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Factors Driving Thai Consumers' Intention to Purchase Organic Foods

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ABSTRACT

Thailand's organic food production and consumption have grown considerably in recent years due to increasing awareness of health and environmental issues. To encourage consumption of organic foods, entrepreneurs must understand customers and serve them well. The objective of this research is to analyze the factors that drive consumers to purchase organic foods. The study sample was 400 participants and the statistical methods used were factor analysis and multiple linear regression analysis. Results showed that factors stimulating the intention to purchase organic food in Thailand include subjective norms, environmental protection, trust in labels, food quality, availability and convenience to access organic foods. The study suggests that increasing organic consumption can be achieved by increasing potential consumers' knowledge of environmental protection, health benefits and product quality of organic foods through the use of social influence. Knowledge about the labels certifying food as organic should also be provided to consumers to increase trust in such labels.

Key words: Organic food, health, environmental, label, subjective norm

INTRODUCTION

The increase in consumer interest in health and wellbeing, as well as environmental consciousness, has greatly contributed to popularity of organic food consumption around the world including Thailand. Thailand is a leading Asian country in organic agriculture area (34,829 ha). Thailand as well as India, China and Malaysia are key exporters of organic foods (Sahota, 2009). The National Organic Agriculture Committee of Thailand has discussed new strategies for developing Thailand's organic agriculture industry to become a center for the production, trade and consumption of organic agricultural products. These strategies include creation of a database for organic agriculture, the production of organic agriculture, supply chains linked in the form of a production network, brand promotion and stimulating all relevant agencies to work in an integrated manner to develop Thailand's organic agriculture. Thai organic agriculture exports are expected to include rice, black tiger prawn, beef, milk and fish distributed to both domestic and major export markets like the United States, the European Union, Japan and Australia (GPRD, 2014).

Prior researchers argued that motivation to purchase organic food is driven by health concerns, environmental protection, animal welfare, taste and quality (Hughner *et al.*, 2007; Fotopoulos and Krystallis, 2002; Lockie *et al.*, 2004). Although many studies have investigated organic consumption, they have focused on consumers in Europe and the US (e.g., Torjusen *et al.*, 2001;

Fotopoulos and Krystallis, 2002; Saba and Messina, 2003; Krystallis and Chryssohoidis, 2005; Padel and Foster, 2005). The objective of this study is to explore the factors that drive Thai consumers' intention to purchase organic food as an example of organic food consumption in an Asian area. Knowing the factors that influence buying intention will enable entrepreneurs to formulate effective marketing strategies that encourage organic food consumption.

LITERATURE REVIEW

First and Brozina (2009) stated that organic food constitutes the harvests of organic farming which sets very exact limits on the amount of artificial/synthetic inputs: Those used in production (e.g., fertilizers, pesticides, herbicides, antibiotics) and those used in processing (e.g., food additives, including artificial flavorings, preservatives and colorings).

Many motives drive consumers to purchase organic food. Previous research has found health to be the key point for why consumers consume organic foods (Chinnici *et al.*, 2002; Zanolli and Naspetti, 2002; Padel and Foster, 2005; Truong *et al.*, 2012). Consumers perceived organic foods as healthier than conventional alternatives (Chinnici *et al.*, 2002; Harper and Makatouni, 2002; Ahmad and Juhdi, 2010). Organic nutrients provide a competitive benefit versus conventionally produced goods (Hill and Lynchehaun, 2002; Paul and Rana, 2012). Consumers have stated that environmental protection is also a factor that explains the purchase of organic foods (De Magistris and Gracia, 2008). Tung *et al.* (2012) stated that modern farming techniques normally use chemicals to accelerate the growth process so as to gain high returns and these chemicals can harm the environment. Hughner *et al.* (2007) also mentioned that animal welfare in organic production systems also stimulates organic buying. Previous research (Kouba, 2003) has argued that consumers think organic farming methods are safer than conventional intensive farming.

