attitude toward organic food purchase. In the context of a developing country, the positive impact of HC on ATT was also found among young Indian consumers [4].

In Vietnam nowadays, consumers can see and hear the news in various media regarding the issues such as dirty and un-safe food, toxic chemicals used in producing and processing food that cause serious health problems. This has led to growing level of concerns for health when consumers buy food daily. Organic food has been introduced to Vietnamese market with the image of clean, safe, and healthy. Many urban Vietnamese have become emerging consumers with higher income levels and better knowledge of organic food. It is expected that when they are more concerned about their health, they are more likely to hold positive attitude toward organic food purchase. The findings from a recent study in Vietnam [3] also showed that health consciousness had a positive impact on

consumers' attitude toward organic meat purchase. Based on the above discussion, the following hypothesis is presented:

Hypothesis 5 (H5). *Health consciousness is positively related to the consumer attitude toward organic food purchase.*

Environmental Concern

It has been suggested that an individual's concern for the environment is fundamental and plays a significant role in pro-environmental behavior, including buying organic food [4]. Although in marketing literature the construct of environmental concern has been investigated since the early 1970s, its definition and measurement vary in previous studies [35]. In a study by Kilbourne and Pickett in 2008 [35], they examined environmental concern at both individual and social levels, relating to abuse of the environment by individual consumers and perceived need for social, political, and legal changes to protect the environment. Based on the literature, in the context of an emerging economy of Vietnam, we focus more on the individual level, and environmental concern (EC) refers to the degree to which an individual is concerned about the environment, the environmental degradation, and how to protect the environment.

Organic food has often been perceived by consumers as being environmentally friendly and less damaging to the environment compared with the conventional food [1,3,16,22]. Buying organic food is often associated with environmental protection and animal welfare [18,22]. Together with HC, EC has been considered a primary factor motivating organic food purchase [8,18,22]. Although the findings from the literature are inconsistent pertaining to the impact of EC as a driving factor of organic food purchase [1], many previous studies in both developed and developing countries have provided empirical evidence to support the positive impact of EC on attitude toward organic food purchase [4,22,34,36].

In recent years, many environmental scandals have happened in Vietnam, raising much concern among consumers pertaining to food safety and pollution issues [37]. It is expected that the more people are concerned about the environment and how to protect it, the more they develop a favorable attitude toward buying organic food—the environmentally friendly products. A recent study on factors influencing organic meat purchase in Vietnam also found that EC was the strongest predictor of attitude toward organic meet purchase [3]. Therefore, the following hypothesis is presented:

Hypothesis 6 (H6). *Environmental concern is positively related to the consumer attitude toward organic food purchase.*

Organic-Label Trust

Consumer trust has been found to have a significant impact on attitudes and behaviors, and it plays the important role in green consumption and green product claims [38]. In the specific context of organic food consumption, consumer trust has been considered to play a powerful role that cannot be ignored [30,39]. However, empirical research on the importance of trust for consumers' purchase of organic food is still limited [21]. Thus, the present study integrated this construct into the research model.

It has been suggested that consumer trust is a delicate issue because it is not easy for consumers to verify whether a product is organic or not even after consumption [30]. Trust can play the role as an effective mechanism of reducing perceived risks, especially when consumers are in a situation of insufficient relevant information and high uncertainty [29]. Previous research has suggested that consumer trust enables more favorable expectations of outcomes and, thereby, a more positive attitude, and mistrust is likely to lead to a less favorable attitude towards buying organic food [21,30].

In the marketplace, consumers evaluate a product relying on cues or signals, and endorsement of signals in the form of an eco-label or certification can bring credibility to consumers [38]. It has been suggested that one of the factors that limit organic food purchase is consumers' lack of trust in organic labels [15]. In this study, we employ the construct of organic-label trust (TR) that refers to the degree of consumer trust in the organic food labeling, operationalized as the level of organic-food labelling characteristics such as trustworthiness, rigorousness in product testing, honesty, and legitimacy [29]. With regards to the organic food market, the certification seal as well as place of origin play a role as indicators, asserting products to be naturally-grown and pesticide-free [29,40]. It is noted that organic food labeling is indeed an important factor that helps create a positive image for organic food [29].

