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Factors Affecting Intention to Buy Organic Food after the Covid-19 Pandemic: Case of Vietnamese Customers in Higher Education

Ly Ngo Linh[1]*, Duy Tran Minh[2]*

[1] Department of Business Administration, Thu Dau Mot University, Binh Duong Province, Vietnam

[2] Department of Business Administration, Sai Gon University, HCM City, Vietnam

Abstract: This study investigates consumers' intention to purchase organic foods in Vietnam after social distancing because of the COVID-19 pandemic. Furthermore, we established and explained the relationship between the factor "perceived value" and buying organic food intentions along with the lens of TPB. The sample included 362 MBA students from three prominent universities in Ho Chi Minh. Latent structural equation modeling (SEM) was applied to analyze this reliability and confirm these relationships. The results stated that factors "age" and "perceived value," including functional, economic, social, and emotional value, have effects on "subjective norms" and "attitude toward buying organic food." With "perceived behavioral control," these factors had a positive impact on the purchase intention for organic food. The study's originality extends TPB to explain intention in the organic food field with two new constructs, "age" and "perceived value." Because the intention factor had a strong positive impact on purchasing behavior, results help marketers and managers have a sustainable policy to encourage people to buy organic foods during and post-pandemic.

Keywords: planned behavior theory, organic food, perceived value, customer intention.

新冠肺炎大流行后影响购买有机食品意愿的因素：越南高等教育客户案例

摘要：本研究调查了越南消费者在因新冠肺炎大流行而保持社交距离后购买有机食品的意愿。此外，我们利用城规会的视角，建立并解释了“感知价值”因素与购买有机食品意图之间的关系。样本包括来自胡志明市三所著名大学的 362 名工商管理硕士学生。潜在结构方程模型(扫描电镜)用于分析这种可靠性并确认这些关系。结果表明，“年龄”和“感知价值”因素，包括功能、经济、社会和情感价值，对“主观规范”和“购买有机食品的态度”有影响。通过“感知行为控制”，这些因素对有机食品的购买意愿产生了积极影响。该研究的独创性扩展了城规会，以“年龄”和“感知价值”两个新结构来解释有机食品领域的意图。由于意向因素对购买行为产生了强烈的积极影响，因此结果有助于营销人员和经理制定可持续的政策，以鼓励人们在大流行期间和大流行后购买有机食品。

关键词：计划行为理论、有机食品、感知价值、顾客意图。

1. Introduction

Food that is toxic and contains residues of antibiotics, pesticides, and genetic adjustments is dangerous and is a cause of poisoning to consumers' health [1]. Meanwhile, organic food is generally considered more nutritious, environmentally friendly, safer, and healthier [1]. It does not use pesticides, fertilizers, or genetically modified to ensure the product's integrity [2]. Winter and Davis [3] determined that organic food made by natural systems reduces pollution and enhances safety for the environment. Therefore, the food industry's organic market has recently experienced significant growth [4]. Consumers are more likely to pay higher prices for the

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About the authors: Ly Ngo Linh, Department of Business Administration, Thu Dau Mot University, Binh Duong Province, Vietnam; Duy Tran Minh, Department of Business Administration, Sai Gon University, HCM City, Vietnam

Corresponding authors Ly Ngo Linh, lynl@tdmu.edu.vn; Duy Tran Minh, tmduy@sgu.edu.vn

quality and taste of organic food and its safety certification [5].

Additionally, organic farming can be a viable road to producing adequate healthy food for today's large population and mitigating harmful foods [6]. In some cases, the taste of organic and conventional food products is no different, such as in the orange juice case [2, 7]. However, Young et al. [8] stated that organic food has a higher healthful value than conventional food. Growing and consuming organic food is an excellent method for removing risky chemicals from food to better care for people's health [9, 10].

Notably, it is considered as an organic food trend among consumers worldwide. Primarily because of the COVID-19 pandemic, consumers have paid more attention to their health care [11], especially regarding eating nutritious food to enhance their immune system [12]. Therefore, there might be specific changes in customers' intention to buy organic food because of the pandemic's influence [11-13].

Competition among organic food organizations is significantly challenging [14]. Therefore, marketers desire to know why and how people choose organic food for their daily meals. From a marketing perspective, the idea of reasoned action theory (TRA) [15] and the idea of planned behavior theory (TPB) [16] have provided a deeper knowledge of intentions and behavior. In other words, TPB is fundamental for many pieces of research regarding customers' intentions and purchasing actions. Accordingly, the marketer can predict the organic food buying intention based on a person's attitudes, subjective norms, and perceived control behavior [17]. The attitude toward a behavior is the most widely believed to affect buying intention. The information on the labels, knowledge, and belief affect attitude toward behavior. This attitude affects the intent to purchase organic foods [1, 18]. A positive attitude can increase purchase intention [19]. Similarly, the subjective norm has also received the concerns of lots of researchers as an influential driver factor for creating buying intention [20]. Additionally, Dean et al. [21] stated that perceived control could predict the purchasing intent for organic apples.