High quality and food safety are essential to many purchasers. Organic foods correspond to higher quality standards and pesticide elimination. Organic farming guarantees that foods are free of chemical residues (Bauer *et al.*, 2013). Prior studies (Saba and Messina, 2003; Rimal *et al.*, 2005) found that the perceived pesticide risks are associated with consumers' buying organic food.

Normally, organic foods are associated with a high quality of goods, are local and are fresh (Saleki *et al.*, 2012). Taste is also a main motive for buying organic versus conventional foods (Fotopoulos and Krystallis, 2002; Magnusson *et al.*, 2001; Radman, 2005; Wier *et al.*, 2008). However, taste is an experience quality that can be assessed only after the purchase; therefore, consumers use a number of market signals like brand and labels in trying to predict the taste experience (Grunert, 2003; Lodorfos and Dennis, 2008). The brand provides a cue for product quality in evaluating products because it represents the firm's promise of quality (Yeung and Yee, 2012). Consumers' purchase decision is steered by the degree to which alternative brands follow assured assessment criteria (Yeung and Yee, 2012).

An organic label is proof of certification that demonstrates compliance with specific requirements in production processes (Larceneux *et al.*, 2012). Teisl *et al.* (2001) argued that food labeling plays an important role in consumer purchasing behavior. Consumers are likely to distrust certification entities, doubting that the product labeled organic is really organic (Canavari *et al.*, 2002; Aarset *et al.*, 2004; Hughner *et al.*, 2007). The level of consumer doubt toward organic labels is a barrier to buying organic food (Hughner *et al.*, 2007).

Marketing promotion encourages customers to buy goods (Honea and Dahl, 2005; Oliver and Shor, 2003; Kotler and Keller, 2006). Promotions enable consumers to purchase and be satisfied more easily (Darke and Dahl, 2003; Oliver and Shor, 2003); therefore, advertising, premiums and discounts can persuade consumers to buy more organic foods.

Subjective norms refer to a perception that most important people think that one should engage or not engage in a certain behavior (Ajzen, 2006). Subjective norms apply to the overall ideas regarding the expectation of essential referents such as friends or family (Ajzen, 2006). Prior studies (Zverinova *et al.*, 2012; Chen, 2007; Dean *et al.*, 2008) have found a significant and positive correlation between organic food buying intention and subjective norms. Consumers seem receptive to subjective norms; therefore, their decisions may be influenced by society (Lodorfos and Dennis, 2008).

According to Ajzen (1991), perceived behavioral control is the extent to which a person feels capable of, or has control over, a certain behavior. The more people think they have a higher degree of personal control, the more they tend to have strong intention to engage in a certain behavior (Ajzen, 2006). In particular, when people have resources such as time, money, skills and opportunities, their perceptions of control are high and hence their behavioral intentions increase (Kim and Chung, 2011). Perceived behavioral control seems to be a factor affecting purchases of organic food (Lodorfos and Dennis, 2008).

Previous research has supported the lack of organic food availability/convenience as a strong barrier to organic food choice (Lea and Worsley, 2005; McEachern and McClean, 2002; Beardsworth *et al.*, 2002; Zanolli and Naspetti, 2002). Therefore, availability is important to motivate organic food purchases (Paul and Rana, 2012). Because many food retail outlets, including conventional supermarkets, have acknowledged the consumer demand for organic foods, they have added organic fruits and vegetables to their shelves, increasing consumer reach for organic produce (Dettmann and Dimitri, 2010). A feature of availability is the range of organic products; since some food stores sell only a limited number or type of organic products, consumer options are often limited. Previous research has demonstrated the consumer demand for a convenient and wide variety of organic products (Dettmann and Dimitri, 2010). The shortage of a complete assortment of organic food limits the use of organic food by ordinary people (Chakrabarti, 2010). Therefore, the variety of organic foods in stores should be an important factor for consumers of organic foods.

Dimitri and Dettmann (2012) stated that consumers buy organic food as long as it is sold in the places where they often shop. Organic product availability in shops located in the vicinity of the house is an important motivational factor to stimulate consumption of organic food. Chaiyasoonthorn and Suksa-Ngiam (2011) found that distance from home and distance from workplace were correlated with purchase of goods and services from a modern retail store.

