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Factors Affecting The Consumers' Purchase Decision Safe Food: Case Study in Vietnam

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Abstract

The demand for safe food is quite high while the decision to buy safe food is quite low. The study aims to find out the factors that influence the purchase decision safe food and on that basis, propose some suggestion for manufacturers and distributors in order to stimulate consumption for safe food. This study used the survey of 318 consumers in Vietnam in combination with the EFA method and regression of OLS to find out the factors affecting the decision to buy safe food of Vietnamese consumers. This study shows that there are four factors having positive effects on Vietnamese consumers' purchase decision. Attitude, value factor is the strongest impact and consumer trust is the weakest impact on the consumer's purchase decision safe food.

Keywords: Consumer, Purchase decision, Safe food, Vietnam

1. Introduction

Food safety is a concern in developing countries. In Vietnam, the living standards of the people have been improved, enabling them to be increasingly concerned about their health. In addition, dirty and poor quality food flooded the market while the management mechanism is not strong enough to control this situation making the consumer demand for safe food increase. However, the fact that the consumption of safe food in the Vietnamese market is still not really popular and only focuses on a part of consumers as well as focusing on some specific markets. This paper aims to study which factors influence Vietnamese consumers' purchase decision safe food through exploratory factor analysis (EFA) and multivariate regression (OLS). Thereby, the authors point out the real factors that affect the decision to buy safe food of Vietnamese consumers and suggest policies to increase the amount of safe food consumed in the market.

2. Literature Review

Ajzen (1985) argues that the actual consumer buying behaviour is decision-making process and consume products, there are many factors that unexpectedly impact and may change the buying decision since consumers intend to buy. Niessen & Hamm (2008), Phillip Kotler & Gary Amstrong (2012) also suggest that there is a big gap between the consumer's purchase intention and their behaviour for safe food products. There are five steps of consumer decision-making process including need recognition, information search, evaluation of alternatives, purchase decision, and post purchase behavior (Armstrong & Kotler, 2010). Consumer's purchase decision is an important behavior, so it is necessary to research on factors affecting the consumer's purchase decision for safe food products (Niessen & Hamm, 2008).

Some studies focus on consumer trust for safe food products. Consumer express their confidence in the quality of safe products bought in supermarkets (FAO, 2010; Nguyen & Vo, 2011; Chu & Pham, 2013). Janssen & Hamn (2012) state that consumer trust is measured by the level of trust between producers and products.

Chan (2001) argues that attitudes towards using safe food products indirectly affect to consumer buying behaviour through the consumer's purchase intention, while Jan et.al. (2011) state that attitude and subjective standards impact significantly on consumers' willingness to pay for safe food products. In addition, Jue Chan (2012) suggests that regulations and lifestyle have a direct or indirect effect on consumers' beliefs/attitudes before purchasing.

Consumer awareness has an important impact on their purchasing behavior (Lau Kwan Yi, 2009; Vu, 2010). Distinguish between safe products and other consumer products will increase their purchasing power, however, there are many consumer's measures of product quality indicated as visual distinguish (Fotopoulous, 2000), prices (Shaw-Hughmer, 2007; Harrison, 2009), available or complexity information (Dickson, 2001; Verbeke, 2005).

Padel & Foster (2005) argue that core values are considered to be the foundation for consumers' purchase decision safe food including health; welfare and quality of life, environmental concerns. Besides, the study also points out barriers such as price, lack of information /awareness, quality and label product, lack of availability, distrust in the safe food in supermarkets, eating habit and convenience needs.

Another aspect related to behavioral control is the perceived consumer effectiveness (PCE), which is how consumers believe that personal consumption can contribute to solve social problems. High perceived consumer effectiveness will motivate consumers to shift from their positive attitudes to actual purchase (Ellen et al., 1991; Berger & Corbin, 1992; Roberts, 1996; Lee & Holden, 1999). Previous studies have shown that consumers perceive safe food as higher quality, safer and fresher products (Thompson & Kidwell, 1998; Schifferstein & Oude Ophuis, 1998; Fotopoulos & Krystallis, 2002; Wier & Calverly, 2002). Kareklas, Carlson and Muehling (2014) expect that consumers believe that clean farming less harmful to the environment will positively affect their attitudes and intentions to buy safe food. Therefore, perception will affect the consumer's purchase intention.

