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WILL CONSUMERS PAY MORE FOR ORGANIC LOGO: AN EMPIRICAL STUDY OF ORGANIC PRODUCTS PURCHASING IN THAILAND

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ABSTRACT

This study aimed to investigate the relationship between willingness to pay for the quality of agricultural products toward logos of consumers in different regions of Thailand and explained an opportunity for organic products in future markets. 408 respondents from February – June 2019 were collected based on paper-based questionnaires that focused on consumers' choices, recognition, and attitudes regarding safety and organic knowledge. Three hypotheses were in this study. A choice experiment logit model was used. The questions included socioeconomic, attitudes, preferences, perception of safety and organic products related to the logo. The study showed respondents who understood the concept of safety and organic agriculture and had information about logo standards tended to purchase organic products. The organic logo has impacted the purchasing power of respondents. Consumers were willing to pay more for third-party certified logo products (Organic Thailand and IFOAM) rather than a local logo (PGS). Satisfaction with marketing, quality standard, and price did not increase consumers' demand while they pay for a higher price based on their interest and understanding. Consumers were willing to trade-off between a trusted logo and a higher price. The supported knowledge on production and markets from the public and private agency were beneficial along the supply and demand chain and agricultural society. To enlarge the organic product markets in the future, there are no well-researched factors that impact third-party and local logos. There were several studies about the perception levels, interest, understanding, and knowledge of the respondents' impact on purchasing power of organic products in Thailand.

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INTRODUCTION

Consumers are increasingly concerned about their health. Organic agriculture consumers are turning to food and non-food as awareness of health and the environment. Healthy food markets have become famous in the past decade (Elliott, 2014). European Union (EU) preferred organic farming to conventional farming under consumers' attitudes and government regulations. Changing the habits of consumers was a

challenge for food choices motive in society. Safety and organic production processes, extensions, and marketing were major supported by the government and private sector developing country. Strong regulations and policies would benefit both producers and consumers (Tranter *et al.*, 2009). The number of producers and markets has been growing. Its support influenced attitudes toward production process and quality products increased consumers' willingness to pay and

farms' economics and social status. The demand for healthy and valued foods such as organic foods, functional foods, and natural food has increased worldwide (Mohamad *et al.*, 2014). Over the last two decades, more than organic agriculture land has increased, approximately 72.3 million hectares in 2019 globally or increasing 1.6 % from the past year. More than 5.9 million hectares or 8 % of organic agricultural land in Asia, the largest land in India, followed by China. The world's organic agricultural producers are in China (51% of global production) (Willer and Lernoud, 2019). Organic food demand has risen because consumers believed organic foods were healthier than conventional foods (Schifferstein *et al.*, 1998). Organic food markets have been expanded in developed and developing agricultural economies around the world, for example; the U.S.A., Japan, China, and Thailand. The largest market is the United States (44.7 billion euros, 42%), followed by European Union (41.4 billion euros, 39%), and China (8.5 billion euros, 8%). Tropical fruits from China are the biggest supplier to European Union in 2019. Organic foods were the best choices for a good environment, low risk for farmers and healthy foods (Heaton, 2001; Mohamad *et al.*, 2014). Trusted brands and organic logos impacted demand in the markets (Janssen and Hamm, 2012). In the U.S.A., consumers preferred certified organic branded by Organic USDA. The willingness to pay for the certified organic brand was higher than for the uncertified organic brand. Consumers were trade-off between price and product labels. Small-scale farmers in developing countries are focused on a participatory guarantee system (PGS). PGS is the best tool for small-scale farmers an affordable alternative to third-party certification. The relationships between price and quality were a major factor in consumers' decisions under socioeconomics (Lee *et al.*, 2011). This will be an opportunity for them to access markets and increase the number of certified producers (Willer and Lernoud, 2019). This was a challenge for supported strategies of safety and organic producers in green markets to become sustainable. The green markets, which provided organic foods and safe foods depended upon positive attitudes, society, and the environment.