In the literature, trust has been found to be a positive predictor of attitude toward purchase behavior [41]. In the context of organic food, Lee at al. [2] found that trust significantly influenced consumers' attitude toward purchase of organic coffee. In line with this, the positive relationship between consumer trust and attitude toward organic food was also found in a study of Taiwanese consumers by Teng and Wang [30]. In Thailand, the dimension "trust in foreign certifiers" was found to have a significant impact on attitude toward buying organic food [21]. In the context of Vietnam, where many consumers seem still to be confused about whether a product is organic and the organic labels and certifications are genuine as claimed, it is expected that the more consumers trust in organic labeling and certification, the more they have a positive attitude toward organic food purchase. Thus, we present the following hypothesis:

Hypothesis 7 (H7). *Organic-label trust is positively related to attitude toward organic food purchase.*

Perceptions of Self (i.e., Traditional Self and Modern Self)

The important role of self-concept in shaping consumer behaviors has long been investigated in literature. Past research has suggested that consumers seek to buy products to match with their self-concept; however, in the context of organic food consumption, the psychological motivations behind consumer purchase such as self-concept have been neglected [42]. In this study, we examine the role of traditional self and modern self, important and interesting individual difference variables that are specifically associated with the Asian transitional economies [12]. In the context of Asian transitional economies such as Vietnam and China, Nguyen et al. [12] have developed the scale "perceptions of self" including two "self" aspects, traditional self (TS) and modern self (MS), that are considered to coexist in each individual at different levels. In this study, these aspects of self are treated as two separate variables.

According to Nguyen et al. [12], TS refers to "The degree to which an individual's self-concept is consistent with the Confucian norms, values, and beliefs prevalent before economic transition began" [12] (p. 207). In the context of organic food purchase, the construct TS shows potential contribution to organic food purchase. The findings from a study by Thøgersen et al. [43] in two emerging markets found a significant positive correlation between the "tradition" value and attitude toward buying organic food. Their study suggested that for many consumers, organic food was commonly associated with traditional and "natural" way (pesticide-free) of production, and this made them value organic food and form their positive attitude toward organic food purchase. In the context of Vietnam, Le et al. [15] identified three segments of the organic food market, of which the largest segment was "conservatives". Consumers in this segment were characterized as being careful in buying organic food for their family (e.g., paying close attention to label information), valuing traditional values of organic food of "natural" and health benefits, and usually using fresh food. These characteristics are congruent and consistent with the norms, values and beliefs prevalent among consumers holding a high level of TS, such as being cautious when buying new products such as organic food (organic food is still a new concept in Vietnam), preference of using markedly traditional products, and respecting traditional values [12]. The findings from Le at al. [15] showed

that consumers in the "conservatives" segment were interested in and had positive attitude toward organic food. Therefore, we expect that consumers with a high level of TS are more likely to develop a favorable attitude toward buying organic food.

With regard to another aspect of self, MS refers to "The degree to which an individual's self-concept is consistent with the norms, values, and beliefs imported from more developed countries after economic transition began" [12] (p. 207). According to Nguyen et al. [12], consumers holding a high level of MS often belong to the group of younger and higher educated people with higher income. These consumers tend to be more open to new things, such as buying and consuming new and fashionable products, using new and modern distribution channels, and valuing a modern lifestyle and enjoy hedonic life [12]. These characteristics associated with consumers holding a high level of MS seem to be congruent with those of organic food consumers.