Besides the TPB model, many other factors influence the choice of organic food, such as environmentally friendly behavior and perceived consequences of choosing organic food on human health, environment, and animal welfare [22]. Furthermore, such selection may also depend on the perceived values of customers [23], their education level [24-26] and age [17].

The literature review shows little research on buying intentions with organic foods in Vietnam. Thao [27] argued that attitude, personal norms, knowledge, quality, prices, and safety affect the intention to buy organic vegetables, while green belief influences the choice to purchase organic cosmetics [28]. Notably, Pham et al. [29] examined how various elements can facilitate or hinder budding consumers' buying intention toward organic food; for example, safety and healthy food concerns and television play a vital role in shaping attitudes toward such food. Besides, these authors also showed that perceived barriers (i.e., inability, poor labeling, high price, and additional time) significantly hinder attitudes and buying intentions for organic foods.

Besides lacking studies in Vietnam, the previous studies also ignored a construct that has received more attention in marketing: customer-perceived value. This lack of customer-perceived value is a significant problem from a marketing perspective. Because this factor is essential in predicting general purchasing behavior [30], with TPB, it might help the organization, and its managers have a broader view of the drivers of customers' intention to predict their buying action more precisely. Significantly, because of the impact of COVID-19, the perceived value might change the purchasing preferences of the customers with more care about health than before [31, 32].

Along with the existence of dirty, unsafe, and poor-quality food in Vietnam recently, organic food demands are increasing day by day. According to Q&Me Vietnam Market Research, 80% of respondents know about organic food, and 70% are interested in organic products. Those who know and are interested in organic products include people with incomes of 20 million VND or more, aged 31–39, and those with children. However, 51% of people who live in Ho Chi Minh City do not use organic foods, and only 39% buy such products one time per week. Although consumption is still low, Vietnam is a country with a large population and increasing per capita income. Vietnam is considered a potential market, especially when food safety is at an alarming level today.

In this study, we collected data from customers with an elevated level of education at University of Economics Ho Chi Minh City. The data were collected from January to March 2022, when students returned to school after social distancing because of COVID-19. There are three reasons for the sample choice. First, some studies have stated differences in educational adoption in several contexts regarding the intention and behavior of organic food consumption [24-26]. Second, the post-graduate students have a certain education level, thereby understanding organic products. Third, these students come from several professional fields, which suits the diversity of industries in Vietnam.

2. Theory

2.1. Theoretical Background

In 1976, Ajzen and Fishbein [15] introduced the TRA theory, which has been improved continually. TRA showed that *behavioral intention* is the best-predicted factor for *behavior*. This theory presented

customers' behavioral intentions are impacted by *attitudes* and *subjective norms* [15]. The *attitudes* are the result of outcomes perceived as satisfaction or dissatisfaction. *Subjective norms* might be measured by referring to people who are happy or not when customers buy products (i.e., their parents, children, friends) [15]. The firmer the customer's belief in others, the higher the impact of others' ideas on the buyer's behavior.

According to the TRA, attitudes and subjective norms do not affect buying behavior directly; they explain the reason people have an intention to buy. In turn, this intention will affect a specific behavior. However, in many cases, the customer has solid references and attitudes but does not adopt a purchase behavior. In 1991, Ajzen [16] improved TRA by adding a new construct, called *perceived behavioral control*, and this theory was developed to become TPB. This new factor refers to what limits the behavior of the customer. For example, the control factor might include resources such as knowledge, money, and time [16]. Therefore, TPB established the relationship that attitudes, subjective norms, and behavioral control perception change the intention.

2.1.1. Attitude toward Behavior

This concept refers to evaluating an individual as having advantages or disadvantages in a behavior. People adopt a specific behavior if they have a positive attitude toward behavioral performance. For example, an attitude toward purchasing organic food behavior is an advantage initial to encouraging organic food buying intention [33]. A clearer attitude toward behavior might lead to a stronger will to adopt a behavior.

2.1.2. Subjective Norms

This concept is the strain from a community relationship that influences people to behave in a particular way [33]. Subjective norms are the result of compliance motivation and normative belief. Conversely, compliance motivation refers to how individuals want to conform to others' opinions [16]. Normative beliefs refer to the perception of people of how others wish this individual to adopt or do not adopt an action in each situation.

2.1.3. Perceived Behavioral Control

This construct refers to the level of control a person perceives through conducting a plan for action [19]. This makes an individual distinct in the conducting of a special behavior or not [16]. This factor is the result of perceived power along with control beliefs. Control beliefs might be thought of as an individual's belief in the existence of several elements that might promote or hinder the execution of differential behavior (e.g., money, opportunity, time, and knowledge consumption). At the same time, perceived power indicates an individual's estimation of the effect of these elements on facilitating or hindering a particular condition [16]. Since individuals think that they have money, time, and ability to do something, their intention to conduct a particular action will be increased. Conversely, if they perceive barriers to engaging in an activity, they might not commit to it [34].

2.1.4. Buying Intention

The intent is a cognitive expression of an individual's willingness to conduct a particular action. In TPB theory, the intention is the strongest predictor of behavior [16]. [35] stated that buyers who plan to buy certain goods might have more probability of actual purchases than ones with no intention. Therefore, consumers' intention to purchase organic foods is the first step in the growing demand for using them.