The willingness to pay model is used to analyse the maximization profit of certified farm products. An order probit model was used to analyse the willingness to pay for pesticide-free products of consumers (Cranfield and Magnusson, 2003). The willingness to pay of consumers

was a choice model. Rationally, consumers were willing to pay more as an increase in price results in a lower level of utility compares to the base level of utility. If utility increased, then consumers were willing to pay more for organic products, and the price was expected to increase did not have a lower utility beyond the base level. The willingness to pay (WTP) drove by the extent to which utility changed via the consumption choice. The willingness to pay was likely to vary across individuals. They capture consumer (and household) characteristics in the factors though to drive willingness to pay. One used the relationship between willingness to pay and factor affecting the behaviour of consumers to predict the probability of a consumer's willingness to pay being greater than a specified lower bound and less than a specified upper bound. The difference in these probabilities indicated the chance of that consumer's buying being between the defined levels. Such information could prove particularly useful in guiding pricing decisions for new products such as logo products.

The willingness to buy was a function of product attributes, characteristics of the consumers, and other factors thought to influence the choices. The probability of buying falling within a range of values also depends on these factors. Furthermore, changes or differences in these factors had a bearing on the actual willingness to pay and the probability of being within a certain buying range. The theory suggested consumers' willingness to pay is influenced by individual taste and preferences, income, attitudes towards and perceptions of the different types of products, as well as household and demographic characteristics. Alternative I was chosen if and only if the utility arising from its choices exceeds the utility arising from the current consumer products. The *i*th alternative was chosen only if the change in utility (arising from a switch in products consumed) was positive. Utility in the random utility model depended upon deterministic and random components. The willingness to pay depends upon the change in the deterministic and random components of utility.

Empirical econometric models are useful for the analysis of categorical choice-dependent variables. The logit models have revealed factors influencing choices and decisions. A model was used to determine the degree of association between attitudes and the knowledge of organic products by the respondents. The analysis provided information regarding respondents'

purchasing behaviour and attitudes about product knowledge. The choice experiments determined consumers were willing to buy for different product attributes (Gao and Schroeder, 2009). The respondents were asked about different product alternatives (Lusk and Schroeder, 2004). The individual respondent chose among different alternatives to maximize utility (McFadden, 1974). The questions were based on hypothesis rather than real market choices under budget constraints. The utility depended upon the attributes (Lancaster, 1966). Choices of respondents' trade-offs between different levels (James and Burton, 2003). The individual respondent will choose the most satisfaction of different levels of attributes of the products.

Objectives

The objective of this study was to investigate the relationship between consumers' willingness to pay for organic logos based on attitudes, and the economic and sociological backgrounds of consumers in different regions of Thailand. The study provided empirical evidence for decision-making toward different organic logos in various markets (local markets, grocery stores, supermarkets, and convenience stores). In addition, policy recommendations were referred to extension for organic agricultural practices and markets.

Research Hypothesis

Socioeconomic impact

Many researchers have linked socioeconomic variables such as age, gender, education, and income to purchasing power for safety and organic agricultural products. High-educated people tended to have more environmental concerns than less-educated people. (Mertig and Dunlap, 2009). People who have good economic status were more likely to be interested in environmental products (Scott and Willits, 1994). A previous study found that consumers with higher income and higher education were more likely to have purchased better food in Thailand (Roitner-Schobesberger *et al.*, 2008).

H₁: Socioeconomic variables (education, and income) are significantly related to Thai consumers' organic agricultural products purchasing

Consumer Attitudes

An individual's attitude is defined as the favourable or unfavourable feeling toward some aspects (Hine *et al.*,

1987). A good environmental attitude defines as a learned belief which develops from an individual's knowledge and value to support (Uitto *et al.*, 2004). Ajzen (1985) showed that people are more likely to undertake a certain behaviour if they have a positive attitude toward the behaviour. The environmental attitude is more closely related to safety or organic purchasing behaviour than either socio-demographic or personality variables (Bohlen *et al.*, 1993). The second hypothesis was posited as:

H₂: Attitudes (understanding, interest, and knowledge) will positively influence organic agricultural products purchasing.