The findings from a recent study by Petrescu and Petrescu-Mag in 2015 [8] suggested that organic food was perceived as being fashionable and the image of organic food consumers was often associated with being stylish, trendy, and fancy. Past research has also suggested that organic food is associated with good taste and such attributes as safety, being naturally produced and free or fewer pesticides make consumers feel good and enjoy experience of buying and consuming organic food [8,44]. A recent study in Vietnam by Le et al. in 2019 [15] identified a segment of organic food consumers, namely "trendsetters", who appreciated innovation in food, were open to trying new food, and preferred the convenience. They were relatively young and earned relatively high income. These consumers were interested in and had a positive attitude towards organic food. The characteristics of "trendsetters" seem to be in line with consumers with high level of MS. Based on the above discussion, the following hypotheses are presented.

Hypothesis 8b (H8b). *Traditional self is positively related to organic food purchase intention.*

Hypothesis 8a (H8a). *Modern self is positively related to organic food purchase intention.*

The proposed conceptual framework is presented in Figure 1.

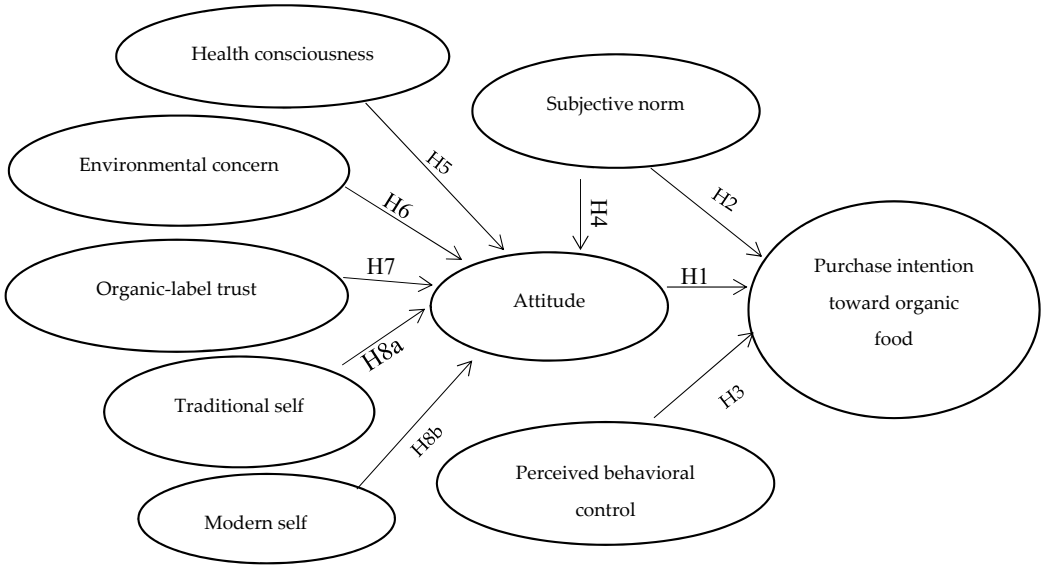

Figure 1. The research model and hypotheses.

3. Research Methodology

3.1. Sample and Data Collection

To achieve our research objectives, we conducted a survey in Hanoi. Hanoi is the capital city of Vietnam, where food safety anxiety among consumers is paramount [24]. The retailing system in Hanoi has been developed considerably toward modernization, with rapid growth of modern distribution outlets such as supermarkets, retail store chains, and online channels where variety of foods including organic food can be found. Hanoi is also an interesting and meaningful location that has attracted many previous studies examining various consumer behaviors, including organic food purchase in the context of an emerging and transitioning economy of Vietnam [3,14,24,45]. In this study, selection of respondents in Hanoi is relevant to ensure the necessary conditions for the occurrence of organic food purchase (e.g., significant number of emerging consumers with higher income and the availability of organic food in the market) [3]. To ensure the common understanding among respondents, the definition of organic food was provided at the beginning of the questionnaire.

