

The Impact of Psychological and Environmental Factors on Consumers' Purchase Intention toward Organic Food: Evidence from Vietnam

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Abstract

The study investigates some psychological and environmental factors affecting the intention to purchase organic foods of consumers in the inner-city of Hanoi. Impact factors applied for the study include three psychological factors (health concern, environmental concern, consumer awareness of organic foods) and seven environment factors (family's opinion, friends and colleagues' opinion, influence of celebrities, expert's opinion, social status, mass media, state's encouragement). We analyzed research data from 396 consumers to measure the impacting level of these factors. The convenient sampling method was used to collect the research sample. The measurement applied a 5-point Likert scale classifying from 1–completely disagree to 5–completely agree. Based on previous studies, the research model was recommended. We had estimated the reliability of the scales through Cronbach's Alpha and composite reliability. The research data is analyzed by using Structural Equation Model method (SEM). The findings of the study suggest that psychological factors (health concern, environmental concern, consumer awareness of organic foods) had a significantly positive influence on consumer's purchase attention toward organic food. The results also revealed that environmental factors (family's opinion, friends and colleagues' opinion, influence of celebrities, expert's opinion, mass media) were positively linked to consumer's purchase attention toward organic food.

Keywords: Organic Food, Purchase Intention, Psychological Factors, Environmental Factors

JEL Classification Code: C38, M30, M31, M37

1. Introduction

According to the World Health Organization (WHO), organic agro-products (organic food) are perceived as “products that are created from an organic agricultural sector whose production process only uses organic fertilizers, removes grass manually or mechanically, prevents pestilent insects by biological methods, creates products meeting foods hygiene and safety requirements, at the same time ensures that the production system is sustainable in terms of environment, society, economics, habitat protection for both the present and future”.

Organic food encompasses natural food items, which are free from artificial chemicals such as fertilizers, herbicides, pesticides, antibiotics, and genetically modified organisms. Additionally, organic food is not subjected to irradiation (Gad Mohsen & Dacko, 2013). Thus, organic food is considered healthy because synthetic chemicals are not used in its production (Suprpto & Wijaya, 2012). The literature shows that many terms are used to refer to organic food, such as “natural,” “local,” “fresh,” and “pure” (Chan, 2001). Organic farming has always been a healthy option to produce followed by at least some farmers all over the world (Dmitri, Lohr, Canavari, & Olson, 2007).

In recent years, organic food production and trading industries in the world have grown rapidly in recent years. In the United States, the growth rate of the organic food market is estimated at around 15.5% per year from 2013 to 2019 (according to the Organic Foods and Beverage Market). According to Makatouni (2002), “the organic food production and trading industry is one of the industries with the fastest growth rate in the food market in Europe, South America, Oceania and Japan”. The points-of-sales of organic foods in markets, supermarkets and retail stores have developed extraordinarily, with an average growth rate

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of 20-50% (according to FFDI). Organic foods have become familiar to consumers in many countries and will become the world's consumer trend in the future (Pham, 2020).

In Vietnam, in the context of popular unsafe foods, an increasing number of consumers, especially consumers in big cities like Hanoi and Ho Chi Minh have sought safe foods. Therefore, the organic foods market in big cities of Vietnam like Hanoi is assessed to have potential for fast development. However, in fact, the production and trading industry as well as the consumption market of organic agro-products in Vietnam have not really developed. The cause is that organic foods trading enterprises still lack knowledge about the purchasing behavior as well as factors affecting consumers' behavior of buying organic foods. Therefore, the study of impact of factors affecting the behavior/intention to purchase organic foods is crucial to create an accurate source of input information to be the basis for strategic decisions to develop the organic foods market in Vietnam.

There have been numerous studies on the impact of factors on organic purchase intention (Akbar, Hassan, Khurshid, Niaz, & Rizwan, 2014; Kabadayı, Dursun, Alan, & Tuğer, 2015; Kong, Harun, Sulong, & Lily, 2014; Swain, 2012). In Vietnam, there have also been a number of studies on the factors affecting purchase intention toward green or organic foods. However, no studies have assessed the impact of specific external environmental factors on purchase intention toward organic food, including: family's opinion, friends and colleagues' opinion, influence of celebrities, expert's opinion, social status, mass media, and state's encouragement. From the mentioned reasons, authors decided to investigate the topic of personal psychological factors and environmental factors affecting the intention to purchase organic foods of consumers in Hanoi, Vietnam.