2.1.5. Customer-Perceived Value

This concept has increasingly received the interest of marketers since it plays a vital part in predicting general purchasing acts. Customers' perceived value started to become a dominant trait of business in the 1990s until nowadays [30]. Perceived value has many definitions, but the widely used one is the definition of Sweeney and Soutar [36]. These authors have described this concept into function, economic, social, and emotional value. Functional value is the benefit consumers perceive when making a choice that will result in actual outcomes for the customer. Economic value is participation in the exchange of money to acquire material or immaterial items. The social value indicates this person’s perception of appreciation from others. Emotional value relates to the satisfaction and feeling of customers about their buying decision.

3. Research Hypothesis and Methodology

Purchase intentions for organic foods also have some differences in socio-demographics. For example, Aertsens et al. [17] showed that some authors had found a positive relationship between education and organic food buying intention. [37] showed that a higher educational background is associated with being ready to pay more for organic goods. Specifically, [38] have shown that more educated consumers often purchase fresh eggs and milk. This phenomenon can be explained by the fact that educational attainment may lead to more effective care about food safety [39] and make them desire to understand the production process of organic foods. As a result, it enhances the probability of using them [40]. In other words, education is the dominant aspect of socio-demographic factors that can be a durable predictor of perceived

health problems related to food consumption [41] and significantly affect the purchase of organic foods intention.

Especially with the negative impact of coronavirus on the health of vulnerable individuals, people have switched their focus from treatment to preventive action. Accordingly, a robust immune system will better help people against the virus's effects [11]. That's why under the COVID-19 pandemic, people have become more concerned about eating [12]. This might impact their intention and behavior in selecting organic goods [1, 11, 13]. From the above evidence, this research wishes to evaluate the idea of the TPB model in the Vietnamese market context with high education-level customers in the post-Covid-19 pandemic.

Although there are few studies on organic food purchasing in Vietnam, there are many types of research about it worldwide, such as in Taiwan, America, Pakistan, India, and Croatia. By applying TPB, almost all authors agreed that subjective norms, attitudes, and perceived control behavior leverage the intention to buy off the customer [1, 19, 20, 42-44]. Thus, our detailed arguments will be established as follows.

If a person has a higher clear attitude toward behavior, they will have a stronger intention to act [45, 46]. Lee et al. [34] claimed that fresh coffee is healthier, fresher, and more reliable because it is certified and produced under sustainable conditions. This favorable attitude will make them buy those products. [47] conducted research on the motivation of organic food selection with 1,283 adults in Norway; Chen [19] conducted research on 470 people aged 20-22 in Taiwan and had the same conclusion that the buying attitude toward organic foods significantly increased their plans to buy them. Recent research by Ham et al. [42] with 411 responses from elementary household shoppers in Croatia and Singh and Verma [48] with a survey sample collected from 611 Indian consumers also confirmed that there is a positive influence of attitude on the intention to buy organic products. Thus, it is possible to see a relationship between consumers' attitudes and buying intentions. In the organic food field of this research, we assume that the attitudinal factor positively affects customers' intention to buy them.

Hypothesis 1: Attitude towards behavior (AT) positively influences the intention to buy organic food (BI).

The perception of people about the pressure from others and networks put on them when they behave in a specific way is called a subjective norm by Ajzen and Fishbein [15]. It is considered an essential factor of the social effect on behavioral intention [33]. Hill and Lynchehaun [7] stated that the trend toward healthy eating leads people to care more about organic food. Chen [19] and Lee et al. [34] have demonstrated that the subjective norm strongly correlates with the intention. Some earlier research has also shown a positive link between consumers' subjective norms and intention to buy organic products. Typically, [21] also confirmed that the subjective norm is a significant predictor of purchase intention for fresh tomatoes and processed organic ketchup.

In contrast, Al-Swidi et al. [20] demonstrated that the subjective norm significantly reduces the link between attitude and purchase intention and the link between perceived behavioral control and purchase intention for organic food. However, subjective norms also significantly affect attitudes toward behavior and still positively affect the intention to buy organic foods. Therefore, hypothesis two is put forward below:

Hypothesis 2: Subjective norm (SN) positively influences the intention to buy organic food (BI).

The concept of customer-perceived behavioral control (PBC) refers to the degree of regulation perception that a person is likely to perform an action [49]. This implies consumers' perception of available resources. For example, the ability to pay for the fresh product because it is often higher cost than conventional food [20]; or availability because it's in the exclusive stores [46]. Thøgersen [50] argues that PCB is formed by cognitive abilities that attribute income or financial resources as an essential determinant of willingness to buy organic foods. Besides, PCB is stated as a factor that predicts healthcare action [34, 51]. It significantly enhances the intention to buy organic foods [19]. Therefore, it is possible to see a positive relationship between this construct and consumers' intention to purchase organic food. Thus, the third hypothesis is established:

Hypothesis 3: Perceived behavioral control (PBC) positively affects the intention to buy organic food (BI).

