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Effective Segmentation of Organic Food Consumers in Vietnam Using Food-Related Lifestyles

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Abstract: The consumer purchase of environmentally friendly products like organic food is essential to environmental sustainability. This study applies the unique food-related lifestyles (FRL) approach to segment organic food consumers in Vietnam, a country in which there is increasing concern about food safety and quality. The FRL model was intentionally selected because it enables better understanding of how consumers employ food and its culinary aspects to achieve certain values in their lives. Data were obtained from 203 organic food consumers, and a two-step cluster analysis established three identifiable market segments which we named "Conservatives", "Trendsetters", and "Unengaged". The Conservatives were interested in the health aspects of food and preferred natural products. The Trendsetters were interested in healthy food, liked to cook, and held a positive attitude toward organic food and local food products. The Unengaged consumers were not concerned about food-related issues, and they reported the least consumption of organic food. The findings of this study have important academic and practical implications for marketers, policymakers, organizations dealing with food, and socio-environmental organizations that aim to promote organic food consumption. Importantly, marketing efforts should focus on enhancing consumers' knowledge about organic food and their love of cooking, as well as ensuring adequate availability of organic food.

Keywords: market segmentation; organic food marketing; food-related lifestyles; conservatives; trendsetters; unengaged; attitudes; health concern; sustainable consumption; emerging market

1. Introduction

In recent times, there has been a significant increase in the interest in organic food. Growing health awareness, busier lifestyles, and global environmental issues have been the drivers of this growing interest in organic food [1,2]. Also, consumers' suspicions and fears about foods produced by new technology such as gene modification motivate them to choose natural food products like organic food. The organic food market has grown substantially across the globe. The worldwide sales of organic food amounted to $90 billion in 2016, up 6 times from $15 billion in 1999 [3]. The U.S. is the largest market for organic products, where organic food sales have increased 15 times from $3.4 billion in 1997 to over $45 billion in 2017 [4]. The reason for this is that consumers consider organic food as

being healthier, safer, tastier, and more environmentally friendly [5–9]. Essentially, organic food refers to products "obtained or made in accordance with the standards of organic agriculture that sustain and promote the welfare of soils, ecosystems and humans" [10] (p. 1).

It is common knowledge that developing and emerging markets are the major contributors of environmental problems including climate change [10]. This is owing to their fast economic growth rates, substantial consumer base, increased consumption, and urbanization [11–14]. In Vietnam, the high standard of living, along with the growing concern about food safety and quality, has led to the increasing demand for organic food [15]. Although there are no available official statistics, the number of stores that sell organic food has noticeably increased. Besides this, a number of associations, groups, and forums on organic food consumption have been established. Such phenomena are testimony of a growing and vibrant organic food market in Vietnam. According to the Vietnam Organic Agriculture Association (VOAA), the Vietnamese population consumes about 2 million euros worth of organic food per year. Also, the organic farming area has increased by 3.6 times since 2010 to about 77,000 hectares in 2017. Popular organic food products consumed include rice, fruit, vegetables, fish, meat, and dairy products. Essentially, Vietnamese consumers perceive that organic food products are safer to eat because they are produced in sustainable ways [16]. They also believe that organic food helps consumers to reduce risks of contracting diseases [16].

The increasing consumer demand has led to more companies entering the organic food industry. There are 80 domestic producers who have been certified by the European Union (EU) as being organic food and beverage manufacturers [17]. The widespread use of EU organic certification is due to the current inadequacy of the national organic labelling system, and it is also driven by consumer belief that compliance to this foreign certification ensures higher quality and sustainability of organic products [17,18]. To support the labelling system for locally produced organic food products, the Vietnamese government is developing a national organic standard [18]. This initiative, after it comes into effect, is expected to enhance the future growth of the industry with the potential market size estimated to be 131 million euros [19].

Several previous studies have focused on the factors influencing consumer attitudes and purchase intention of organic food in Vietnam [10,16]. However, the effective segmentation of organic food consumers in Vietnam has been largely unexplored. For successful implementation of marketing strategies aimed at encouraging organic food consumption, it is imperative to clearly identify and segment the related target market. Hence, a thorough understanding and development of meaningful and effective market segmentation is absolutely necessary.

This study aims to contribute to the body of literature associated with organic food consumption in three different ways. First, it addresses the market segmentation of organic food consumers in Vietnam using the unique food-related lifestyle (FRL) model [20]. The FRL approach is widely used in market segmentation studies [21–24]. According to Verain et al. [25], 10 out of 16 previous studies on the segmentation of sustainable food consumption (including organic food) have employed the FRL model. However, the findings vary across studies conducted in different contexts. Second, detailed psychographic profiles of the identified segments will be developed. This would certainly assist in effectively targeting these segments in the future. Finally, the findings of this study would assist key stakeholders, especially marketers, policymakers, and those with commercial interests in the design and dissemination of effective marketing strategies aimed at increased organic food consumption.