In this study, the nonprobability sampling method was employed. To serve our research purpose, the data was collected within three weeks using both paper-based and online surveys, the latter of which accounted for the majority of the delivered questionnaires. The online survey, in Google form, was administered via emails and Facebook groups (e.g., through research team members' school and university alumni groups, and peer groups sharing some common interest in life). After the data screening process, 572 valid questionnaires were used for final analysis. In our sample, there were more females (59.79%) than males (40.21%) that to some extent corresponded to Hanoi's population in terms of higher female percentage [46]. Additionally, this is relevant for this study because although men have been increasingly active in shopping in Vietnam in certain areas, women still remain the key stakeholder in grocery shopping, especially for food items [47]. Our sample covered the range of ages from 18 to 66 with the age average of 29.47, and more than 70% are younger than 35. Nearly 58% of the respondents held a high level of education (holding bachelor degree or above), and nearly 62% earned above the average income with an average monthly income of more than VND 5 million; more than 50% stated to have monthly household income of more than VND 20 million. Our sample's characteristics of skewing toward the younger and well educated consumers are reasonable in the sense that the respondents tend to have better awareness of organic food, its attributes, and the environmental issues in general [16]. Thus, they may be able to provide more meaningful responses in the survey. Table 1 presents demographic profile of our respondents.

Table 1. Demographic profile of respondents (n = 572).

Characteristics		Frequency	% of Total
Gender	Male	230	40.21
	Female	342	59.79
Marital status	Single	314	54.89
	Married	258	45.11
Age group (years)	<25 (18–24)	269	47.03
	25–34	149	26.05
	35–44	68	11.89
	45 and above	86	15.03
Level of education	≥bachelor degree	331	57.87
	<bachelor degree	241	42.13
Monthly personal income	<VND 5,000,000 (≈US$215)	218	38.11
	VND 5,000,000–10,000,000	121	21.15
	VND 10,000,001–20,000,000	174	30.42
	VND 20,000,001–30,000,000	33	5.77
	>VND 30,000,000	26	4.55
Monthly household income	≤VND 10,000,000	53	9.27
	VND 10,000,001–20,000,000	218	38.11
	VND 20,000,001–30,000,000	128	22.38
	>VND 30,000,000	173	30.24

3.2. Measures and Questionnaire Development

In this study, we adapted the scales from previous studies. Specifically, the scales measuring the three antecedents from the TPB (i.e., ATT, SN, and PBC) were adapted from Chang [31] and suggestions from our qualitative study: ATT, SN, and PBC each were measured by three items. Three items measuring PI were adapted from Kareklas et al. [48]. We adapted six items from the HCS of Gould [49] to measure HC. Four items measuring EC were derived and modified from Kilbourne and Pickett [35]'s items measuring individual concern about the environment. The four items measuring organic-label trust were derived from Liang [29], which was based on the eco-label trust scale of Atkinson and Rosenthal [38] and Moussa and Touzani [50]. The 10-item scale measuring perceptions of self (5 items measuring TS and 5 items measuring MS) were adopted from Nguyen et al. [12]. This scale was developed for the specific context of Asian transitional economies and the Vietnamese version of the scale was available for use. All the scale items were scored on a 7-point Likert-type format ranging from "strongly disagree" (1) to "strongly agree" (7).

In our study, the questionnaire was developed based on the scales measuring seven constructs in the research model. In addition, some demographic questions such as gender, marital status, age, education level, occupation, income, and main financial sources were included at the end of the questionnaire. The items originally in English were first translated into Vietnamese and then were translated back into English through the back-and-forth translation process [17]. A small convenience sample of young consumers in the age range of 18 to 35 years old was employed to test the questionnaire for the purpose of making necessary changes regarding the content understanding and the format of the questionnaire.

4. Results

Since the scales used in our study are established in the literature, we assessed the reliability and validity of the scales through performing Cronbach's alpha and confirmatory factor analysis (CFA). After that, structural equation modeling (SEM) was employed to test the proposed research model and hypotheses.