Customer perceived value has received a lot of concerns from marketers because it plays a vital role in predicting general purchasing behavior, provides insights into consumer behavior, and illustrates an essential role in the making decision process of buyers. Yadav and Pathak [52] showed a positive relationship between customer-perceived value and buying behavior toward green foods. [53] analyzed perceived value and smoking-related factors. The findings show that five dimensions, social, emotional, functional, cognitive, and conditioned value, are related to consumers' purchasing decisions. More specifically, the functional value was found to have the most substantial influence on consumer choice. Kim and Chung [43] showed that the perception of the benefits of using organic food would make people plan to buy it [1, 42]. At the same time, the social value was most strongly associated with product type choice and is a crucial motivation to use green foods [54]. The perception about healthcare and environmental care positively affects this motivation [55]. Jamrozy and Lawonk [30] showed that emotional value strongly influences the

intention to buy ecotourism because they want to appeal to a unique lifestyle.

However, previous studies do not know how perceived value affects the intention to buy. Under the TBP theory lens, this research argues that an individual perceives a product value might influence their intention, subjective norms, perceived behavioral control, and attitude. To offer these arguments, we see that perceived value also affects the customer's attitude when they make final purchasing decisions in bitcoin markets [56]. And perceived value significantly affects the attitude formation in repeated fish consumption, which is explained by health and monetary value [57]. In organic foods, a few recent studies have also shown perceived value's effects on buying intention. This concept is also related to the nutrients, safety, and flavor contained in the products. Consumers recognize the different nutritional benefits of organic food and are sometimes willing to pay a higher fee. It's a cost-benefit relationship, and the price isn't a barrier to buying this food [58]. In other words, perceived value is a significant factor influencing the factors of TBP in organic food fields [59]. Therefore, the H4 hypothesis is developed:

Hypothesis 4: Consumer perceived value has positive effects on the (a) attitude toward buying organic food, (b) subjective norms, (c) perceived behavioral control, and (d) intention to buy organic food.

3.1. Participants

The sample comprised students from three prominent universities in Ho Chi Minh, Vietnam. All the respondents were studying in an executive MBA program (part-time). The selected sample was chosen considering that respondents with higher levels of education would be more acquainted with and aware of organic food [20]. By employing random sampling, both self-administered and online questionnaires were distributed. Consequently, 400 questionnaires were sent in total, and 381 answers were received; therefore, the response rate was 95.25%.

3.2. Measures

The items of the constructs adopt a seven-point Likert scale that ranges from 1 (totally disagree) to 7 (totally agree). There were five questions about individual demographic variables, including gender, age, marital status, and income level.

Attitude toward buying organic food (AT) was measured using an 8-item scale designed by [20, 60, 61]. Example items included "I prefer organic food because it is processed without any chemicals." and "It is exciting for me to buy organic food." Cronbach's α turned out to be 0.904.

Subjective norms (SN) were measured by a 4-item scale designed by Al-Swidi et al. [20]. Example items included "The trend of buying organic food among people around me is increasing." and "People around me generally believe that health should use organic food." Cronbach's α turned out to be 0.790.

Perceived behavioral control (PBC) was measured using a 6-item scale designed by [20, 21, 62]. Example items included "I can take the decision independently to buy organic food." and "I have the financial capability to buy organic food." Cronbach's α turned out to be 0.844.

Intention to buy organic food (BI) was measured by a 4-item scale designed by [1, 19, 20]. Example items included "I would look for specialty shops to buy organic food" and "I am willing to buy organic food in the future." Cronbach's α turned out to be 0.823.

Perceived value was measured using an 18-item scale developed by Sweeney and Soutar [36] and Curvelo et al. [58]. This scale includes four dimensions such as (1) Emotional value (EM – 6 items), (2) Economic value (EC – 4 items), (3) Functional value (FN – 5 items), and (4) Social value (SC – 3 items). Example items included "Consuming organic food helps me feel socially accepted" and "Organic food has an acceptable safety standard." Cronbach's α turned, respectively, to be 0.881, 0.835, 0.851, and 0.897.

All scales used in this study were originally in English and adapted from prior research. We used the translation-back-translation procedure suggested by Brislin [63] to translate these English items into Vietnamese. To ensure the meaning was not changed, we translated this questionnaire version back to English and compared the before and after the English version. This systematic translation approach was chosen because it guarantees the equivalence of constructs rather than verbatim correspondence between the original English and Vietnamese. Moreover, to make the questionnaire shorter and easier to comprehend, some of these items were slightly rephrased to improve the wording.

Several organic food and marketing research experts were consulted to ensure that each item referred to each construct's critical meaning. The Cronbach's α for each scale displayed a high internal consistency (see the results see below). Therefore, it can be concluded that the participants could highly apprehend each construct's concept; all scales used in our research were suited well to the Vietnamese context.

3.3. Statistical Analysis Procedure

Firstly, to examine the reliability and convergent validity, SPSS 22.0 was implemented to conduct Cronbach's α test and exploratory factor analysis (EFA). Subsequently, to assess the hypotheses, the structural equation modeling (SEM) approach was applied. The measurement model was evaluated before examining the structural model. Then, to demonstrate content validity, convergent, and discriminant validity

in the measurement model, AMOS 22.0 was used to perform confirmatory factor analysis (CFA). Finally, we assessed the hypotheses and other relationships by examining the structural model.