2. Literature Review

2.1. Purchase Intention of the Organic Food

According to WHO, "Organic foods (organic agro-products) are products that are produced based on the natural cultivation and husbandry system, do not use chemicals as fertilizers, do not use pesticides, herbicide, antibiotics or preservatives, etc., but use natural products as fertilizers and use biological methods to prevent pestilent insects. Therefore, organic agro-products are also called healthy foods or natural foods." Ajzen (2002) defined the purchase intention as "human's attempt to complete the behavior under the impact of factors, including behavior, trust in standards and trust in the control. The stronger the impact of these factors is, the stronger the human's will to act is." According to Rashid, Jusoff, and Kassim (2009), purchase intention for organic food is "the ability and intention of consumers themselves in using their preference for organic agro-foods rather than

ordinary foods in making consideration and assessment when purchasing". Han, Hsu, Lee, and Sheu (2011) pointed out that the intention to purchase organic agro-products is often associated with "the intention to pay more for organic agro-products compared to ordinary products" and "good word-of-mouth about products".

2.2. Factors Affecting Consumers' Purchase Intention toward Organic Food

The existing studies on factors affecting purchase intention toward organic foods like that of Lê (2014) have measured the impact of these factors: health concern, perception of quality, environmental concern, subjective code of conduct, product availability, product pricing, reference groups, and mass media. The researchers applied some of the impact factors used in previous studies to continue the survey in the new context of the existing model, while developing a number of new impact factor that those previous studies had not mentioned. From qualitative interviews, the researchers have identified some more specific factors of some reference groups to assess the influence of purchase intention toward organic foods such as family's opinion, friends and colleagues' opinion, influence of celebrities, and expert's opinion. Some other environmental factors that are also added to the research model including social status and state's encouragement. Because in the context of Vietnam, state's encouragement is expressed in policies to enact and enforce regulations, which may have an impact on consumers' purchase intention toward organic foods. The research model did not include business marketing factors such as product availability and product pricing to measure the impact of objective factors on Hanoians' purchase intention toward organic food.

Using the factors mentioned in existing studies and through qualitative interviews, the researchers identified factors affecting consumers' purchase intention toward organic foods in the research model, including:

- (I) Psychological and personal factors: (1) Health concern; (2) Environmental concern; (3) Consumer awareness of organic foods.
- (II) External environmental factors: (4) Family's opinion; (5) Friends and colleagues' opinion; (6) Influence of celebrities; (7) Expert's opinion; (8) Social status; (9) Mass media; (10) State's encouragement.

2.2.1. Psychological and Personal Factors

• Health Concern

Consumers who are concerned about their health are "consumers who thoroughly know their health status and are concerned about their health benefits. They are willing to do things to maintain good health and improve health and quality of life" (Kraft & Goodell, 1993). These people tend

to prevent disease by engaging in healthy activities. They are knowledgeable about nutrition and participate in sports activities. Consumers have paid no attention to the marketing mix factors, but they care much about service quality and health consciousness (Tran, Pham, Van Pham, & Nguyen, 2020). When the economy develops, the people's living standards are improved, consumers have paid more and more attention to health issues during their selection of products in general and food products in particular. Organic foods are assessed as good for the health, so it will affect consumers' decision when buying foods for their daily meals. Moreover, many previous researches of authors, including Dickieson, Arkus, and Wiertz (2009), Kulikovski, Agolli, and Grougiou (2011), Nguyen (2011), Lê (2014), also proved that health concern is a factor that affects consumers' intention/behavior to buy organic foods.

• *Environmental Concern*

Kalafatis, Pollard, East, and Tsogas (1999) describe environmental concern as the awakening and perception of consumers of the environment being threatened and the natural resources being increasingly depleted. Said and Fakhrol-Razi Ahmadun (2003) define environmental concern as beliefs, attitudes, and levels of personal concern for the environment. According to Winter and Davis (2006), "organic foods are foods that help protect the environment because the production and trading process does not use chemicals and technologies that pollute the environment"; therefore, environmental concern is considered one of the factors that affects consumers' use of organic products or not. The study of Magnusson et al. (2001) figured out that up to 89% of the respondents agreed that they paid a lot of attention to the consequences of the food product consumption to the environment. Environmental concerns had a positive impact on such practices, and the image of internal green supply chain management practices was found to have a significantly positive effect on consumer purchasing behavior (Lee & Lim, 2020).