4.1. Scale Assessment

4.1.1. Confirmatory Factor Analysis

We first performed CFA for each scale measuring the constructs in our model. The results showed satisfactory fit indices for the measurement models. After that, we analyzed the full measurement model including all items as indicator variables and nine constructs as latent variables (i.e., seven exogenous variables and two endogenous variables). Some items were dropped since several undesirable values of standardized residual covariance associated with them were larger than 2.5 [51]. Specifically, one item from each scale HC, TS, MS, ATT, and PBC was eliminated. The results of CFA, using AMOS21 software, exhibited a good level of fit: χ^2 (391) = 856.597; CMIN/df = 2.191, $p < 0.01$; GFI = 0.911; AGFI = 0.887; CFI = 0.951; TLI = 0.941; RMR = 0.074 and RMSEA = 0.046. All t-tests of the observed variables were significant at the $p < 0.001$ level.

4.1.2. Cronbach's Alpha

To test the scale reliability, the Cronbach's alpha was calculated for each scale used in our study. The results demonstrated a good level of reliability with all the coefficient alphas exceeding the cut-off value of 0.70 [51]. We also reassessed the scale reliability after confirmatory analyses by examining estimated loadings for each indicator and assessing composite reliability (CR) and average variance extracted measure (AVE) [52]. The results demonstrated that all factor loadings were significant at the $p < 0.01$ level. All the CRs and AVEs were above the cut-off values of 0.70 and 0.50, respectively [51]. The results of final measurement model testing are presented in Table 2.

Table 2. Final measurement model testing results.

Constructs and Measurement Items [a]	Standardized Factor Loadings	Cronbach's Alpha	CR [b]	AVE [c]
Health consciousness (HC)		0.866	0.853	0.540
I am very self-conscious about my health	0.836			
I am alert to changes in my health	0.807			
I am usually aware of my health	0.677			
I take responsibility for the state of my health	0.725			
I am aware of the state of my health as I go through the day	0.604			
Environmental concern (EC)		0.857	0.861	0.608
I am very concerned about the environment in Vietnam	0.697			
My main concern is about the environmental degradation in Vietnam	0.827			
I am very concerned about how to protect the environment in Vietnam	0.832			
I often think about helping protect the environment in Vietnam	0.756			
Organic-label trust (TR)		0.882	0.884	0.657
The characteristics of the organic food labeling are trustworthy	0.772			
The characteristics of the organic food labeling are rigorous in production and inspection	0.882			
The characteristics of the organic food labeling are honest	0.859			
The characteristics of the organic food labeling are in compliance with the law	0.719			
Traditional self (TS)		0.799	0.815	0.525
I always try to lead a thrifty life	0.696			
I feel it necessary to be cautious when buying and using new products	0.769			
I prefer to use markedly traditional products and services	0.664			
For me, it is important to observe and preserve traditional values in our social relationships	0.764			
Modern self (MS)		0.812	0.810	0.520
I like people who dress in modern and fashionable ways	0.619			
I like the modern lifestyle	0.654			
I like to try new products and services	0.832			
I think changes add excitement to one's life	0.759			
Attitude (ATT)		0.895	0.895	0.810
Buying organic food is a right choice	0.899			
Buying organic food can bring many benefits	0.901			
Subjective norms (SN)		0.826	0.865	0.684
My family buy organic food	0.729			
My friends and colleagues think that I should buy organic food	0.782			
People who are important to me think that using organic food is good for health	0.953			
Perceived behavioral control (PBC)		0.868	0.869	0.768
I believe that I have complete control of buying organic food	0.879			
For me to buy organic food is easy	0.874			
Purchase intention (PI)		0.851	0.822	0.608
The next time I shop for vegetables and/or fruits, I am very likely to choose organic vegetables and/ or fruits	0.787			
The next time when I shop for meat, I am very likely to choose organic meat	0.720			
Whenever I can, I will have the intention of buying organic food	0.828			

[a] Items remaining after CFA; [b] Composite reliability; [c] Average variance extracted.