2. Literature Review

2.1. Factors Affecting Consumer Attitude and Purchase Behavior towards Organic Food

Previous studies suggest that consumers are motivated to purchase organic food because they perceive such food as being safer, healthier, tastier, and friendlier to the environment as compared to conventional food. Padel and Foster [7] demonstrated that consumers in the United Kingdom associate organic products with a healthy diet. Lea and Worsley [26] remarked that Australian consumers

perceive organic food to be healthy, tasty, and good for the environment. Other studies have reported similar customer beliefs towards organic food in Brazil [27], China [8,9], and Taiwan [5].

Another stream of literature suggests that personal values are important factors influencing consumer attitude towards organic food. Persons who place importance on values such as "universalism", "hedonism", "benevolence", "self-direction", "security", and "conformity" are more inclined to consume organic food [28–30]. For example, universalism refers to "understanding, appreciation, tolerance and protection for the welfare of all people and for nature" [30] (p. 1144). Hence, consumers' beliefs and purchases relating to organic food, which is generally perceived as being environmentally friendly, are positively related to this value [31]. Furthermore, consumers who strongly endorse conformity tend to avoid violating social expectations; hence, they are likely to comply with subjective norms associated with organic food consumption [30]. Essentially, consumers who strongly adhere to the benevolence value purchase locally produced organic goods since these products support local production and make them feel good [7]. Consumers who place more emphasis on "power" (i.e., control and dominance over human and natural resources), on the other hand, tend to develop negative attitudes towards the consumption of organic food, which represents naturalness and unaffectedness [29]. The extant literature also identifies factors that limit the purchase of organic food. The identified barriers include high price, inconvenience, lack of availability, insufficient information and presentation about organic food, and customers' lack of trust in organic labels [26,28,32].

Studies pertaining to Vietnam by Truong et al. [16] and Pham et al. [10] suggest that food safety concerns and benefits to health are the key factors driving the purchase of organic food, whilst the impact of environmental consciousness and taste are irrelevant. Truong et al. [16] suggested that Vietnamese consumers are undeterred by the high price of organic food, whilst Pham et al. [10] reported contrary findings, i.e., in Vietnam, high price is a barrier to the purchase of organic food. These authors also reveal that lack of availability, poor labelling, and long waiting times are barriers to organic food purchase.

Hughner et al. [33] reviewed extant studies and found that there are inconclusive results regarding the role of demographic variables in explaining consumer attitude and behavior towards organic food. Nevertheless, a majority of the studies reveal that women have a more positive attitude towards organic food than men [26,34]. Besides this, organic food buyers are often more educated, younger, have higher disposable income, and have children in their households [9,34–37].

2.2. Segmentation of Organic Food Consumers

2.2.1. Overview

The segmentation of organic food consumers has long attracted attention from various scholars in the fields of psychology, marketing, food science, ethics, and sustainability who regard organic food consumption as contributing to ethical and sustainable behaviors. Table 1 provides a brief summary of extant studies which deal with consumer segmentation of organic food markets in different research contexts.

Table 1. Summary of extant studies relating to consumer segmentation of organic food markets.

#	Author(s)	Market	Segmentation Factor	Resultant Segments
1	Aslihan Nasir and Karakaya [34]	Europe	Attitude towards organic food	1. Favorable 2. Neutral 3. Unfavorable
2	Chen et al. [38]	China	Attitude towards organic food	1. Safety conscious 2. Gastronomes 3. Sceptics
3	Chryssohoidis and Krystallis [28]	Greece	Personal value system	1. Health conscious 2. Organic loyal 3. Explorers 4. Independents
4	de Maya et al. [39]	Europe	Personal value system	1. Consumers with highest values of harmony, egalitarianism, affective autonomy, mastery, and conversation (Denmark and Sweden) 2. Consumers with lowest values of harmony, egalitarianism, affective autonomy, and conversation (Spain) 3. Consumers with high value of affective autonomy and low value of harmony (Italy and Finland) 4. Consumers with lower values of affective autonomy and mastery (Germany, Greece and UK)
5	Gil et al. [40]	Spain	Lifestyle	Navarra region: 1. Likely consumers 2. Organic food consumers 3. Unlikely consumers Madrid region: 1. Unlikely mature consumers 2. Unlikely young consumers 3. Likely consumers 4. Organic food consumers
6	Hamzaoui-Essoussi and Zahaf [41]	Canada	Usage rate and lifestyle	1. True organic food consumers 2. Sporadic organic food consumers 3. Inexperienced organic food consumers
7	Liang [42]	Taiwan	Food-related lifestyle	1. Traditional food shoppers 2. Uninvolved food shoppers 3. Enthusiastic food shoppers
8	Mesías Díaz et al. [43]	Spain	Knowledge and level of consumption	1. Non-consumers/little knowledge 2. Habitual consumers/well-informed 3. Occasional consumers/well-informed
9	Nie and Zepeda [36]	US	Food-related lifestyle	1. Rational consumer 2. Adventurous consumer 3. Careless consumer 4. Conservative uninvolved
10	Paul and Rana [32]	India	Satisfaction for organic food	3 (unnamed) segments
11	Żakowska-Biemans [44]	Poland	Food choice and food-related lifestyle	1. Uncommitted 2. Traditionalists 3. Careless 4. Conscious 5. Pragmatic