• *Consumer Awareness of Organic Foods*

People consume foods when they are aware of the quality and benefits of products. In the food consumption, the awareness on the quality is the top concerns. Many studies argued that consumers describe organic produce as natural, unprocessed and free from growth hormones (Harper & Makatouni, 2002; Hutchins & Greenhalgh, 1997; Lockie, Lyons, Lawrence, & Mummery, 2002). The common understanding of consumers on organic produces is that these have no pesticides, no artificial fertilizer, and residue-free safe products (Huang, 1996; Jolly, Schutz, Diaz-Knauf, & Johal, 1989). Moreover, consumers often perceive organic produce as healthier with higher vitamin and mineral contents than conventional products and are environment friendly (Chinnici, D'Amico, & Pecorino, 2002; Lea & Worsley, 2005; McEachern, Seaman, Padel, & Foster, 2005; Radman,

2005). Perception plays an important role in knowing the potential consumers' attitude and behaviors toward organic food. This factor is mentioned in the research models of many authors on factors affecting consumers' intention to purchase organic foods, such as the studies of Dickieson et al. (2009), Kulikovski et al. (2011), Nguyen (2011), Lê (2014).

2.2.2. External Environmental Factors

The study of Roberts and Rundle-Thiele (2007) pointed out the referential groups that affect consumers' intention to purchase organic foods, but they have not been able to figure out the impacting level and direction of specific reference groups. The specific reference groups are identified as follows:

• *Family's Opinion*

The family is the group that has the most significant influence on an individual's purchase intention toward goods, especially food, which is essential, used daily and serves the needs of all the members. At the same time, family members often use the same budget so the purchase intention will be influenced by the views and opinions of other members.

• *Friends and Colleagues' Opinion*

Friends and colleagues are included in a group that each individual regularly contacts in the community, society, and group members often have similar characteristics in terms of interests, age, views, attitudes, and qualifications, etc. Members of a group of friends and colleagues often have opinions on the issues they care about and those opinions affect the perceptions and thoughts of other members.

• *Expert's Opinion*

Experts are people with extensive knowledge, information and thorough understanding of products. Consumers often seek for information from this group during the purchase decision-making process. In particular, for organic agro-products, opinions on nutrition facts, identification, etc. are always of consumers' top concerns, so the inclusion of this group in the model for consideration under the perspective of the research team is completely suitable.

• *Influence of Celebrities*

Celebrities include influential people with broad awareness, which is the ideal role model for many consumers in some cases. Celebrities are key opinion leaders (KOLs) who influence consumers' perceptions, attitudes and behaviors toward a particular product or brand. One of the factors in the social environment in Philips Kotler's model that has impacts and needs to be considered is social status. Consumers often tend to purchase products to show and assert their social status. Organic agro-products are often products that have high value and are safe for the environment and the health. The use of these products makes consumers perceive that they are at a high social status, broad knowledge, so it will affect their purchase intention and decision. In the

current age when the information technology develops dramatically, consumers access information from various directions in which the mass media has very great impact on consumers. The information from the mass media helps form trust and attitude, thus affecting consumers' purchase intention.

2.3. Research Framework and Hypotheses

According to Davis, Titterington, and Cochrane (1995), the most frequent motive to purchase organic food is based on consumers' perception that organic food is healthy to them. Health concern appears as the most important reason for purchasing and consuming organic food (Magnusson, Arvola, Hursti, Åberg, & Sjöden, 2003; McEachern et al., 2005; Tregear, Dent, & McGregor, 1994; Wandel & Bugge, 1997). Previous research by Lockie et al. (2002); Grankvist and Biel (2001) has identified interest in health as a primary motive for the purchase of organic food. In addition health consciousness has been found to predict attitudes, intention and purchase of organic food (Magnusson et al., 2003; Magnusson et al., 2001). Fotopoulos and Krystallis (2002) have their own opinion toward health consciousness that has given impact in purchase intention of organic food. The matter of increased health care through proper nutrition is a key factor influencing consumption choice. Based on the concept of each affecting factors and the relation with the intention to purchase organic foods, the research team has defined the following hypotheses:

H1: *Health concern has a positive impact on purchase intention of organic food.*

When the life and income are improved, consumers start to pay more attention to the health in their daily-used products. Foods are essential consumer goods and the main source of nutrients; therefore, they directly affect consumers' health. Many studies have asserted the proportional relation between health concern and the intention to purchase organic foods ((i.e., Nguyen (2011); Truong, Yap, & Ineson, 2012). Health concern is the motivation to buy organic foods, so when consumers pay more attention to health, they will have intention to purchase organic foods.