Schiffman and Kanuk (2007) explained that price fairness is an important influence on consumers' perceptions of purchasing a food product based on the product's worthiness. If the price of organic goods is high, then price can be the vital reason for consumers to resist buying them (Magnusson *et al.*, 2001; Zanolli and Naspetti, 2002). Prior studies have reported that organic food consumers are less likely to view price as essential than those consumers who have never purchased organic products (Yiridoe *et al.*, 2005). Price influences the decision to consume organic products.

MATERIALS AND METHODS

Research instrument: A thorough literature review generated a self-administered questionnaire containing four sections. The first part included questions about respondents' demographic characteristics: Gender, age, education level, occupation and income. In the second part, respondents provided information on their organic food purchase behavior: Who decides to buy organic foods, frequency of buying, type of organic foods and type of retailer. The third part

contained seven items used to measure respondents' intention to purchase organic food. A 7-point Likert scale was used to rate the extent to which respondents agreed or disagreed, ranging from 1 = strongly disagree to 7 = strongly agree. The fourth part which included 39 items (Table 1), assessed respondents' opinions about factors that drive consumers' intention to purchase organic food. Respondents rated the importance of the 39 items on a 7-point Likert scale where 7 was most important and 1 was least important.

Table 1: Measurement instrument for factors driving the purchase of organic foods

Items	1	2	3	4	5	6	7
Organic foods provide me a variety of nutrients							
Organic food is free of chemicals such as residues from fertilizers and pesticides							
Organic foods are better for the health							
Buying organic foods reduces pollution problems							
Buying organic foods affects plants and animals							
Buying organic foods helps to save the environment							
Organic food is environmental friendly							
Organic food costs no more than conventional food							
Organic food has a clear price tag							
Organic foods have many price levels							
Organic foods look fresh and clean							
Organic food is safe to eat							
Organic food is tasty							
A variety of organic foods is available for selection							
Brand name is important							
Producing source of organic food is important							
Many places sell organic foods							
I am familiar with the shops that sell organic foods							
Parking space at organic food shops is adequate							
An organic shop is near my house							
I can buy organic foods online							
An organic advertisement board is at the point of sale							
Organic foods are discounted occasionally							
My shop has brochures: information on organic food							
My family eats organic food							
My friends eat organic food							
People important to me (other than family, friends)-doctors, well-known people think I should eat organic							
People who are important to me think that eating organic creates good health							
I intend to eat organic because I follow my family							
I intend to eat organic because I follow my friends							
I intend to eat organic because I follow well-known people							
I intend to eat organic because society says it as a good choice							
Food store sales staff advise about organic foods							
The labels of organic foods provide information about organic origin, nutrients and other important data							
Organic food producers who certify/control labeling are transparent in checking their production system							
Government, independent organizations, or non-profit organizations certify and control labeling organic foods							
The decision to buy organic foods is up to me							
I can afford to buy organic foods if I want							
I have money/time/opportunity to buy organic foods							

Use the scale to rate the importance of the following factors that you think affect your decision to purchase organic foods (ranging from 1 = least important to 7 = most important)

Data collection and analysis: Data were collected via self-administered questionnaires. The sample size was 400; questionnaires were distributed in Sa Kaeo province of Thailand. This research applied factor analysis to determine which factors consumers considered to have an effect on their purchase decisions regarding organic foods. After the factor analysis technique screened significant factors that affect organic food purchase intention, multiple linear regression was performed to identify which factors explain the intention to purchase organic foods.

RESULTS

Demographic profile of the sample: According to Table 2, of the 400 respondents, most respondents were female (63.2%); one third were 25-34 years old (32.7%). Half of Thai respondents were married (50.50%); almost half (47.5%) had no children; most had a family size of one to four (67.2%). Most respondents had completed secondary school (32.2%). Less than a third (28.8%) had a monthly income of THB \$ 10,001-15,000 (THB \$33 = US \$1) (Table 2).