To check the potential concern of common method bias in using a survey, we conducted exploratory factor analysis on the 31 remaining items, measuring the antecedents of PI. The results proved eight factors, which explain 73.248% of the variance with the first factor accounted for 11.228 per cent and the last one accounted for 6.466%. Since no single factor explained most of the variance, common method bias was not a threat in this study [2,53].

4.2. The Structural Equation Model and Hypothesis Testing

4.2.1. Correlations among the Constructs

Before testing the research model and the proposed hypotheses, we checked correlations among the constructs used in this study. Table 3 shows no serious multicollinearity problem and in general the correlation coefficients are significant and in the expected direction. The highest correlation value is 0.639 ($p < 0.01$) for the correlation between ATT and PI toward buying organic food. We also ran discriminant validity test using Fornell–Larcker criterion [51,52]. Specifically, the discriminant validity is established if the square root of the AVE of each construct is larger than its highest correlation with any other constructs. As indicated in Table 3, the results confirmed the discriminant validity of all the constructs in our model.

Table 3. Descriptive statistics, correlation matrix and discriminant validity.

	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. HC	5.469	1.069	**0.735**								
2. EC	5.151	1.175	0.392 **	**0.779**							
3. TR	4.460	1.211	0.194 **	0.16 **	**0.811**						
4. TS	5.121	0.994	0.44 **	0.40 **	0.21 **	**0.725**					
5. MS	5.305	1.051	0.195 **	0.333 **	0.17 **	0.208 **	**0.721**				
6. ATT	5.146	1.237	0.327 **	0.312 **	0.275 **	0.391 **	0.363 **	**0.90**			
7. SN	4.802	1.324	0.269 **	0.25 **	0.18 **	0.341 **	0.204 **	0.553 **	**0.827**		
8. PBC	4.659	1.393	0.26 **	0.199 **	0.143 **	0.225 **	0.220 **	0.364 **	0.375 **	**0.876**	
9. PI	4.693	1.329	0.345 **	0.302 **	0.232 **	0.299 **	284 **	0.573 **	0.578 **	0.528 **	**0.779**

** Correlation is significant at the $p < 0.01$ level (two-tailed). The diagonal elements (in bold): The square root of the AVE of each construct.

4.2.2. Structural Path Analysis

The results of the structural equation analysis indicated that the model achieved a good level of fit: χ^2 (395) = 776.371; CMIN/df = 1.965, $p < 0.01$; GFI = 0.919; AGFI = 0.898; CFI = 0.959; TLI = 0.952; RMR = 0.072 and RMSEA = 0.041. The R^2 for ATT was 0.566 and the R^2 for PI was 0.666. These showed evidence that the model provided considerable insights with regard to ATT and PI. Nine hypotheses were tested and eight of the nine hypothesized paths were statistically significant and in the predicted direction, while one failed to obtain support from the data.

With regard to the direct antecedents of intention to purchase organic food, as expected, ATT, SN and PBC were found to be significant predictors of PI (β_1 = 0.389, t-value = 7.514; γ_1 = 0.250, t-value = 4.811; and γ_2 =.384, t-value = 9.095, respectively), of which ATT showed the greatest impact magnitude among the three antecedents. Thus, H1, H2, and H3 received support from the data.

Concerning the proposed predictors of ATT, six hypothesized paths were estimated. H4 proposed that SN was positively related to ATT, and the results provided evidence to support this hypothesis (γ_3 = 0.480, t-value = 10.220). As predicted, H5 also received support from the data (γ_4 = 0.114, t-value = 2.489), confirming the positive effect of HC on ATT. Unlike our expectation; however, the path from EC to ATT was not statistically significant (γ_5 = 0.033, t-value = 0.694). Therefore, H6 was not supported. Regarding the impact of TR on ATT, the path coefficient was positive and significant (γ_6 = 0.099, t-value = 2.709), lending support for H7.