4. Results and Discussion

4.1. Characteristics of the Sample

This research used both survey-type and online questionnaires, resulting in a sample of 381 organic food consumers. After checking missing values and educational levels to ensure that the consumers in this study were studying to obtain a Master's degree, it ended up with 362 valid cases, with 190 females (52.5 percent) and 172 males (47.5 percent). Regarding the age group, the most common age was between 22 and 26 years old, with 146 (40.3 percent); the second age was between 27 and 31 years old, totaling 120 (33.1 percent). The most frequent marriage status was married, 207 (57.2 percent). Regarding monthly income, the most common income was between 10 and 20 million per month, with 195 (53.9 percent); the second income was more than twenty million per month, with 78 (21.5 percent).

4.2. The Measurement Model Results

Conducting Cronbach's α test, internal reliability results, which ranged from 0.79 to 0.90, were higher than 0.70, as recommended [64]. Unfortunately, item AT2 ("I prefer organic food because it tastes better than non-organic food") had an item-total correlation value of 0.3, and Cronbach's α of the total scale would be increased if this item were deleted. Thus, item AT2 did not correlate very well with the overall scale, so it was dropped in this step.

We conducted EFA for the independent constructs by using the method of principal axis factoring and varimax, such as emotional value (EM), economic value (EC), functional value (FN), social value (SC), attitude toward buying organic food (AT), subjective norms (SN) and perceived behavioral control (PBC). Some items such as PCB1 ("I can take the decision independently to buy organic food"), EM6 ("I feel calm regarding the consumption of organic food"), and EC4 ("Organic food is cheap compared to other products"), loaded on multiple factors with high values. Hence, we eliminated these from the analysis. The KMO index was 0.73. Using Kaiser's criterion (eigenvalues > 1), seven factors were extracted. The total explained variance of 70.39 percent. Other items were classified as qualified as recommended [65].

4.2.1. Goodness-of-Fit Index and Content Validity

Regarding the goodness-of-fit index, we used various measures such as χ^2 = 1307, df = 519; p = 0.000; CMIN/df = 2.519; TLI = 0.896; CFI = 0.909; GFI = 0.883; AGFI = 0.797; SRMR = 0.084; RMSEA = 0.065. The combination of these values indicated that the measurement model had fitted the data and could efficiently reproduce the covariance matrix. To ensure that all items are designed to measure a construct, factor loadings can be used. The results in Fig. 1 show that all factor loadings, which ranged from 0.569 to 0.962, exceeded the suggested cutoff level of 0.60 as recommended [66]. Hence, they were significantly and highly (ρ < 0.001) loading on the respective constructs. The measurement model's content validity can be confirmed.

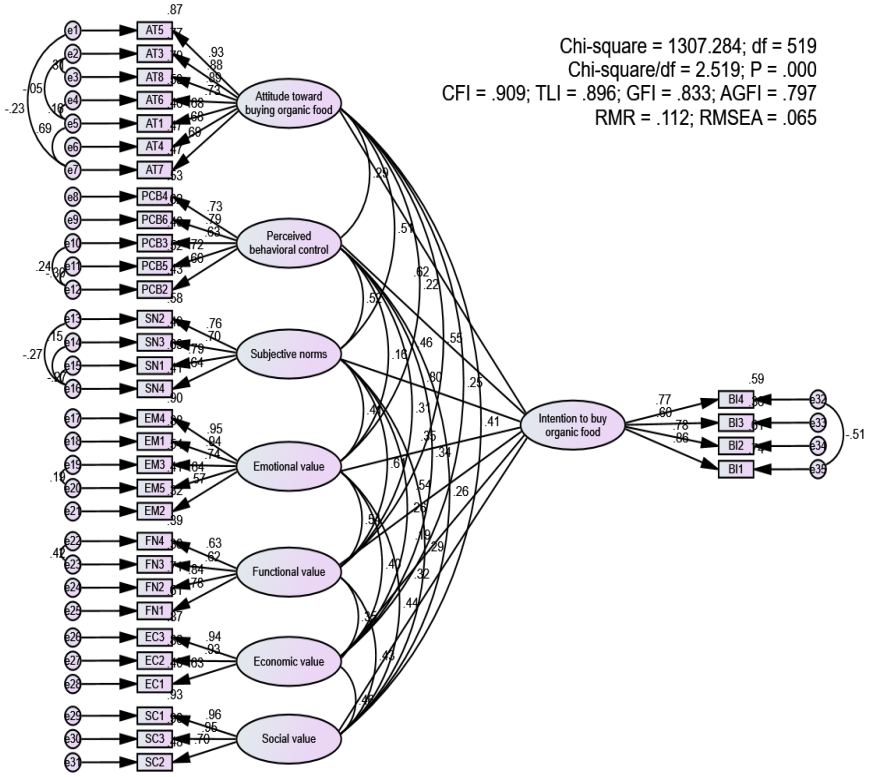

Fig. 1 CFA

4.2.2. Convergent and Discriminant Validity

According to [67], convergent validity can be confirmed using the item's reliability (factor loadings), internal consistency (Cronbach's α coefficient), composite reliability (CR), and the average variance extracted (AVE). The results summarized in Table 1 show that CR values of all latent constructs ranged from 0.813 to 0.920, which were well above the acceptable level of 0.70. Furthermore, the AVE values ranged from 0.813 to 0.920 and surpassed the acceptable threshold level of 0.50 [67]. From each pair of constructs, all AVE values were higher than the MSV values. The measurement model's convergent validity can be confirmed.