H2: *Environmental concern has a positive influence on purchase intention of organic food.*

The environment is degrading and the environmental pollution has become very severe, so the green consumption has become the consumer trend of the world in general and Vietnam in particular. Howlett, McCarthy, and O'Reilly (2002) showed that consumers of organic foods have paid

a lot of attention to the environment. In Vietnam, Nguyen (2011) also asserted the proportional relation between environmental concern to the intention to purchase organic foods. As a result, consumers who pay more attention to the environment will have a strong intention to purchase organic foods.

H3: *Awareness of organic foods has a positive influence on purchase intention of organic food.*

Consumers will eat foods when they are aware of the product quality and their benefits. In the food consumption, the awareness of quality is one of the top concern. When consumers are aware of the high quality of organic foods and their benefits, they will form the intention and turn to consume organic foods. This proportional relation has been proved in many previous studies (i.e., Dickieson et al., 2009; Magnusson et al., 2001), which are the basis for formulating this hypothesis.

H4: *Family's opinion that supports organic foods has a positive influence on purchase intention of organic food.*

In families, members often exchange information and assessment on the selection and use of products. The intention of each family member will have direct influence on the remaining members in the consensus direction. Many research results have proved the proportional relation of the family's opinion to the intention to buy many types of products and services in which food products are not an exception. Therefore, family members using organic foods or have the supporting intention to use organic foods instead of ordinary foods will encourage consumers to buy and use organic foods.

H5: *Friends and colleagues' opinions that support the use of organic foods have a positive influence on purchase intention of organic food.*

Friends and colleagues are those who often come into contact after the family. Because there are usually similar characteristics in terms of age, interests, opinions, attitudes, etc., this referential group presents their opinions and perspective more freely and is more receptive to each other's opinions. According to the research team's hypothesis, the frequent exchange and evaluation of organic foods by friends and colleagues will first help consumers receive more information about organic foods, thereby promoting consumers' purchase intention.

H6: *Opinions of celebrities consuming organic foods have a positive impact on purchase intention of organic food.*

Celebrities are often the images that fans want to target and want to become. This is a relatively influential and well-known group of people. In some cases, this referential group is the representative for enterprises and a bridge to consumers. Many products and services that consumers choose and use come from the influence of KOLs who are celebrities. Therefore, the research team set out a hypothesis that the influence of celebrities will positively impact consumers' intention to purchase organic foods.

H7: *Expert group's opinion about organic foods has a positive impact on purchase intention of organic food.*

The expert group in the author's study is divided into two main groups: food experts and State's accrediting agencies. This is a referential group with a deep understanding of organic foods and often gives information, advice or evidences as a basis for identifying and selecting products and brands of consumers. Therefore, the research team formulated a hypothesis that positive opinions of the expert group on organic foods will stimulate consumers' purchase intention.

H8: *The greater the desire to show social status, the stronger the purchase intention of organic food.*

Consumers often tend to buy and consume products and services that demonstrate their social status. Organic foods are foods with a relatively high price compared to ordinary foods, the consumption of organic foods will help protect health and environment so they are expected to help enhance the images of consumers in the eyes of others.

Thus, the author submits a hypothesis that the higher the desire to show consumers' social status, the stronger consumers' intention to purchase organic foods.

H9: *Mass media has a positive impact on purchase intention of organic food.*

Mass media is a source of information that consumers consider useful and reliable while searching for information about products and services. This is a broad and profound source of information for consumers. In fact, there have been many studies showing the positive relationship of mass media to purchase intention (i.e., Wray Ricardo et al.; Inman Khalid). Organic foods are also no exceptions, so the research team formulated a hypothesis that the mass media would positively impact consumers' purchase intention.

H10: *State's encouragement has a positive impact on purchase intention of organic food.*

The State's legal policies affect not only enterprises, but also consumers. All people and organizations must operate, work and do business in compliance with the law of the State. Therefore, the research team gave out a hypothesis that when the State has policies to encourage the development of the organic food industry, it will promote the development of production and business activities, thereby positively affecting consumers' purchase intention.

Based on the synthesis of relationships and hypotheses, we draw a model to study some factors affecting the intention to purchase organic foods (Figure 1).