With regard to the impact of perceptions of self (i.e., TS and MS) on ATT, the results confirmed that both TS and MS were significantly positive predictors of ATT (γ_7 = 0.135, t-value = 2.598, and γ_7 = 0.253, t-value = 5.627, respectively). Thus, H8a and H8b were supported. Table 4 presents the results

of the model regarding the standardized path coefficients and the associated t-values for each of the hypothesized paths.

Table 4. Estimates of structural equation coefficients.

Hypotheses	Structural Path	Standardized Estimate	*p* Value
H1	ATT–PI	0.389	<0.01 *
H2	SN–PI	0.384	<0.01 *
H3	PBC–PI	0.250	<0.01 *
H4	SN–ATT	0.480	<0.01 *
H5	HC–ATT	0.114	<0.05 *
H6	EC–ATT	0.033	>0.05
H7	TR–ATT	0.099	<0.01 *
H8a	TS–ATT	0.135	<0.01 *
H8b	MS–ATT	0.253	<0.01 *

* The hypothesis is supported.

5. Discussion and Implications

This study aims to investigate the impact of several antecedents, both direct and indirect ones on purchase intention toward organic food among urban Vietnamese consumers. In our study, nine hypotheses were tested and eight of them received support from the data. Specifically, the present study confirms previous findings pertaining to the significant impact of three variables from the TPB model on PI. Among three direct predictors of PI, attitude toward organic food purchase was found to have the strongest impact on organic food purchase intention, followed by SN, and then by PBC.

In the present study, five antecedents of ATT toward organic food purchase were examined. As hypothesized, SN was found to be a significant predictor of ATT. This is consistent with the findings from previous studies in the context of organic food purchase [9,20]. As our expectation, HC was confirmed as a significant factor influencing Vietnamese consumers' attitude toward organic food purchase, and trust in organic labeling significantly contributed to favorable attitude toward buying organic food among urban Vietnamese consumers. However, unlike our expectation, EC was not significantly related to ATT in this study. This is inconsistent with the findings from many previous studies including those in the context of organic food purchase in Vietnam [3]. However, since the findings pertaining to the impact of EC has been mixed in the literature [1], the irrelevant role of EC is in line with the findings from some past researches [16,54,55]. This is also in line with suggestions from several previous studies that consumers in developing countries like Vietnam should be less concerned about environmental issues than in developed countries since the basic issues such as food safety and benefits to health are more important concerns when purchasing organic food in less developed markets [56]. This may change along with the socio-economic development process of the country, and the role of EC in the context of organic food may need further investigation.

With regard to the impact of perceptions of self, as expectation, our findings showed that both traditional self and modern self were significantly related to ATT, of which MS was found to have a stronger prediction power. This suggests that those consumers holding higher degree of either traditional self or modern self tend to have a more favorable attitude toward organic food purchase. However, traditional-self consumers may develop their favorable attitude toward organic food purchase based on the characteristics associated with organic food that are different from those congruent with the modern-self consumers. From a theoretical perspective, the present study enriches our understanding of factors driving an important consumption behavior, which is organic food purchase in Vietnam—an emerging economy in Southeast Asia. The most important findings of this study perhaps are pertaining to the significant impact of traditional self and modern self on ATT toward organic food purchase in the context of an Asian emerging and transitional economy.