Logo perception

The study showed that consumers' extent of environmental concern is associated with their interest and purchase of safety products (Mainieri *et al.*, 1997; Schwepker and Cornwell, 1991) in developed countries such as Germany and the U.S.A. and developing countries such as India, Philippines, and Thailand (Pierre and Prothero, 1997; Ottman, 1996). Consumers were trade-off between price and product labels. Consumer experience was important to develop marketing strategies for safety and organic food products. The success of products label based on third-party certification for organic food depended upon a recognized logo, knowing what it stands for and a trusted logo (Janssen and Hamm 2011). The third hypothesis of this study is:

H₃: Concern for an environmental logo (Organic Thailand, IFOAM, PGS) will positively influence organic agricultural product purchasing behaviour

METHODOLOGY

Data were collected using a structured questionnaire for consumers in different geographic locations (north, south, northeast, east, and central). Nan, Chiangmai, Lumpoon, Khon-Kaen, Chonburi, Nakorn-Sawan, and Surat-Thani provinces were selected because there were lots of organic farms and markets also the people interested in safety and organic products (Organic Planning Strategy, 2017). The consumer respondents were selected at the front of the markets and they are willing to answer the survey. 408 respondents from February–June 2019 answered paper-based questionnaires focused on the organic logos (Organic Thailand, IFOAM, and PGS) related to individual

knowledge and information. The questions included socioeconomic, attitudes, knowledge, education, and

levels of willingness to pay for organic products related to logos (Table 1).

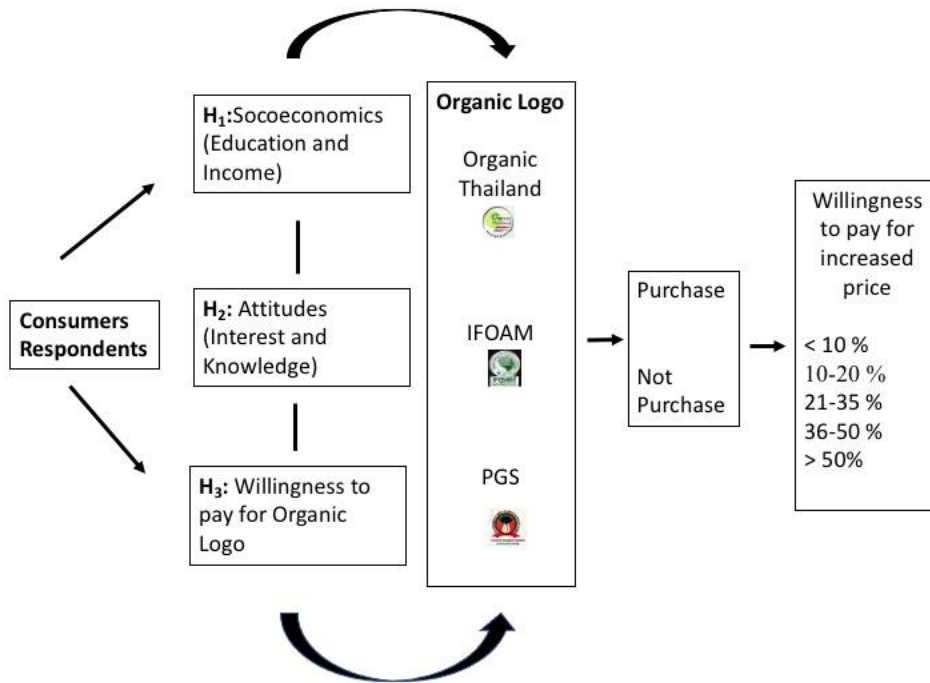


Figure 1. Methodology Diagram.

Table 1. Research methodology questions.

Respondents	Attributes	Methods/Variables
Consumers	Socioeconomic and sources of income	Socioeconomic and income, and attitudes impact the willingness to pay.
	Attitudes to organic agricultural products in the markets	Survey questions are the reasons for, attitudes, interests, and knowledge.
	Agricultural product logo	organic agricultural products logo for various attributes (Understanding and interest, the difference between safety and organic agricultural products, and, knowledge).
	Constraint	Income, education, and extension
	Decision-making for purchasing items	The survey choice is 0 = Not willing to pay and 1 = Willingness to pay

Consumers' choices is conceptualized using a random utility model is particularly appropriate for modelling discrete choice decisions with specific characteristics associated and utility levels with each choice set. The consumer's choice is a theory of rational choice which assumes that consumers are rational utility maximisers. Consumer decision-making is based on socio-economic characteristics and relevant factors (understanding,

interest, and knowledge) influencing the choice in the markets.