Table 2: Demographic profiles of respondents

Demographics	Frequency	Percentage
Gender		
Female	253	63.2
Male	147	36.8
Age (years)		
15-24	86	21.5
25-34	131	32.7
35-44	84	21.0
45-54	74	18.5
>54	25	6.3
Marital status		
Single	182	45.5
Married	202	50.5
Divorced	16	4.0
Children (No.)		
None	190	47.5
1-2	175	43.7
3-4	30	7.5
5-6	5	1.3
7-8	0	0.0
Family size (No.)		
1-4	269	67.2
5-8	126	31.5
9-12	5	1.3
Education		
Primary	53	13.3
Secondary	129	32.3
Diploma	68	17.0
Bachelor	126	31.5
>Bachelor	24	6.0
Occupation		
Student	34	8.5
Government officer	130	32.5
State enterprise	12	3.0
Employee	110	27.5

Table 2: Continue

Demographics	Frequency	Percentage
Private business	66	16.5
Farmer	48	12.0
Personal income (THB \$)		
<5,000	69	17.3
5,000-10,000	139	34.7
10,001-15,000	94	23.5
15,001-20,000	45	11.2
>20,000	53	13.3
Household income (THB \$)		
<THB 10,000	85	21.3
10,000-15,000	115	28.7
15,001-20,000	48	12.0
20,001-25,000	40	10.0
>25,000	112	28.0

Table 3: Consumer behavior toward organic food

Item	Frequency	Percentage
Frequency of organic food purchase		
Buy less than once a week	72	18.0
1-2 times per week	182	45.5
3-4 times per week	102	25.5
More than 4 times per week	44	11.0
Decision regarding organic food purchase		
Self	155	38.8
Another person	76	19.0
Self and others	169	42.2
Organic food categories that are most frequently consumed		
Fresh vegetables	257	64.2
Eggs	78	19.5
Milk	23	5.8
Meat and meat products	42	10.5
Place of purchase		
Fresh markets	262	65.5
Supermarkets	93	23.2
Health shops	18	4.5
Organic farms	27	6.8
Reason for purchasing organic food at the shop you select		
Close to house	190	47.5
Quality	81	20.2
Variety of products	81	20.2
Inexpensive	48	12.0
Reason you think that the price for organic is higher than for conventional food		
Complicated production system	58	14.5
Must pass process of quality control	97	24.2
Must pass many dealers	148	37.0
Have few producers, making the cost high	97	24.2

Consumer behavior of purchasing organic: Results in Table 3 show that 45.5% of the respondents buy organic foods 1-2 times per week. Respondents decide to buy organic foods with other people in the family most often (42.2%). More than half (64.2%) of respondents consume fresh

vegetables, followed by eggs (19.5%) and most (62.2%) bought organic foods at fresh markets because the market was close to home (47.5%). Consumers think that organic foods are higher priced than conventional food because organic foods must pass many dealers (37.0%).

Factors driving organic food purchase intention: Principal Component Analysis (PCA) with varimax rotation grouped the 39 factors driving intention to purchase organic foods. Prior to performing the factor analysis, the suitability of the data for the analysis was evaluated using the Kaiser Meyer Olin (KMO) and Bartlett’s test of sphericity. The KMO measure of sampling adequacy is 0.881 which exceeds the suggested threshold value of 0.60 (Tabachnick and Fidell, 2001). The Bartlett’s test of sphericity was significant ($\chi^2 = 3992$, $df = 153$, $p = 0.000$), indicating that the between-item correlations were sufficiently large for PCA. Taken together, these statistical measures support the factorability of the data (Tabachnick and Fidell, 2001).

The desired factor loading level for a variable was set at 0.40 (Hair *et al.*, 2006). Of the initial 39 items, 20 were excluded during the scale purification process because they either loaded heavily on more than one factor or did not meet the 0.40 factor loadings cutoff. In the factors affecting intention to buy organic foods, the factor loadings ranged from 0.609-0.880. All factors had a Cronbach’s alpha higher than 0.70 which exceeded the acceptance criteria and the 0.7 threshold recommended by Nunnally (1978) for the test of scale reliability. Factor analysis revealed the presence of five factors that explained 72.057% of the total variance. Hair *et al.* (2006) regarded 60% of total variance explained as the threshold. The five factors were labeled as follows: (1) Convenience and availability, (2) Environmental protection, (3) Subjective norm, (4) Trust in label and (5) Food quality. These five factors explained 36.598%, 13.936, 9.849, 5.962 and 5.712% of the variance, respectively (Table 4).