Table 1 Result of CFA

Constructs	Observed variables	Factor loadings	Cronbach's α	CR	AVE	MSV
Attitude toward buying organic food	AT5	0.934	0.904	0.920	0.625	0.379
	AT3	0.875				
	AT8	0.891				
	AT6	0.73				
	AT1	0.681				
	AT4	0.684				
	AT7	0.688				
Emotional value	EM4	0.951	0.881	0.884	0.613	0.294
	EM1	0.939				
	EM3	0.736				
	EM5	0.642				
	EM2	0.569				
Economic value	EC3	0.935	0.835	0.878	0.712	0.211
	EC2	0.926				
	EC1	0.634				
Perceived behavioral control	PCB4	0.731	0.844	0.833	0.501	0.271
	PCB6	0.787				
	PCB3	0.633				
	PCB5	0.722				
	PCB2	0.657				
Functional value	FN4	0.628	0.851	0.813	0.525	0.370
	FN3	0.619				
	FN2	0.841				
	FN1	0.783				
Subjective norms	SN2	0.759	0.790	0.815	0.526	0.636
	SN3	0.701				
	SN1	0.792				
	SN4	0.640				
Social value	SC1	0.962	0.897	0.907	0.769	0.211
	SC3	0.947				
	SC2	0.695				
Intention to buy organic food	BI1	0.858	0.823	0.841	0.573	0.636
	BI2	0.778				
	BI3	0.599				
	BI4	0.766				

Notes: Maximum shared variance (MSV), average variance extracted (AVE), composite reliability (CR), intention to buy organic food (BI), emotional value (EM), economic value (EC), functional value (FN), and social value (SC), attitude toward buying organic food (AT), perceived behavioral control (PBC) and subjective norms (SN). All factor loadings were significant at $p < 0.001$.

Fornell and Larcker [68] stated that the discriminant validity could be determined by comparing the correlations with the square root of the AVE values among the constructs. Table 2, which summarizes the results, indicates that the square root of the AVE values represented in the diagonal are higher than other values in its columns and rows. The measurement model's discriminant validity can be confirmed.

Table 2 Descriptive statistics and correlations among all variables

	AT	EM	EC	PCB	FN	SN	SC	AP	BI
AT	0.790								
EM	0.221^{***}	0.783							
EC	0.255^{***}	0.399^{***}	0.844						
PCB	0.283^{***}	0.164^{**}	0.339^{***}	0.708					
FN	0.548^{***}	0.542^{***}	0.354^{***}	0.309^{***}	0.724				
SN	0.514^{***}	0.410^{***}	0.261^{***}	0.521^{***}	0.609^{***}	0.725			
SC	0.410^{***}	0.440^{***}	0.459^{***}	0.259^{***}	0.429^{***}	0.290^{***}	0.877		
AP	0.132^{*}	0.214^{***}	0.402^{***}	0.480^{***}	0.200^{**}	0.326^{***}	0.269^{***}	0.756	

Continuation of Table 2

BI	0.615***	0.348***	0.192***	0.461***	0.541***	0.797***	0.320***	0.357***	0.757

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Intention to buy organic food (BI), emotional value (EM), economic value (EC), functional value (FN), and social value (SC), attitude toward buying organic food (AT), perceived behavioral control (PBC) and subjective norms (SN)

4.3. The Structural Model Results

We assessed the hypotheses by examining the structural model, and the results are shown Fig. 2. The overall goodness-of-fit indices were acceptable by using various measures such as $\chi 2 = 1502$; df = 572, p = 0.000; CMIN/df = 2.627; TLI = 0.883; CFI = 0.894; GFI = 0.813; AGFI = 0.782; SRMR = 0.095; RMSEA = 0.067.