The consumers' decision j can choose from a set of alternatives ($j = 0,1$) which provided a certain level of utility U_{ij} from each alternative. The model is based on the principle that the consumers will choose the outlets that will maximize his/her utility. The consumers will make a comparison of marginal benefit and cost based

on utility and knowledge (Greene 2003). The model is as follows;

$$U_{ij} = V_{ij} + \varepsilon_{ij}$$

U_{ij} represents a random utility associated with binary decision-making $j = k$, V_{ij} represents an index function denoting the decision-makers' average utility associated with this alternative, and ε_{ij} represents the random error.

To examine preferences of the logo of organic products for consumers in different markets (local market, fresh market, supermarket, convenience store, and modern trade) were studied concerning willingness to pay for agricultural products with different attributes. A consumer setting used a choices experiment. The effects of choice experiments with different standards resulting in a willingness to pay for agricultural products logo attributes will be analyzed.

The consumer respondents' attitudes toward safety and organic products were asked 1) to choose for understanding organic products logos 2) for interested in organic products 3) for safety and organic information depending upon the individual knowledge and information 4) willing to pay for different logo (Organic Thailand, IFOAM, and PGS 5) decision making for purchasing. The respondents present statements regarding the importance of attribute questions. This analysis used descriptive statistics and a logit model. The results explained consumers' decision-making toward the logo of agricultural products in studied areas. The final results are expected to provide information for consumers' logo recognition in markets and related to promoting the quality of safe and organic agricultural products in the future. Consumers' choices of agricultural products (organic), and their willingness to pay were using a random utility-based discrete choice model (McFadden, 1974). This approach analyzed heterogeneity unconditional on socio-economic covariates. The parameters were varying across individuals, and this analysis presented attitudes across individuals (Hensher and Greene, 2003). The correlation structure involved demographics such as gender and income (Baker and Burnham, 2001; West *et al.*, 2002). An attitude of decision-making food was employed to the behaviour of organic logo demand.

The assumption was based on individuals' rationality and choices to provide the highest utility. Each individual faced a choice among alternatives in a set of

situations. The utility's respondent n had options from alternative j in set situation t is

$$Y_{ij} = \beta_0 + \beta_1 X_{1j} + \beta_2 X_{2j} + \dots + \beta_n X_{nj} + \varepsilon_{ij}$$

The individual chose the highest utility. Thus individual i selects type j , then Y_{ij} will be the obtained highest utility among choices. The data were analyzed with random parameter logit models and alternatives j chosen by an individual is given by

$$\begin{aligned} Y_{ij} = & \beta_0 + \beta_{1j}EDU + \beta_{2j}INCOME + \beta_{3j}INTORG \\ & + \beta_{4j}UNORG + \beta_{5j}CONKNOWDIFF \\ & + \beta_{6j}ORGTHAI \\ & + \beta_{7j}IFOAM + \beta_{8j}PGS + \varepsilon_{ij} \end{aligned}$$

where $i = 1, \dots, n$ was the number of the respondents, and j was a choice of alternative safety agricultural products attributes. (PAY, NOT PAY). The choice set was education (EDU), income (INCOME), interest in organic agricultural products (INTORG), understanding organic agricultural products (UNORG), knowing the difference between organic and safe agricultural products (increased price with Organic Thailand (ORGTHAI), increased price with IFOM (IFOAM), increased price with PGS (PGS).

RESULTS

Beyond the demographics and perception of agricultural product logos, respondents were asked to score their perceptions about the different logos of organic products (Organic Thailand, IFOAM, and PGS). These indicated levels of perception which were asked to express their understanding and interest of the organic logos. Each respondent was then given a picture of logo products and asked if they were willing to pay for varieties of the organic logo. The model is estimated from a choice of willingness to pay for products under various conditions.