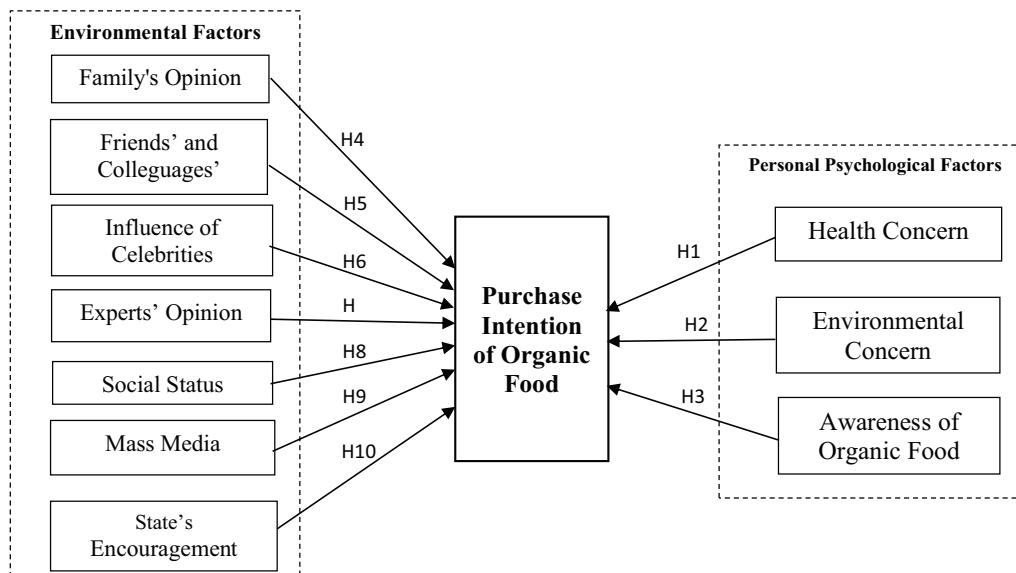


Figure 1: Research Framework

3. Research Methodology

3.1. Sample and Sampling Methods

The study was conducted through two steps: preliminary investigation and formal investigation. In particular, the preliminary investigation consists of qualitative and quantitative surveys, the second step is to carry out formal quantitative surveys. Specifically, in the qualitative preliminary investigation, the author conducted in-depth interviews with experts and focus group interviews with 15 consumers to improve the first draft scale and create a second draft scale. As for the quantitative survey, the preliminary study was conducted with 120 samples and 84 results ($N = 84$) to test the reliability coefficients of the scales using Cronbach's Alpha and EFA reliability coefficients to exclude subnormal observation items.

The questionnaire included 42 observational items, the sample size estimates maximum likelihood (ML) or at the least five times the number of parameters within this model including error (Bentler & Chou, 1987) or the question item total is multiplied by 5. Thus, the sample size needed in this research is $5n$ that is 5 multiplied by 42 (total question item), that is, 210 respondents. However, to increase the reliability of the study, the author intends to collect 450 respondents ($N = 450$) and the final result was 421 respondents. After screening and removing invalid questionnaires, the author uses 396 valid questionnaires for use in the analytical processing.

Subsequently, the quantitative research data was collected through a survey of a sample of 450 consumers in the inner-city of Hanoi by questionnaire via two channels: face-to-face and online interviews. The sampling method are a non-probability sampling method and convenient sampling method. Scales of all variables use 5-point Likert scale, ranging from 1 "strongly disagree" to 5 "strongly agree".

3.2. Data Analysis

The validity test for this research is done by using the SEM validity analysis, which tests t -value ≥ 1.96 and standardized loading factor with the value cut off ≥ 0.5 (Hair, Anderson, Tatham, & William, 2006). The reliability test, which uses the SEM reliability analysis with the value of construct reliability (CR) cut off ≥ 0.70 and average variance extracted (AVE) ≥ 0.5 from standardized loading factor values and error variances. The respondent data will be analyzed by simple descriptive statistics. Finally, the data is analyzed by using Structural Equation Model method (SEM). This model is a statistical technique that analyzes an indicator variable, a latent variable and measurement error (Ghozali, 2008).