Table 4: Varimax rotated factor analysis

Factors and items	No. of items	Factor loadings	Cronbach’s alpha	Variance (%)	Eigen value
Factor 1: Convenience and availability	5		0.904	36.598	6.588
Many places sell organic foods		0.784			
I am familiar with the shops that sell organic foods		0.861			
Parking space at organic food shops is adequate		0.840			
An organic shop is near my house		0.880			
I can buy organic foods online		0.867			
Factor 2: Environmental protection	4		0.842	13.936	2.509
Buying organic foods reduces pollution problems		0.824			
Buying organic foods reduces effects on plants and animals		0.864			
Buying organic food saves the environment		0.851			
Organic food is environmentally friendly		0.856			
Factor 3: Subjective norms	4		0.748	9.849	1.773
My family eats organic foods		0.735			
People who are important to me (other than family, friends) such as doctors, well-known people think that I should eat organic food		0.767			
People who are important to me think that eating organic creates good health		0.712			
I intend to eat organic because society accepts that it is a good choice		0.609			

Table 4: Continue

Factors and items	No. of items	Factor loadings	Cronbach's alpha	Variance (%)	Eigen value
Factor 4: Trust in label	3		0.814	5.962	1.073
The labels of organic foods provide information about organic origin, nutrients and other important data		0.807			
Producers of organic foods that certify and control the labels of organic foods themselves are transparent for checking their organic production system		0.821			
The government, independent organizations, or non-profit organizations certify and control the labels of organic foods		0.721			
Factor 5: Food quality	2		0.832	5.712	1.028
Organic foods look fresh and clean.		0.844			
Organic food is safe to eat.		0.834			

Total variance = 72.057%, Kaiser-Meyer-Olin = 0.881. Bartlett's test of sphericity $\chi^2 = 3922$, $df = 153$, $p = 0.000$

Table 5: Multiple regression results

Dependent variable	Independent variable	Standardized coefficients (β)	t	Significance	Collinearity statistics (VIF)
Organic purchase intention	Constant	1.130	0.259		
	Convenience and availability	0.087	2.149	0.032*	1.412
	Environmental protection	0.269	7.009	0.000**	1.270
	Subjective norms	0.286	6.823	0.000**	1.520
	Trust in label	0.218	5.138	0.000**	1.561
	Food quality	0.163	3.929	0.000**	1.486

***Significant at the 5 and 1% level

Multiple regression analysis results: After factor analysis provided factors that respondents viewed as affecting their intention to purchase organic foods, Multiple Linear Regression (MLR) using a standard regression method was conducted to identify factors that can predict the intention to purchase organic foods according to their level of importance. Before the results of the analysis were discussed, the Variation Inflation Factor (VIF), a traditional measure of multicollinearity, was calculated. A VIF that exceeds 10 indicates a multicollinearity problem (O'Brien, 2007). The VIFs shown in Table 5 were within this value (MAX VIF = 1.561) which indicated there was no multicollinearity among the independent variables.

Table 5 provides results of the MLR analysis. Based on these results, the overall MLR model with the five predictors of convenience and availability, environmental protection, subjective norms, trust in label and food quality have worked well to explain the variation in organic food purchase intention ($F = 93.970$, $R^2 = 0.544$, $df = 5$; $p = 0.000$). The five variables can explain the intention to purchase organic food (54.4% accuracy). As shown in Table 5, all predictors were significant, with the predictability of the five variables in the following descending order: Subjective norms ($\beta = 0.286$, $p = 0.01$), environmental protection ($\beta = 0.269$, $p = 0.01$), trust in label ($\beta = 0.218$, $p = 0.01$), food quality ($\beta = 0.163$, $p = 0.01$) and convenience and availability ($\beta = 0.087$, $p = 0.05$). The regression results showed that subjective norms and environmental protection were the top two predictors of organic food purchase intention.