As shown in Table 1, researchers have used various segmentation factors such as personal values, attitudes, knowledge, lifestyles, and level of consumption. Among these variables, the FRL approach has been widely utilized in organic food studies in developed countries and emerging markets [22,23,36,42,45–49]. Notably, these studies have established various and inconsistent segments of organic food consumers. For example, while Nie and Zepeda identified four segments of organic consumers in a developed country (the U.S.), Liang [42] found only three groups of organic shoppers

in an emerging market (Taiwan). These inconsistent findings suggest that further research on this topic is required.

2.2.2. Segmentation of Organic Food Consumers Using the FRL Approach

Generally, lifestyle refers to "a mixture of habits, conventional ways of doing things and reasoned behavior" [36] (p.28). The FRL approach, developed by Grunert et al. [20], argues that FRL, behavioral attitude, and food consumption are assumed to have causal relationships. Based on this argument, the survey instrument used to operationalize this model has five relevant dimensions (in bold) which comprise 23 factors, and these are the following:

- **Ways of shopping**: Importance of product information, Attitude towards advertising, Enjoyment from shopping, Specialty shops, Price criteria, Shopping list.
- **Quality aspects**: Health, Price–quality relation, Novelty, Ecological products, Taste, Freshness.
- **Cooking methods**: Interest in cooking, Looking for new ways, Convenience, Whole family, Planning, Woman's task.
- **Consumption situation**: Snacks versus meals, Social event.
- **Purchasing motives**: Self-fulfilment in food, Security, Social relationships.

Several different versions of the FRL approach have been used to segment specific food markets such as specialty [24] and lamb [21]. It has also been used to segment the organic food market in a number of recent studies for markets in the U.S. [36], Poland [44], and Taiwan [42]. Żakowska-Biemans [44] conducted her study using a combination of the Food Choice Questionnaire [50] and the FRL survey instrument, making some modifications. Specifically, the author designed the FRL section using six factors, i.e., Innovativeness/novelty, Importance of product information, Specialty shops, Organic food, Convenience, and Ethnocentrism. Nie and Zepeda [36] proposed that segmentation factors should focus on four new factors, i.e., Ways of shopping, Quality aspects, Cooking method, and Purchasing motives. Liang [42] integrated the FRL approach and the Theory of Planned Behavior to segment online organic food consumers in Taiwan. This author suggests the following factors for segmentation: Health and comfortable dining, Love of the fun of cooking, Pursuit of convenience, Love of organic food, Importance of product information, and Aversion to food purchase.

The segments that consumed the most organic food in the foregoing studies were named "Conscious consumers" [44], "Adventurous consumers" [36], and "Enthusiastic food shoppers" [42]. These segments displayed some similar characteristics. First, they were concerned about food safety and benefits to health. Second, they paid close intention to label information. Third, they liked food-related activities and were open to new recipes and food products.

3. Research Method

3.1. Research Context

This study was conducted in Vietnam, a country in which there is a dire need to promote sustainable practices such as sustainable food consumption. Given the rapid population growth, long-term economic development challenges, and serious environmental issues in emerging markets such as Vietnam, enhancing sustainability should be prioritized in these countries [10,12]. According to the World Bank, the Vietnam population was approximately 96 million and the Gross National Income per capita was $2160 in 2017. It is estimated that people spend almost half of their income on food and beverages [51]; hence, food sustainability is desirable for Vietnam in tandem with its economic growth. The government's sustainable food and farming initiatives, including the Vietnam Sustainable Agriculture Transformation Project together with the recent consumers' heightened concerns about health, safety, and the environment, are strong drivers of consumers' purchase behavior of organic food [10].