From a practical perspective, the findings from this study provide several managerial implications regarding developing effective and relevant marketing strategies with the purpose of encouraging

organic food consumption. Firstly, the present study provides useful information about the characteristics of organic consumers. These insights help organic food marketers better understand the variables as bases for market segmentation and target relevant segments. In this sense, traditional self, modern self, and health consciousness are among the prime criteria for organic food market segmentation. In addition, based on the research findings, firms can develop appropriate marketing strategies. Specifically, marketing activities should be employed to effectively build a favorable attitude and gain positive social influence toward buying organic food, as well as enhance consumers' perception of purchase control. Developing favorable social influence from family, friends, colleagues, and surroundings toward buying organic food should receive a significant attention, since it has a strong impact not only on consumers' purchase intention but also on attitude toward buying organic food. To develop a more favorable attitude toward buying organic food, firms can consider using a variety of ways. For example, firms' products should convey health benefits and useful information attached to the label and certification to gain consumer trust. The product packaging should use appropriate design and material to emphasize its healthy attributes and also convey the image of fashion and a modern life style. Sufficient and relevant information should be provided on the package to facilitate the purchase decision process of the "traditional consumers" who are often cautious in purchasing new products such as organic ones.

Since organic food is still a new concept in Vietnam, effective communication campaigns should be designed to raise consumers' knowledge of organic food and its benefits. Firms can collaborate with relevant organizations and associations to organize organic food exhibitions, contests, and other activities to promote organic food attributes and help consumers recognize the trusted organic labels and certifications. In addition, firms should pay more attention to the attributes that appeal to "traditional consumers", like natural production method, or to "modern consumers", such as unique design packaging, enjoyable taste, and trendy and modern lifestyle. The firm's organic food ambassador should also be carefully selected for advertising campaigns to represent the image that is congruent with the target segment (e.g., modern or traditional consumers). Although the present study's findings do not support the significant impact of environmental concern on attitude, the findings from prior research are mixed. Firms may want to promote also the green side of organic food with the purpose of building a multi-benefit image associated with organic food purchase, and enhancing consumers' pro-environmental responsibility.

Implications for policy makers can also be drawn pertaining to developing relevant policies to support production and distribution of organic food, and educate consumers to engage more in organic food consumption and to become smarter and more responsible ones. For example, communication programs and activities should be developed to promote the concept of organic food to consumers and highlight the positive features associated with organic food such as health and environmental benefits. In addition, a national policy of regulating the use of "organic" terms and labels is needed. Currently, Vietnam has implemented the TCVN11041 [57] as the national certification for organic food production. However, it has no brand identity and only supervises whether manufacturers can call their products organic. Other certification bodies such as American's USDA or European's BIO can be recognized easily with standardized logos printed on the products' packaging. It would be useful to improve TCVN11041 to the same level of other international organic certificates to reduce confusion and gain consumer trust in organic food.

6. Conclusions and Future Research Directions

This study is among the first attempts to examine the antecedents of attitude toward organic food purchase in Vietnam. Among the five addressed factors, health consciousness has a positive impact on attitude but environment concern has not. This result is supported by previous findings pertaining to the specific characteristics of less developed countries like Vietnam [16,54,55]. Furthermore, the most important finding of this study is the significant effect of modern and tradition self on attitude. While consumers scoring high on either modern self or traditional self tend to develop a favorable

attitude toward the purchase of organic food, each of which is based on different subsets of a product's characteristics than the other. These findings extend our knowledge about the factors that influence organic food product purchase in the context of a Southeast Asian emerging economy, and suggest various valid implications for businesses and policy makers alike on how to promote the consumption and production of organic food products.

There are several limitations associated with this study that can be avenues for future research. First, future studies may want to employ a combination of qualitative and quantitative research approaches to investigate more deeply the purchase behavior toward organic food and its antecedents in Vietnam, since it is still a new emerging phenomenon and the knowledge of consumers regarding organic food is still limited. Second, the limitation regarding sampling issue should be improved in future research. A more representative sample drawn from several big cities throughout Vietnam would be desirable. Next, future studies may want to develop a more comprehensive research framework incorporating also the construct of actual purchase behavior and some mediators and/or moderators, using different theoretical perspectives. Conducting cross-cultural studies between Vietnam and some countries that are different in terms of culture and level of economic development would be interesting and meaningful for finding comparisons. By doing so, it could significantly enhance our understanding of organic food consumption behaviors.

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