DISCUSSION

The finding that convenience and availability influences consumers' purchase of organic foods is consistent with previous studies (e.g., Fotopoulos and Krystallis, 2002; McEachern and McClean, 2002; Zanolli and Naspetti, 2002) reporting that the lack of availability of organic food is a barrier to consumption. This study confirmed previous research (Dimitri and Dettmann, 2012) suggesting that access to organic food is clearly associated with a higher propensity to buy organic products and that organic product availability in shops close to one's home is important.

The results of this research align with previous research (e.g., Padel and Foster, 2005; De Magistris and Gracia, 2008) which found that consumers' desire for environmental protection is also a factor explaining organic food purchase decisions and are in line with prior studies (e.g., Lodorfos and Dennis, 2008; Chen, 2007; Dean *et al.*, 2008; Vermeir and Verbeke, 2006) with respect to the suggestion that subjective norms influence organic purchase decisions. The results implied that family, friends, important people outside the family and society stimulate organic purchase decisions among Thai consumers. The study agreed with previous research (Lodorfos and Dennis, 2008) suggesting that marketers should identify people who can influence other consumers and then promote organic food through the social medium of these consumers.

Results also emphasize the important of trust in labeling which is in accordance with the findings of Zakowska-Biemans (2011), who reported that without a well-known trustworthy labeling system, it is difficult to increase market share. The factor for label is consistent with previous research (Yiridoe *et al.*, 2005) stating that many organic food consumers identify organic products by the attached labels. Lack of knowledge about organic certification can result in low trust in labeling organic products (Zakowska-Biemans, 2011).

The factors related to food quality consist of features suggesting that organic food looks fresh and clean and is safe to eat. The study's results support the research of Soler *et al.* (2002), who noted that food safety has been identified as a reason for the purchase of organically produced food and are consistent with Aguirre (2007) finding that freshness is significant when deciding on the purchase of organic products.

CONCLUSION AND MANAGERIAL IMPLICAIONS

Conclusion: The objective of this research is to identify the factors that consumers consider to affect their intention to purchase organic foods based on 400 Thai consumers, applied factor analysis and multiple linear regression analysis. The results demonstrate that factors consumers viewed as motives in their purchase intention of organic food include subjective norms, environmental protection, trust in label, food quality and availability and convenience in accessing organic foods.

Managerial implications:

- Increasing the sale of organic food can be accomplished by promoting organic food's environmental, health and quality aspects. Food sellers should ensure that consumers know how organic production and processing actually differ from conventional processes. This will convince potential consumers of the worthiness of organic foods and make them more willing to purchase organic foods that normally carry a premium price; consequently, organic food consumption will increase

- Subjective norms affect the purchase of organic foods; therefore, marketers should promote organic food consumption through social means: Family, opinion leaders and society. For example, a marketing strategy to encourage organic food consumption can focus on the health benefits for beloved family members. Also, the marketing team can use a strategy showing that well-known people such as movie stars are participating in environmental protection by eating organic foods. Health specialists such as doctors and nutritionists also should serve as opinion leaders to persuade consumers to eat organic foods, as Chakrabarti (2010) suggested
- Since, consumers are concerned about products labeled as organic, the government or independent agencies should provide a more effective organic certification system so that consumers can check whether the organic label for a brand denotes a real organic process. To secure an organic label certified by the company, the farming practices must be transparent. This conclusion was also suggested by a consumer study in Taiwan (Tung *et al.*, 2012)
- Since, this research indicates that access to organic food is an important determinant of organic food purchase intention, marketers should distribute organic foods to more local food shops
- To ensure that consumers realize the quality of organic food and how it differs from conventional food, marketers should employ publicity techniques such as providing seminars on the benefits of organic food in schools or colleges, sponsor an activity like a food knowledge contest and offer samples so that participants can taste organic food

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