4. Research Results

4.1. Exploratory Factor Analysis (EFA)

Before conducting CFA to check the quality and reliability of the scale, the research team conducted EFA and Cronbach's Alpha factor analysis. The results of EFA and Cronbach's Alpha analysis in Table 1 show that the total reliability coefficient of the scales is greater than 0.6 and the cumulative of variance is greater than 50%, and is satisfactory. This result is aggregated from running reliability analysis Cronbach's Alpha and running factor analysis to measure average variance extracted. Besides, the EFA analysis results shows that 11 factors corresponding to three groups of factors have observed variables that load the same independent factor corresponding to a factor loading value satisfying > 0.5 . Thus, all factors in the model have converged values. Furthermore, also from the EFA analysis, the observed variables have loading on only one factor, so that the factors in the model all achieve a discriminant value. In addition, the correlation coefficients of variables are greater than 0.3, which meet the requirements of the scale quality. Therefore, the measurement scales for variables in the research model are valid to be used for further analysis.

4.2. Confirmatory Factor Analysis (CFA)

After preliminary evaluation of the scale, the author continued to use AMOS software version 20.0 to conduct CFA (Confirmatory Factor Analysis) of conceptual scales, test the suitability of the theoretical model and test the hypotheses. The used testing standards include: Chi-square adjustable degrees of freedom (CMIN / df); GFI index (Goodness of Fit Index); TLI index (Tucker & Lewis Index); CFI index (Comparative Fit Index); RMSEA (Root Mean Square Error Approximation). The model is considered suitable when the Chi-square test has a value of $P \leq 0.05$. However, Chi-Square has the drawback that it depends on the sample size. The larger the sample size is, the larger the Chi-square is, thus reducing the fit of the model. Therefore, besides P-value, the standard used is CMIN/df, in some practical studies people distinguish two cases: $\div 2 / df < 5$ (with the sample $N > 200$); or < 3 (when sample size $N < 200$), the model is considered to be a good fit (Kettinger and Lee, 1994)(Kettinger & Lee, 1994). In this study, due to the number of study samples of $N = 273$ ($N > 200$), the research team will use the criteria of Kettinger and Lee (1994) to accept CMIN / df < 5 ; GFI, TLI, CFI ≥ 0.9 (Bentler & Bonett, 1980), RMSEA ≤ 0.8 .

Table 2 shows the GFI, TLI, CFI > 0.9 ; Chi-square / df < 5 and RMSEA ≤ 0.08 demonstrate that the model is suitable for the market data.

Table 1: Summary of reliability and cumulative of variance from the scales

| No. | Scale | Number of observed variables | Cronbach's Alpha reliability coefficient | Cumulative of variance | Conclusion |
|-----|-------------------------------------|------------------------------|--|------------------------|-----------------|
| 1. | Health concern | 5 | 0.778 | 62.956% | Reliable scales |
| 2. | Environmental concern | 4 | 0.769 | 59,103% | |
| 3. | Awareness of organic food | 7 | 0.682 | 63.559% | |
| 4. | Family's opinion | 3 | 0.710 | 75,316% | |
| 5. | Friends and colleagues' opinion | 3 | 0.685 | 60.874% | |
| 6. | Influence of celebrities | 3 | 0.754 | 71.009% | |
| 7. | Expert group's opinion | 3 | 0.702 | 62,694% | |
| 8. | Social status | 4 | 0.605 | 67.833% | |
| 9. | Mass media | 3 | 0.738 | 66,088% | |
| 10. | State's encouragement | 3 | 0.677 | 61,476% | |
| 11. | Purchase Intention of organic foods | 3 | 0.835 | 65.875% | |

Table 2: Results of CFA test of scales

| No. | Criteria | Group of psychological and personal factors | Group of environmental factors | Purchase Intention of organic food |
|-----|---------------|---|--------------------------------|------------------------------------|
| 1. | Chi-square/df | 1,871 | 1,681 | 1,771 |
| 2. | GFI | 0,949 | 0,942 | 0,942 |
| 3. | TLI | 0,936 | 0,929 | 0,936 |
| 4. | CFI | 0,946 | 0,943 | 0,945 |
| 5. | RMSEA | 0,045 | 0,039 | 0,042 |

4.3. Testing of Theoretical Models

After completing the evaluation of the scales, the author conducted tests of theoretical models:

The results of testing the theoretical model are shown in Figure 2. Chi-square/df = 1,495; GFI = 0.896; TLI = 0.918; CFI = 0.927; RMSEA = 0.034 proves that the model is suitable for market data. In addition, the estimated results show that the relationships are statistically significant ($P < 5\%$); only the relationship between social status and State incentives and the intention to purchase organic foods is not statistically significant ($P > 5\%$), see Table 3 for details.