3. Research Methodology

3.1. Research Site

Dirty food is becoming more and more serious problem in Vietnam which is a developing country. Vietnamese consumers increasingly focus on using safe food to protect the health of family. This study was conducted to assess the factors affecting Vietnamese consumers' purchase decision safe food products.

3.2. Data Collection

Quantitative data was collected using a two-page survey to analyze the factors that influence consumer's decisions to buy safe food. Responses were measured using seven-point likert scales ranging from 1 = equalled strongly disagree to 7 = equalled strongly agree. The data was obtained by surveying 318 consumers between 18 and over 50 years old with 73.6% are female. The response rate for the questionnaire was 96%.

3.3. Processing Techniques

In order to find out the factors that influence consumers' purchase decision safe food, Exploratory factor analysis (EFA) was performed for 3 independent variables with 18 items and 1 dependent variable with 4 items was based on the following:

+ Purchase Decision (PD): Ajzen (1985) and Niessen & Hamm (2008) pointed out consumer's purchase decision is an important behavior. Six items of decision to purchase safe were constructed based on the studies of Jay Dickieson & Victoria Arkus (2009), and Chiew Shi Wee el al. (2011).

+ Consumer Trust (CT): Previous studies have shown that consumer trust has a positive impact on the consumer's purchase decision in safe food (FAO, 2010; Nguyen & Vo, 2011; Chu & Pham, 2013; Janssen & Hamn, 2012). Six items to measure this factor were adapted from Krystallis & Chryssohoidis (2005), Jay Dickieson & Victoria Arkus (2009), and Jan et al. (2011).

+ Attitudes, Values, Social Norms (AVS): Ricky (2001), Vermeir & Wim Verbeke (2006), Jan et al. (2011) and Jue Chan (2012) also argue that attitudes, values and social norms have a positive impact on the consumer's purchase decision in safe food. Six items were constructed based on the studies of Gaski & Etzel (1986), Lau Kwan Yi (2009), Jue Chan (2012), and Wim Verbeke & Isabelle Vackier (cited by Vermeir & Wim Verbeke, 2006).

+ Awareness, Perceived consumer effectiveness (APCE): Ellen et al. (1991), Berger & Corbin (1992), Roberts (1996), Lee & Holden (1999), Padel & Foster (2005), Lau Kwan Yi (2009), Vu (2010) assess different aspects but also suggest that the awareness, perceived consumer effectiveness (APCE) have a positive impact on the decision to buy safe food. Six items were constructed based on the studies of Gaski & Etzel (1986), and Pawel Grzelak (2011).

After that, the study use ordinary least square (OLS) to assess the impact of factors on the Vietnamese consumer's purchase decision in safe food products.

4. Results and Discussions

4.1. Exploratory factor analysis

Table 1. Construct reliability statistics

Factor	Item	Cronbach's Alpha
Consumer Trust	CT1, CT2, CT3, CT4, CT5, CT6	0.882
Attitude, Values, Social norms	AVS1, AVS2, AVS3, AVS4, AVS5, AVS6, AVS7, AVS8	0.843
Awarness, Perceived consumer effectiveness	A-PCE1, A-PCE2, A-PCE3, A-PCE4	0.855
Purchase Decision	PD1, PD2, PD3, PD4	0.842

Source: Analysis from survey of 318 Vietnamese consumers.

Cronbach's Alpha values larger than 0.6 are frequently judged as acceptable and 0.8 or greater a very good level (Peterson, 1994). Hence, the table shows that all factors have Cronbach's Alpha greater than 0.84 > 0.8, it means that these scales have good quality.