3.2. Data Collection and Sampling

The respondents in this study were consumers above 18 years old who had purchased organic food. The intention was to recruit respondents who had a certain level of interest and knowledge in organic food, thus improving the quality of their responses. Two screening questions were used to identify eligible respondents. Data was collected using both paper-based and online surveys. Simple random sampling was used in the paper-based survey, while non-probability volunteer sampling was used for the online survey in accordance with Saunders et al.'s guideline [52]. The estimated sample size for this study was over 200, which would be adequate to conduct factor analysis [53].

Specifically, paper-based surveys were administered to 50 households in Ngu Hanh Son district, which is in Danang city, Vietnam. The sampling frame for paper-based surveys was drawn from information given by a major distributor of organic food in the city. The researchers randomly contacted several households from the sampling frame and 50 households voluntarily agreed to participate in the survey. In addition, the link to the online survey, in Google form, was shared to various Facebook groups of organic food consumers. In the six weeks of data collection, a total of 244 completed surveys were obtained, and this number fulfilled the target sample size.

The data from the surveys were screened to identify missing data and potential outliers. Univariate and multivariate outliers were examined using standardized values (z scores) and Mahalanobis distance, respectively [54]. In the screening process, 29 surveys were eliminated as they contained missing data, and 12 surveys were deleted owing to the issue of multivariate outliers. Hence, the final effective sample was 203.

A majority of the respondents were female (69%). Possible explanations for the higher percentage of women in our sample include the non-probability sampling method used in the online survey and that organic food consumers generally tend to be female [5,30]. The main age group was between 26 and 35 (66.5%). They were well educated (94.6% had at least a college degree). The common household size was three and above, and 57.6% of them had children under the age of six. They earned above the average income, i.e., 57.2% had a monthly income above $500. Overall, the demographic profile of Vietnamese organic food consumers was similar to those identified in other international studies [9,34,55].

3.3. Design of the Survey Instrument

The survey instrument used in this study comprised two main sections. The first section contained psychographic variables used for segmentation as per the FRL approach. The second section included descriptive variables, i.e., level of organic food consumption, attitude towards and interest in organic food, willingness to pay for organic food, and relevant demographics. Table 2 lists the psychographic variables.

The psychographic variables were adapted from scales developed by Liang [42] and Żakowska-Biemans [44]. These scales used a five-point Likert scale which was anchored at "1" indicating strong disagreement and "5" indicating strong agreement. The descriptive variables were derived mainly from studies conducted by Chryssohoidis and Krystallis [28] and Hamzaoui-Essoussi and Zahaf [41].

The survey instrument comprising the original measurement scales was translated into the Vietnamese language. This was obtained from the English version using the prescribed back-translation technique [56]. To diagnose and eliminate potential problems relating to the survey instrument, a two-round pretest was performed prior to data collection. Specifically, a focus group consisting of five academics and industrial experts was formed to ensure the validity and suitability of the items. This was followed by five separate in-depth interviews with organic food consumers for the purposes of assessing instrument clarity and time to complete. Several minor changes regarding the wording and layout of the survey were made based on the feedback received from the foregoing pretests.

Table 2. Psychographic variables used for segmentation.

Code	Description	Mean	SD
	Innovativeness/Novelty—*adapted from Żakowska-Biemans (2011)*		
LS1	I like to try new foods that I have never tasted before	3.46	0.759
LS2	I am often the first to try a new product	2.92	0.786
LS3	If I have a choice, I prefer to try new food	3.28	0.817
	Attention to healthy food information—*adapted from Liang (2014) and Żakowska-Biemans (2011)*		
LS4	To me, product information is of high importance. I need to know what the product contains	4.05	1.011
LS5	I compare labels to select the most nutritious food	3.94	0.937
LS6	I usually plan the type and amount of food that my family consumes	3.52	0.733
LS7	For me, the naturalness of food is the most important quality aspect	4.06	0.818
LS8	I avoid food products that contain additives	4.05	0.857
	Love of cooking—*adapted from Liang (2014)*		
LS9	Cooking is an interesting activity	3.79	0.814
LS10	I like to try new recipes	3.75	0.725
LS11	I have interesting experiences when I try recipes and cooking secrets from other food cultures	3.80	0.919
LS12	I like to try cooking recipes from other countries	3.79	0.861
	Love of organic food—*adapted from Żakowska-Biemans (2011)*		
LS13	I always buy organic food when I have the opportunity	3.71	0.796
LS14	I do not mind paying higher prices for organic food	3.61	0.902
	Convenience—*adapted from Żakowska-Biemans (2011)*		
LS15	It is unimportant for me to buy fresh products	3.80	0.862
LS16	I prefer to buy processed rather than fresh food	3.26	0.988
LS17	I use a lot of frozen or canned food in my cooking	2.29	1.226
LS18	I often use instant food or precooked dishes	2.34	1.111
	Ethnocentrism—*adapted from Żakowska-Biemans (2011)*		
LS19	I prefer to buy food originating from my own region/country	2.47	1.082
LS20	I prefer to support food products from my own region/country although it may cost me more	2.42	1.120

4. Data Analysis and Findings

4.1. Application

The data were analyzed using SPSS software, version 24 [57]. Exploratory factor analysis (EFA) and reliability analysis were performed to confirm the consistency and stability of the FRL scale. The segmentation was conducted using a two-step cluster analysis: firstly, hierarchical clustering was used to identify the optimal segments; secondly, K-means analysis was performed with the number of clusters generated.