4.4. Testing of Research Hypotheses

The estimation results in Table 3 show that the weights of the relation between the said factors of individuals are

positive and statistically significant ($P \leq 0.05\%$). It shows that health concern, environmental concern, and awareness of organic foods have a positive relationship with the intention to purchase organic foods ($H1 = 0.247$; $H2 = 0.092$; $H3 = 0.155$). The health concern factor has the largest impact ($H1 = 0.247$), while environmental concern factor has the lowest impact ($H3 = 0.092$).

The survey results also show that environmental factors, including family, colleagues, celebrities, experts, and mass media factors have positive effect on the intention to purchase organic foods, and have statistical significance ($H4 = 0.109$; $H5 = 0.217$; $H6 = 0.163$; $H7 = 0.113$; $H9 = 0.020$). While the factors of social status and State encouragement are not statistically significant ($P \geq 0.05\%$). In summary, the hypotheses $H1$, $H2$, $H3$, $H4$, $H5$, $H6$, $H7$, and $H9$ are all accepted. The celebrities' factor has the largest impact ($H5 = 0,217$), while the mass media has the lowest impact ($H9 = 0,020$).

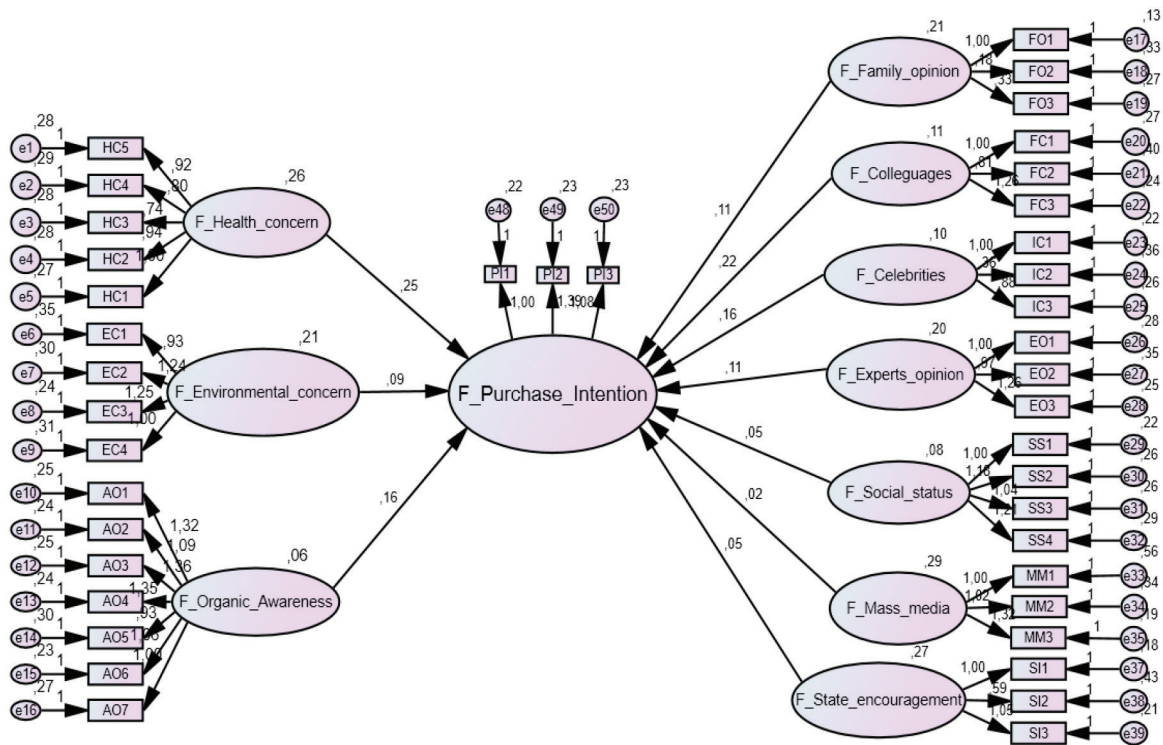


Figure 2: Test results of theoretical research model (Unstandardized)