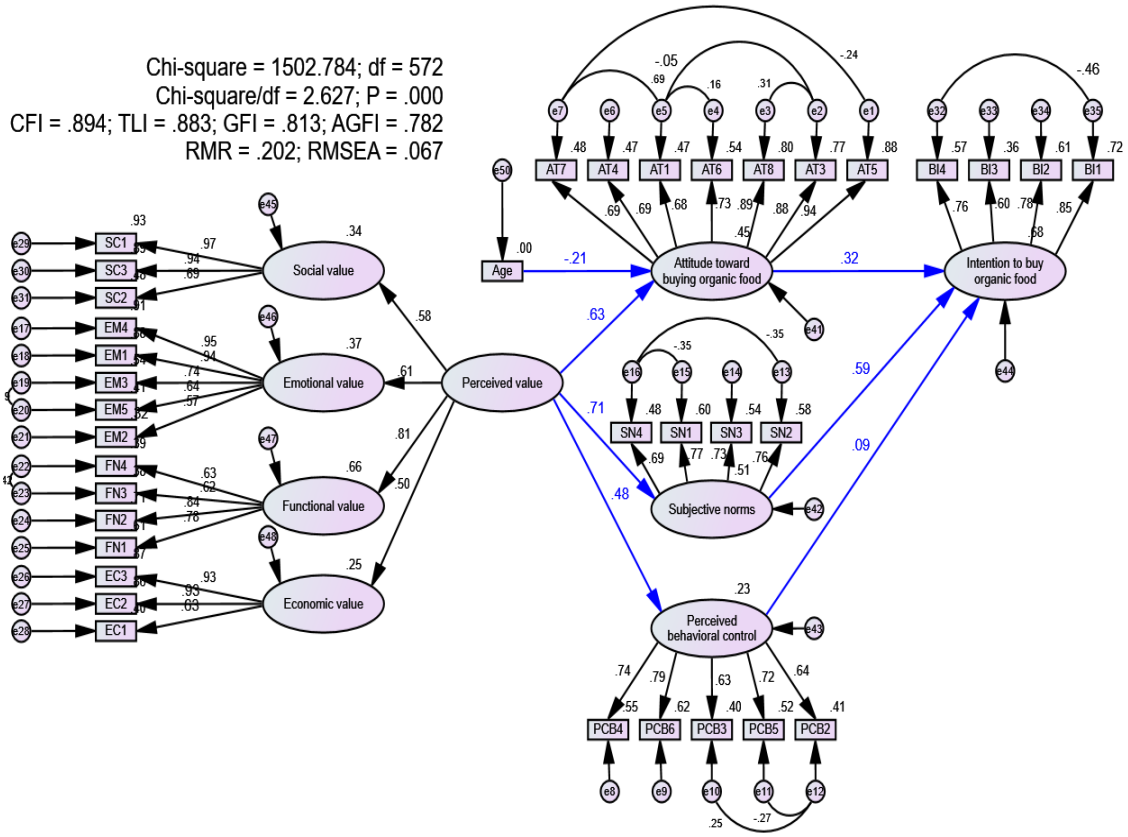

Fig. 2 Results of the structural model

Table 3 summarizes the analysis results, which stated that subjective norms had the most potent positive impact (β = 0.585) on the intention to buy organic food, significantly at the 0.001 level. Attitude toward buying organic food and perceived behavioral control also had positive effects (β = 0.320 and 0.094) on the intention to buy organic significantly at the 0.001 level. Hence, hypotheses H1, H2, and H3 were supported as postulated in this study.

Table 3 Hypothesized direct effect

Hypothesized direct effects	***p*-value**	**Std. Estimate**	**Hypothesis**	**Decision**
Attitude toward buying organic food → Intention to buy organic food	0.000	0.320***	H1	Supported
Subjective norms → Intention to buy organic food	0.000	0.585***	H2	Supported
Perceived behavioral control → Intention to buy organic food	0.000	0.094***	H3	Supported
Perceived value → Attitude toward buying organic food	0.000	0.633***	H4a	Supported
Perceived value → Subjective norms	0.000	0.716***	H4b	Supported
Perceived value → Perceived behavioral control	0.032	0.475*	H4c	Supported
Perceived value → Intention to buy organic food	0.066	0.198	H4d	Not Supported
Age → Attitude toward buying organic food	0.000	-0.212***		

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

However, perceived value had positive effects on three elements of the TPB model, such as attitude toward buying organic food (β = 0.633), perceived behavioral control (β = 0.475), and subjective norms (β = 0.716) significantly at the 0.001 level. Thus, hypotheses H4a, H4b, and H4c were supported in this study. Unfortunately, perceived value shows a weak influence on intention to buy organic food since the p-value was 0.066 > 0.05. Therefore, hypothesis H4d was not supported in this study.

Interestingly, the results revealed that age had a positive effect on the attitude toward buying organic food (β = -0.212) significantly at the 0.001 level, and it did not affect other constructs in the structural model.

The results of this study showed that age is central to TBP's model compared with other demographic variables.

4.4. Multiple Group Analysis and Comparison

In examining the effects of the theoretical model, we divided the total sample into two groups due to individual demographic variables such as gender, marital status, and income level. Consequently, the two groups following as male and female, married and single status, with income over and under 10 million VND/month, have been analyzed in multiple groups. The results summarized in Table 4 show that there were some differences in direct effects between groups due to their significant levels and standardized estimate values.