The differences between the segments were examined using ANOVA and Chi-square analyses. One-way ANOVA testing was employed to highlight significant differences between the segments in terms of FRL as well as between the attitude and intention towards organic food. Chi-square analysis was conducted to investigate the relation between the segments and the level of organic food consumption and also the influence of demographics.

4.2. EFA and Reliability Test

The mean and standard deviation (SD) of the psychographic variables are demonstrated in Table 2. All these variables were subjected to an EFA using principal axis factoring and Promax rotation to

determine the smallest number of meaningful factors. Bartlett's test of sphericity was significant at the 0.001 level and the Kaiser–Meyer–Olkin (KMO) value was greater than 0.7. These results ensured the factorability of the data [57]. As illustrated in Table 3, the EFA resulted in 20 observed variables allocated to five factors, and it suggested two modifications to the original scales, i.e.,

(1) The variable LS13 ("I always buy organic food when I have the opportunity") was allocated to the factor originally termed "Attention to healthy food information";

(2) The variable LS14 ("I do not mind paying higher prices for organic food") was allocated to the factor originally termed "Ethnocentrism".

Table 3. Summarized results of the exploratory factor analysis (EFA).

Items	Factors				
	1	**2**	**3**	**4**	**5**
LS1	0.814				
LS2	0.684				
LS3	0.831				
LS4		0.763			
LS5		0.846			
LS6		0.651			
LS7		0.708			
LS8		0.716			
LS9			0.756		
LS10			0.841		
LS11			0.838		
LS12			0.715		
LS13		0.640			
LS14					0.589
LS15				0.789	
LS16				0.899	
LS17				0.892	
LS18				0.831	
LS19					0.560
LS20					0.821

Reliability analysis using Cronbach's alpha was used to assess the internal consistency of the revised scales. A Cronbach's alpha coefficient value (α) of greater than 0.6 indicates an acceptable level of reliability [58,59]. As shown in Table 4, the α values ranged from 0.653 to 0.897. Additionally, corrected item-to-total correlations were all above 0.5. Hence, it is reasonable to conclude that the revised factors had good internal consistency of reliability. To further examine the validity of the two revised factors, we compared the α values of these factors against those of the original factors. Table 3 shows that both modified factors had greater α values. We named these factors "Attention to healthy food" and "Love of local and organic food".

It is interesting to note that LS13 ("I always buy organic food when I have the opportunity") was allocated to "Attention to healthy food". A possible explanation for this is that consumers' purchase of organic food is strongly motivated by their perception that organic food is healthier than conventional food [60]. This is particularly relevant in emerging markets where healthiness is perceived to be the most important characteristic of organic food that motivates consumer purchase behavior [61]. In addition, LS14 ("I do not mind paying higher prices for organic food") was allocated to "Love of local and organic food". This is consistent with Tanner and Kast's findings that positive attitudes towards local production lead to more organic food purchases and that such attitudes are negatively related to the perceived monetary barrier associated with purchasing organic food [62]. This interesting finding also implies that Vietnamese consumers' willingness to pay for organic food is associated with their love and support of local food products.

Table 4. Factors and associated Cronbach's alpha.

Original Factors/Subscales	Revised Factors/Subscales
1. Innovativeness/Novelty Items: LS1–LS3; α = 0.778	1. Innovativeness/Novelty Items: LS1–LS3; α = 0.778
2. Attention to healthy food information Items: LS4–LS8; α = 0.835	2. Attention to healthy food Items: LS4–LS8, LS13; α = 0.855
3. Love of cooking Items: LS9–LS12; α = 0.8404.	3. Love of cooking Items: LS9–LS12; α = 0.840
4. Love of organic food Items: LS3, LS14; α = 0.670	
5. Convenience Items: LS15–LS18; α = 0.8976.	4. Convenience Items: LS15–LS18; α = 0.8975.
6. Ethnocentrism Items: LS19, LS20; α = 0.647	5. Love of local and organic food Items: LS14, LS19, LS20; α = 0.653

4.3. Cluster Analysis

The revised FRL scales consisting of five factors were used in cluster analysis. The results of the cluster analysis using Ward's method (K-Means) indicated that the optimal number of clusters was 3. We named these clusters Conservatives, Trendsetters, and Unengaged consumers. Table 5 depicts the mean ratings of the five factors attributed to the three clusters or segments.