Table 2. The results of Rotated Component Matrix for independent variables

	Component			
	1	**2**	**3**	**4**
CT1- Trust that those selling organic food are honest about the safe nature of their products	.841			
CT2- Trust that local producer of safe food are practicing organic farming	.821			
CT6- Trust the promotion information about safe food in retail stores	.762			
CT3- Trust the information on the product packaging	.713			
CT5- Trust the manufacturer's safe food brand	.633			
CT4- Trust the outlets which sell certificated safe food	.597			
AVS2- Safe food is good value for money		.862		
AVS5- Accept the safe food price		.833		
AVS1- Like the brands associated with safe food		.768		
AVS4- Most prices are reasonable given the high cost of doing business		.755		
AVS3- Prefer buying safe food		.740		
A-PCE2- Know a lot how to recognize and evaluate safe food quality			.851	
A-PCE1- Know more than other people about safe food			.818	
A-PCE3- Be considered an expert in the field of safe products			.790	
A-PCE4- The price is cheaper than the value of the products			.669	
AVS8- Relatives encourage buying safe food				.826
AVS7- Doctors, nutritionists encourage using safe food				.785
AVS6- Local government encourages using safe food				.679
Eigenvalues	6.944	2.554	1.732	1.376
Cumulative (%)	38.576	52.766	62.391	70.037
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.				.744
Bartlett's Test of Sphericity		Approx. Chi-Square		4138.383
		df		153
		Sig.		.000

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 6 iterations.

Source: Analysis from survey of 318 Vietnamese consumers.

As can be seen in table 2, KMO = 0.744 meaning that the model of exploratory factor analysis was appropriate. Accordingly, the result of the Bartlett's Test showed that the statistical significant level was equal to 0.000 (less than 0.05) meaning that the observed variables were correlated linearly with their representative factors (Hair el al., 2006). With the results of KMO

coefficient and Bartlett's Test in Table 2 above, it shows that there are enough conditions to conduct factor analysis.

Four factors were extracted from the original 18 items at Eigenvalues (the amount of variation explained by the factor) greater than 1; and the Cumulative of 70.037%, indicates that 70.037% of the change of four factors was explained by the observed variables (items) (Gerbing & Anderson, 1988).

Therefore, based on the Rotated Component Matrix from the EFA analysis, there are 4 factors that are generated from 18 items: Factor 1 includes 6 items, named Consumer Trust; Factor 2 includes 5 items, named Attitude, Values; Factor 3 consists of 4 items, named Awareness level, Perceived consumer effectiveness; Factor 4 includes 3 items, named Social norms.

Table 3. The results of Component Matrix for dependent variables

	Component	
	1	
PD3- often buy organic food products because they are more environmentally friendly	.883	
PD2- often buy organic food products on regular basics	.861	
PD1- changing grocery stores if my local supermarket didn't carry safe food	.853	
PD4- often buy safe food products for my heath	.701	
Eigenvalues	2.742	
Cumulative (%)	68.543	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.695
Bartlett's Test of Sphericity	Approx. Chi-Square	653.534
	df	6
	Sig.	.000

Extraction Method: Principal Component Analysis. a. 1 components extracted.

Source: Analysis from survey of 318 Vietnamese consumers.

As can be seen in table 3, KMO = 0.695 meaning that the model of exploratory factor analysis was appropriate. Accordingly, the result of the Bartlett's Test showed that the statistical significant level was equal to 0.000 (less than 0.05) meaning that the observed variables were correlated linearly with their representative factors (Hair el al., 2006). With the results of KMO coefficient and Bartlett's Test in Table 3 above, it shows that there are enough conditions to conduct factor analysis.

One factor were extracted from the original 4 items at Eigenvalues (the amount of variation explained by the factor) greater than 1; and the Cumulative of 68.543%, indicates that 68.543% of the change of four factors was explained by the observed variables (items) (Gerbing & Anderson, 1988).

Therefore, based on the Rotated Component Matrix from the EFA analysis, there is one factor that are generated from 4 items, named Purchase Decision.

4.2. Descriptive Statistics

There are 318 votes were answered out of 330 votes, accounting for 96% the response rate. Characteristics of the sample are shown in the following table:

Table 4. Descriptive statistics of survey samples

		Count	Column N %
Gender	Male	84	26.4%
	Female	234	73.6%
Income	Up to 5 million/month	48	15.1%
	5- Up to10 million/month	174	54.7%
	10 – Up to 20 million/month	72	22.6%
	20 and over 20 million/month	24	7.5%
Age	20- <30	114	35.8%
	30- <50	192	60.4%
	50 over	12	3.8%
Job	Public Servants	104	32.7%
	Farming	56	17.6%
	Individual business	86	27.0%
	Private company	42	13.2%
	Other	30	9.4%
Education	College	48	15.1%
	University	108	34.0%
	Postgradute	106	33.3%
	Other	56	17.6%

Source: Analysis from survey of 318 Vietnamese consumers.