Table 3: Relation test results (unstandardized regression coefficients)

| Hypothesis | Relations | Estimate | S.E. | C.R. | P | Significance |
|------------|--|----------|------|-------|------|-----------------|
| H1 | F_Purchase_Intention ← F_Health_concern | ,247 | ,044 | 5,671 | *** | Significant |
| H2 | F_Purchase_Intention ← F_Environmental_concern | ,092 | ,033 | 2,776 | ,005 | Significant |
| H3 | F_Purchase_Intention ← F_Organic_Awareness | ,155 | ,067 | 2,328 | ,020 | Significant |
| H4 | F_Purchase_Intention ← F_Family_opinion | ,109 | ,076 | 1,446 | ,048 | Significant |
| H5 | F_Purchase_Intention ← F_Colleagues | ,217 | ,061 | 3,526 | *** | Significant |
| H6 | F_Purchase_Intention ← F_Celebrities | ,163 | ,079 | 2,073 | ,038 | Significant |
| H7 | F_Purchase_Intention ← F_Experts_opinion | ,113 | ,036 | 3,145 | ,002 | Significant |
| H8 | F_Purchase_Intention ← F_Social_status | ,054 | ,056 | ,961 | ,337 | Not Significant |
| H9 | F_Purchase_Intention ← F_Mass_media | ,020 | ,026 | ,778 | ,037 | Significant |
| H10 | F_Purchase_Intention ← F_State_encouragement | ,051 | ,028 | 1,805 | ,071 | Not Significant |

5. Conclusion

The contribution of this study is to build a theoretical model, test hypotheses, and assesses the impacting level of factors on the intention to purchase organic foods by consumers in the inner-city of Hanoi. The research results put forward new findings that all physical and personal factors like health concern, environmental concern, and awareness of organic foods positively influence the intention to purchase organic foods. Of these, health concern is the most influential factor ($H1 = 0,247$). Enterprises that trade in organic foods may carry out activities referring to the health concern of consumers through communication programs and consultancy on healthy products. In addition, environmental concern is also a factor affecting the intention to purchase organic foods. From the research results, enterprises should study and use environmentally-friendly packages and provide barcodes to manage product traceability, for example.

The environmental factors like family, friends and colleagues' opinion, celebrities, experts' opinion, and mass media are factors that have a positive impact on the intention to purchase organic foods. Friends and colleagues' opinion has the strongest influence ($H5 = 0,217$), followed by celebrities ($H4 = 0,163$) and the remaining factors. This result shows that consumers often consult the opinion of friends, colleagues, experts, celebrities and the mass media to obtain information about organic foods. The more information they use about organic foods, the greater the consumers' intention to purchase organic foods. This information helps raise consumers' understanding about safe, healthy and nutritious foods, so they will come to organic foods to satisfy their demand for nutrition.

The research results have suggested managerial implications to promote the intention to purchase organic foods of Vietnamese consumers as follows:

- Consumers' health concern is the factor that triggers the intention to purchase organic foods. Therefore, enterprises that trade in organic foods can implement communication activities that target consumers who care about health through consulting programs on nutrition and raising awareness on food-related health. Besides, enterprises should also communicate to consumers about the degrading environment and severe pollution, so that green consumption becomes a trend in the world in general and in Vietnam in particular. Besides, at present, consumers have not been fully and correctly aware of organic foods, so enterprises that produce and trade in organic foods should raise awareness on organic foods for consumers through consulting and communication programs at points-of-sales and on the mass media, so that consumers have a better awareness of organic foods. When consumers have better awareness on organic foods, they will tend to increase the use of organic foods.

- The research results also show that referential groups like family, friends and colleagues, experts, celebrities as well as

the mass media will have a positive influence on the intention to purchase organic foods. Consequently, enterprises may actively use the mass media to communicate about products and use nutrition experts to consult and share about organic foods. The use of experts, celebrities and mass media to inform about products, not only influence consumers, but also influence their families, friends and colleagues to have resonating effects on consumers through their families and friends. In order to increase the impact of environmental factors on the intention to purchase in the future, enterprises need to convey accurate and truthful information that will build trust among consumers and increase their intention to purchase.

Based on the surveyed results from consumers, the article has provided some new and more specific findings about factors affecting the intention to purchase organic foods by Vietnamese consumers. These findings may help enterprises' managers find out solutions to promote the intention to purchase organic foods.

One limitation of this study is that the effects are analyzed only in Hanoi city. Thus, the findings cannot be generalized to similar cities. We recommend future research to focus on a similar study of factors affecting customer purchase intention toward organic food products in all cities in Vietnam. Additional variables such as perceived values, food safety concern, taste and innovativeness of organic food products can be further examined to increase the accuracies and effectiveness of the study findings.

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