Table 5. Mean ratings of the factors attributed to the three segments.

Food-Related Lifestyle	Segment		
	(1) Conservatives	(2) Trendsetters	(3) Unengaged
Innovativeness/Novelty	3.16	**3.54**	2.78
Attention to healthy food	**4.11**[a]	3.97[a]	2.66
Love of cooking	3.71	**4.02**	3.13
Convenience	1.81	**3.75**	2.29
Love of local and organic food	3.57[a]	**3.81**[a]	2.62

Notes: The bold figures indicate the highest mean rating for a particular factor. When no subscript is present, all three segments are different at the 5% level. When the same letter (a) is present for two segments, the segments are NOT significantly different at the 5% level.

4.4. Characteristics of the Three Segments

Table 6 combines the demographic and psychographic profiles of the three segments of respondents. To determine the purchase behavior of organic food, respondents were asked how often they had purchased organic food in the past month. There were five response categories: 1—Never; 2—Rarely ("in less than 10% of the chances when I could have"), 3—Occasionally ("in about of 30% of the chances when I could have"), 4—Frequently ("in about of 60% of the chances when I could have"), and 5—Usually ("in about of 90% and over of the chances when I could have"). No respondents selected "never", which indicated that all the respondents in our study had purchased some quantity of organic food in the last month.

Table 6. Demographic and psychographic profile of the organic food consumer segments.

	(1) Conservatives (62.1%)	(2) Trendsetters (26.6%)	(3) Unengaged (11.3%)
Purchasing organic food *			
Usually	23.0%	5.6%	8.7%
Frequently	24.6%	25.9%	21.7%
Occasionally	27.0%	46.3%	43.5%
Rarely	25.4%	22.2%	26.1%
Attitude and interest in organic food *			
I believe organic food is better than normal food	4.13[a]	3.98[a]	3.30
I look for organic food to buy	3.68[a]	3.81[a]	3.04
I have a lot of knowledge about organic food	3.06[a]	3.59	2.96[a]
When I buy organic food, I know for sure what I'm buying	3.48[a]	3.76[a]	2.78
Demographic characteristics			
Gender			
Male	26.2%	40.7%	34.8%
Female	73.8%	59.3%	65.2%
Age			
18–25	20.6%	18.5%	17.4%
26–35	62.7%	75.9%	65.2%
36–45	11.1%	5.6%	17.4%
Above 45	5.6%	0%	0%
Education			
High school and below	1.5%	0%	4.3%
Professional degree	1.5%	11.1%	0%
University, college	67.5%	83.3%	78.3%
Postgraduate	29.5%	5.6%	17.4%
Household size			
1 person	8.7%	7.3%	8.7%
2 people	14.3%	1.9%	0%
3 or 4 people	51.6%	48.1%	65.2%
Above 4 people	25.4%	42.6%	26.1%
Family member			
Have children below 6 years old	53.2%	61.1%	73.9%
Do not have children below 6 years old	46.8%	38.9%	26.1%
Monthly income *			
Below $250	9.5%	7.4%	4.3%
$250–$500	25.4%	46.3%	56.5%
$500–$1000	40.5%	24.1%	26.1%
Above $1000	24.6%	22.2%	13.9%

Notes: * $p < 0.05$. When no subscript is present, all three segments are different at the 5% level. When the same letter (a) is present for two segments, the segments are NOT significantly different at the 5% level.

4.4.1. Conservatives

This segment comprised 62.1% of the organic food consumers; these people were concerned about choosing food that was best for their health. They ranked the variable "Pay attention to healthy food" the highest among all the factors and higher than the other segments did. This indicates that they paid close attention to label information, valued food that was good for health, and were careful in purchasing food for the family. Hence, we named them "Conservatives" as they held to traditional values of organic food, i.e., health benefits. This group also liked to cook and preferred products which originated from their own region/country. They had neutral attitudes towards novelty in food. Their score for convenience (1.81) was the least amongst the three segments. Their responses suggest that they usually used fresh food and avoided frozen, canned, or pre-processed food.

This segment had a relatively high level of organic food consumption as 23.0% of them usually bought organic food, a figure much higher than those for the other two segments (5.6% and 8.7%, respectively). They were interested in and had a positive attitude towards organic food. Specifically,

they believed that organic food was better than ordinary food (mean rating 4.13) and they looked to buy organic food (mean rating 3.68). However, customers in this segment had only moderate confidence in their knowledge about organic food (mean rating 3.06).