Sample characterization (Table 4) indicates a majority of women and most consumers between 20 and up to 50 years old. Most had graduate degree, followed by the ones with university and postgraduate. The largest group receives between 5 and up to 10 million/month, secondly between 10 up to 20 million/month.

Table 5. Descriptive statistics of observed variables

Item	Mean	Standard Deviation	Item	Mean	Standard Deviation
CT1	4.11	1.29	AVS6	5.66	1.15
CT2	4.32	1.23	AVS7	4.72	1.45
CT3	3.77	1.33	AVS8	5.06	1.21
CT4	3.96	1.29	*Social-norms*	*5.14*	*1.05*
CT5	4.70	1.28	A-PCE1	4.51	1.27
CT6	4.02	1.24	A-PCE2	4.17	1.29
Consumer-Trust	*4.15*	*1.01*	A-PCE3	3.30	1.50
AVS1	5.30	1.22	A-PCE4	4.22	1.23
AVS2	5.32	1.47	*Aware-Perceived-consumer-effectiveness*	*4.05*	*1.11*
AVS3	5.98	1.33	PD1	4.49	1.85
AVS4	5.32	1.34	PD2	4.79	1.58
AVS5	5.42	1.30	PD3	4.98	1.42
Attitude-Values	*5.47*	*1.10*	PD4	6.25	1.35
			Purchase Decision	*5.13*	*1.29*

Source: Analysis from survey of 318 Vietnamese consumers.

As can be seen in table 5, the average value of variables fluctuating from 3.3 points to 6.25 points.The most rated factor is Attitude-Values with an average score of 5.47, the lowest-rated group of Aware-Perceived-consumer-effectiveness with an average score of 4.05 points. This shows that awareness level about safe food of Vietnamese consumers is quite limited, while attitudes and values are significantly improved, this can be considered a signal of market explosion of safe food in Vietnam.

4.3. Factors affecting Vietnamese consumers' purchase decision safe food products

Table 6: The Models' Regression Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.547	.110		-4.958	.000		
	Consumer Trust	.258	.031	.258	8.293	.000	.965	1.036
	Attitude Values	.577	.031	.577	18.722	.000	.983	1.018
	Awareness, Perceived consumer effectiveness	.452	.032	.452	14.163	.000	.915	1.093
	Social norms	.335	.031	.335	10.880	.000	.987	1.013
	Gender	.378	.072	.167	5.278	.000	.936	1.069
	Income	.121	.040	.096	3.003	.003	.911	1.097

a. Dependent Variable: Purchase Decision

Adjusted R Square = .704	F (ANOVA) = 126.693	Sig. = .000

Source: Analysis from survey of 318 Vietnamese consumers.

Result of verification of conformity of the model showed adjusted R Square = 0.704. This means 70.4% of change in investment capital is explained by independent variables.

Verification Tests of ANOVA result Sig. = 0.000 <0.01. Thus, the 99% significance level can conclude regression model was fit.

Through regression results, all 6 variables have positive impacts on the Vietnamese consumers' purchase decision safe food. Attitude Values had the strongest impact with Standardized Coefficients by 0.577, followed by Awareness and Perceived consumer Effectiveness with Standardized Coefficients with 0.452, followed by Social norms; Consumer Trust; Gender; Income with Standardized Coefficients with 0.335; 0.258; 0.167 and 0.096 respectively.

5. Conclusion

The purchase decision is an important behavior of consumers. This study has found four factors that influence consumers' decision to buy safe food in Vietnam consist of consumer trust; attitude, value; awareness and PCE; social norms. This study supports previous studies demonstrated that all four factors positively affect consumers' decision to buy safe food in which the attitude value factor is the strongest impact and consumer trust is the weakest impact. In addition, the study also found that income and gender factors also have a positive influence on the Vietnamese consumers' purchase decision safe food. Thus, to encourage consumers' purchase safe food, manufacturers and distributors should enhance communication, promote the value and brand of their product to consumers. These solutions help consumers understand about the value of safe food and create a good impression about the

manufactures and distribution stores. At the same time, these businesses also need to strictly follow the production and business processes of safe products, focusing on creating trust for consumers. Government needs to have a mechanism that strong enough to prevent dirty food being popular in the market.

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