Table 4 Comparison of the multiple group analyses in an unconstrained model

Direct effects	**Std. Estimate**		**Std. Estimate**		**Std. Estimate**	
	M	***F***	***SG***	***MR***	***> 10 mi.***	***≤ 10 mi.***
Attitude toward buying organic food → Intention to buy organic food	0.273***	0.335***	0.347***	0.286***	0.324***	0.226**
Subjective norms → Intention to buy organic food	0.610***	0.592***	0.509***	0.634***	0.565***	0.980***
Perceived behavioral control → Intention to buy organic food	0.058	0.106*	0.141*	0.064	0.117*	-0.256*
Perceived value → Attitude toward buying organic food	0.600***	0.668***	0.646***	0.609***	0.637***	0.578***
Perceived value → Subjective norms	0.785***	0.666***	0.658***	0.725***	0.692***	0.913***
Perceived value → Perceived behavioral control	0.551***	0.404***	0.492***	0.487***	0.435***	0.730***
Age → Attitude toward buying organic food	-0.303***	-0.116*	-0.294	-0.068***	-0.151***	-0.305*

Notes: Male (M), female (F), married (MR), single (SG), more than 10 million VND/month (> 10 mi.), from and under 10 million VND/month (≤ 10 mi). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

5. Conclusion

Based on an empirical research approach, this study makes several academic contributions. First, this study provides evidence of scale validity for TPB's elements and perceived value regarding organic food in Vietnam, although some items were eliminated in the analysis. Even though the organic food market has been growing fast recently, organic food is a field that has not been explored much in Vietnam. Additionally, the number of academic studies on consumers of organic food, including scale developments, is still tiny and insufficient. Second, the results revealed that the intention to buy organic food is directly affected by three main elements of TPB, including attitude toward buying organic food, subjective norms, and perceived behavioral control. Also, subjective norms construct is the most positive and impactful factor compared with the others. This result is also consistent with previous studies confirming TPB's predictive power in explaining and predicting the intention to buy organic food and actual buying behavior [19, 20, 69]. Thus, the results again confirm that in an emerging country like Vietnam, TPB can be used to support and discover the organic food market. Also, TBP can be considered a useful theoretical framework for integrating additional variables. Finally, some studies found that perceived value can be a crucial factor in TPB's elements, such as intention and attitude. Interestingly, the results indicated that each perceived value's elements influence attitude toward buying organic food, perceived behavioral control, and subjective norms differently. Furthermore, functional value shows clearer and stronger effects than the other three components of the perceived value. However, they do not significantly affect the intention to purchase organic food, so the result does not correspond to [59, 70]. Finally, we found a positive effect of age on attitude toward buying organic food. This result is also consistent with previous studies such as [71] and [72]. It also means that nowadays, younger customers pay more attention and have a good attitude toward organic food. As mentioned, organic food has been strange to the Vietnamese recently. However, the organic food market will change because organic food has become appealing and exotic to Vietnamese customers.

From a practical perspective, by focusing on the identified factors, this research can bring benefits to marketers and entrepreneurs who have intentions to join the organic food market during and post-Covid-19. First, the results show that the subjective norm has the most potent positive effect on the intention to buy organic food, and the effects are consistent through group analysis. In the context of this study, the ones such as peers, family, and media consumers can make influence the perception of the subjective. Marketers and entrepreneurs can develop marketing strategies to maximize their influence on consumers. For example, they may take advantage of mass media influence to exert societal pressure on consumers to adopt organic food perceptions sooner rather than later, and they may establish a generally conducive climate for organic food adoption [73]. Second, the construct-perceived value is central to TPB's model since it shows strong and obvious effects on three elements. Moreover, customers' perceived value can be found in other marketing research and has many effects on other aspects. Marketers should consider this and can use it as an indicator to predict customer intention to buy

organic products. The results also support marketers and entrepreneurs in choosing the main drivers wisely. For example, to address customers' perceived value, managers and marketers may create marketing communications that can show clear and reliable statements about organic food's function, standards, or safety. Furthermore, marketing communications should increase valuable information, for instance, emphasizing the fresh and healthy appearance of organic food. The organic food market is still emerging and exotic to the Vietnamese, so organic products' certification, inspection, and information can be important to consumers. Furthermore, the COVID-19 has changed many things in our lives, including lifestyle and customer's intention. This study provides good evidence that perceived value is an important factor affecting organic customers in Vietnam. Finally, the analysis of the two groups can be useful for managers and marketers to create marketing mix campaigns for each customer segment based on the different demographic characteristics. According to differences such as gender, marital status, and income level, managers and marketers should be flexible and careful because of the different reactions of each group. For example, it is much easier for the female group to predict their intention to buy organic food through related constructs, and it is like the married group.

There are three limitations in this research. First, we implemented convenience sampling, and survey respondents are highly qualified customers and may not be representative of others, such as unskilled workers. Second, this study only considers the relationship between perceived value and the constructs of the TPB frameworks. However, depending on the customer's conditions, other potential factors might impact the intention to buy organic food, such as the perceived price because it is often more expensive than normal food. Finally, the research was conducted in Vietnam, so the findings are just limited to application to similar emerging countries.

Future research should consider more factors affecting purchase behavior, such as perceived price and government policies [74]. Additionally, Vietnam is an emerging country; besides customers with higher education, other users who may lower literacy but are rich may have significant concerns about health care and organic food. So, future research should consider an extension of the type of customers to understand their behavior toward organic foods.

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