In terms of demographics, the majority of Conservatives were female (73.8%). It is worth noting that this was the only segment in which the consumers were over 45 years old. It seems that older customers have a more traditional view of food as compared to the younger ones. The education level of this segment was quite high, with 97% having a college or university degree and 29.5% having a postgraduate degree. The income level of this segment was also relatively high as 40.5% had monthly incomes ranging from $500 to $1000 and 24.6% had monthly incomes greater than $1000. This therefore explains the reason for this segment's ability to regularly purchase organic food despite the fact that organic food is quite expensive as compared to conventional food.

4.4.2. Trendsetters

This segment accounted for 26.6% of the organic food consumers. These consumers displayed the following food-related psychographics: they paid attention to healthy food, loved cooking, and preferred local and organic food. They also appreciated innovation in food more than the other two segments. More specifically, they liked the convenience of food. They had the highest score for this factor among the three segments (mean rating 3.75). Hence, we named them "Trendsetters" as they were interested in health and cooking, were open to trying new food, and preferred the convenience.

This segment's level of organic food consumption was not particularly high. Only 5.6% usually consumed organic food and 25.9% bought organic food regularly. However, they were quite interested in and had a positive attitude towards organic food. A notable feature of consumers in this segment was that they were quite confident with their knowledge of organic food. Their mean rating for the variable "I have a lot of knowledge about organic food" was 3.59, which was the highest among the three segments.

This segment had the highest proportion of males among the three segments (40.7%) and they were relatively young (94.4% were under 35 years old). Their earnings were above average, with 46.3% earning over $500 per month. The foregoing attributes explain why this segment was open to novelty as well as why they appreciated the convenience associated with food.

4.4.3. Unengaged

This segment accounted for a mere 11.3% of the respondents. They gave moderate ratings to the FRL indicators, with mean ratings ranging from 2.29 to 3.13. They seemed to be quite indifferent to food-related issues in general; hence, we named them "Unengaged" consumers.

The level of organic food consumption of this segment was quite similar to that of the Trendsetters. The majority of them only purchased organic food occasionally (43.5%) or rarely (26.1%). These consumers had neutral attitudes towards organic food and were not particularly interested in buying it. Their mean ratings for attitudes and interest in organic food were between 2.78 and 3.30. In particular, the variables "I have a lot of knowledge about organic food" and "When I buy organic food, I know for sure what I'm buying" had mean ratings of 2.96 and 2.78, respectively. This indicates that they probably had the least knowledge of organic food among the three segments.

The remarkable demographic feature of this segment was their relatively large household size with 91.3% of the families having three or more people in their household. The income of Unengaged consumers, on the other hand, was the lowest among the three segments, with 60.8% earning less than $500 per month. This might possibly be the reason for their lower likelihood of using organic food on a regular basis.

5. Discussion

Using a food-related lifestyle approach on a sample of 203 respondents, we endeavored to segment the Vietnamese organic food market. Similar to several research studies conducted in other

countries [2,7,8], this study found three distinct segments of organic food consumers. Given that the characteristics of these segments were generally similar to those described in previous studies, the FRL appears to be an effective tool in the context of organic food consumer segmentation.

On average, Vietnamese organic food consumers paid particular attention to healthy food products. The FRL segmentation analysis demonstrated that a relatively high percentage of organic consumers were Conservatives. These consumers were very interested in the health aspect of food. They were interested in information on product packaging. They liked natural products and planned the consumption of food for their family. They also loved to cook and seemed to like organic food and foods from their own country. This segment was neutral regarding innovation in food and rarely used processed food. This is the segment that consumed the largest quantity of organic food. The characteristics of this segment are quite similar to the "Traditionalist" segment identified by Żakowska-Biemans [44], the "Traditional food shoppers" segment suggested by Liang [42], and the "Rational consumer" segment identified by Nie and Zepeda [36].

The Trendsetters were similar to the Conservatives in that they paid attention to healthy food. In addition, they were more open to novelty in food, liked cooking, and preferred local and organic food. Interestingly, the Trendsetters particularly appreciated the convenience in cooking food. A possible explanation for this is that they need to balance their love of cooking with their busy lifestyle. This segment is quite similar to the "Enthusiastic food shoppers" identified by Liang [42].

The Unengaged consumers, unlike the Conservatives and Trendsetters, were not very interested in food-related issues in general. They were the cohort that consumed the least amount of organic food among the three segments. This segment displays several similarities with the "Careless consumers" identified by Nie and Zepeda [36] and Żakowska-Biemans [44] and the "Uninvolved shoppers" suggested by Liang [42].

This study has highlighted a nexus between the identified segments and the level of income of the consumers. The Conservatives earned a higher income than the other two segments. As far as the rest of the demographics are concerned, there were no significant differences between the segments. However, as per our observation, Conservatives is the only segment where the average age was over 45 years. In terms of gender, Trendsetters had a relatively higher proportion of males as compared to the other two segments.

6. Managerial Implications

The fresh insights gained from this study suggest several important implications aimed at increasing consumer demand for organic food and enhancing the consumer purchase experience. Based on the demographic and psychographic profiles identified for the three clusters of organic food consumers, key stakeholders such as organic food marketers and associations, policymakers, and socio-environmental organizations need to segregate their target audience into the suggested three clusters. Differential strategies should be considered for the three identified segments as follows.

6.1. For the Conservatives

This segment is interested in product information; hence, firms should pay particular attention to proper packaging and labelling requirements. Product labels must clearly display information about the brand, nutrition, and origin. The labels should also emphasize the advantages of consuming organic food. Firms should include in their marketing communication the superior characteristics of organic food, such as being healthier, safer, and more nutritious. Additionally, programs relating to health care and nutrition counselling should be included in the communication channels. Knowledgeable and enthusiastic staff should be also utilized to directly provide clear and honest information for in-store consumers.

6.2. For the Trendsetters

Given that this segment likes cooking while also preferring convenience, communication programs emphasizing the enjoyment of cooking organic food should be combined with sufficient distribution of organic food in various stores. Social media including cooking blogs and cooking Facebook pages should be effectively utilized. Other communication channels such as TV and the Internet using selective cooking programs should also be patronized. Furthermore, it would be beneficial to recruit organic brand ambassadors who are passionate about cooking and who lead modern lifestyles. To make organic foods conveniently available to this segment of consumers, more thought and planning need to go into providing intensive distribution channels.

6.3. For the Unengaged

Businesses should refrain from investing in this segment as it is relatively small. Alternatively, they might want to engage with consumers in this segment primarily through education and communication programs to increase their knowledge about organic food. Sales promotion programs should be also used to stimulate their demand for organic foods. Consequently, in the long run, some of the consumers of this segment could possibly be converted.

In addition to the above differential strategies, retailers who sell both organic and non-organic foods should consider different price strategies for such products, especially perishables [63]. It is suggested that there is a need at times to discount the price of vegetables with a short shelf life (e.g., lettuce) before they spoil. For less perishable vegetables such as carrots, retailers can even increase profits by setting higher price margins between organic and conventional produce [63].

7. Conclusions, Limitations, and Future Research Direction

The increasing attention to health and the environment has made organic food more and more popular among consumers. It is predicted that the demand for organic food will increase tremendously in the near future. Following the global trend, people in Vietnam have in recent times paid more attention to the consumption of organic food. To assist researchers and practitioners in the field of organic food, this study has segmented the Vietnamese consumers using the FRL scale. To the best of our knowledge, the present study is among the first of its kind to address the need for segmenting organic food consumers in the Vietnamese context. The important findings include a customized FRL scale consisting of five dimensions (i.e., innovation/novelty, attention to healthy food, love of cooking, convenience, love of local and organic food) and three distinct segments of organic food consumers (i.e., Conservatives, Trendsetters, and Unengaged). Importantly, marketing programs such as labelling, communications, and distribution should be tailored to accommodate the differences in the attitudes and lifestyles associated with food consumption between consumers in the three identified segments.

However, there are several limitations of this study. First, the sample size of 203 respondents was relatively small. Future studies should endeavor to obtain a larger sample size which would provide considerable academic rigor to the entire process of segmentation. Second, given that the data was collected in one city (i.e., Danang) and that a non-probability sampling technique was used in the online survey, the representativeness of the sample is rather limited. Future studies should therefore apply probability sampling techniques as well as collect data in other major cities such as Hanoi and Ho Chi Minh City. Third, this study generalized the organic food category. Future studies might want to investigate particular types of organic food, for example, organic fruit or vegetables, organic grain, organic meat, etc. Finally, effective segmentation could possibly be achieved using psychographics which are not food related; for example, by using the varying lifestyles of consumers.

This study presents a wide variety of future research possibilities. Future research could investigate whether using our customized food-related lifestyles to achieve segmentation stands up to scrutiny in other emerging markets like India, China, and Malaysia. Additionally, it might be desirable to investigate changes in consumers' attitudes and FRL over time by conducting a

longitudinal study. Future research could also attempt to modify and extend the existing FRL scales. In this regard, researchers could include items on organic food accessibility and availability in the scales and examine the relationship between organic food accessibility and organic food purchase and consumption. Alternatively, researchers could integrate dimensions such as environmental concern and food safety concern into the current FRL scales.

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