The data were collected from 408 consumers using questionnaires. The questionnaires collected data on attitudes, health concerns, environmental impact, lifestyle choices, and socioeconomic, which were on the hypothesis for analysing individual attitudes related to decision-making. Demographic and socioeconomic analysis was shown in Table 3. A majority of the respondents were female (66.99%). The major respondents were various in education, age, career, and

income levels but education level does not impact respondents' age.

Table 2. The hypothesized variable determines consumers' decision choices.

Variable	Type	Expected sign	
Dependent variables			
Consumers' choice decision	0 if consumers are not willing to pay 1 if consumers are willing to pay		
Independent variables			
EDU	Education of respondent consumers	Continuous	+
INCOME	Income of respondent consumers	Continuous	+
INTORG	Consumers interested in organic agricultural products	1 = lowest 2 = low 3 moderate 4 = high 5 = highest	+
UNORG	Consumers understand organic agricultural products	1 = lowest 2 = low 3 moderate 4 = high 5 = highest	+
CONKNOWDIFF	Consumers know the difference between safe and organic logo	1 = lowest 2 = low 3 moderate 4 = high 5 = highest	+
ORGTHAI	Consumers are willing to pay for Organic Thailand*	1 = lowest 2 = low 3 moderate 4 = high 5 = highest	+
IFOAM	Consumers are willing to pay IFOAM*	1 = lowest 2 = low 3 moderate 4 = high 5 = highest	+
PGS	Consumers are willingness to pay for PGS*	1 = lowest 2 = low 3 moderate 4 = high 5 = highest	+

Table 3. Socio-demographic characteristics of respondents.

Variables	f	%
Gender	Male	33.01
	Female	66.99
Age, years	Less than 15	1.47
	16 - 25	29.83
	26 - 35	16.38
	36 - 45	23.23
	46 - 55	17.36
	56 - 65	9.29
	More than 65	2.44
Education Levels	No educated	0.49
	Below kindergarten	0.98
	Kindergarten	9.80
	Junior High school	12.25
	High school	26.96
	Vocational	8.82
	Undergraduate	28.92
	Master Degree	11.27
	Ph.D	0.49

Income (baht* per month)	Less than 5,000	21.27
	5,000 - 15,000	16.38
	15,001 – 25,000	30.32
	25,001 – 35,000	9.29
	35,001 – 45,000	10.02
	45,001 – 55,000	3.42
	55,001 – 65,000	4.89
	65,001- 75,000	0.49
	75,001 – 85,000	0.98
	More than 85,000	2.93
Career	Government officer	14.29
	Company	5.42
	Agriculture	9.11
	Government enterprise	15.27
	Freelance	42.61
	Others	13.30

*baht: Thai currency exchange in US dollars was based on the exchange rates by Siam commercial bank June 1, 2019 (1 US dollar = 31.47 baht) <https://www.krungsri.com/bank/en/Other/ExchangeRate/Todayrates.html>

Socioeconomic Impacts

H₁: Socioeconomic variables (education, and income) are significantly related to Thai consumers' organic agricultural products purchasing

Income and education did not impact the willingness to pay for organic logos. The results of the econometric model showed that the dependency on household-level market decisions can be empirically tested. The consumers selected multiple marketing outlets as a strategy to safeguard their investments and maximize incomes in the long term. Education level and age are no relationship with each other.

Perception of organic agricultural products logo

H₂: Attitudes (understanding, interest, and knowledge) will positively influence organic agricultural products purchasing. The study showed that the studied group had different responses in purchasing related to verities of organic logos based on knowledge and information. Table 4 indicated consumers' responses to attitudes

toward organic agricultural products. Five-point Likert scale (1 = "lowest level" and 5 = "highest level") was used in the survey. The major number of respondents understood organic products 34.40 % medium level and were interested in organic products at 32.52 % highest level. Around 33% of respondents know the difference between safety and organic products. The results expressed the highest level of understanding and a medium level of interest in organic products toward logo standards. The majority of consumers had a medium level of private extension and public extension, which were 37.16% and 28.12 % medium level. Impact of different knowledge on consumer choices and willingness to buy agricultural products depended upon individual socioeconomic, knowledge, and interests. While awareness is based on consciousness, consumption requires an explicit buying commitment that should be influenced by price and an appropriate measure of quality. Also, private and public extensions toward standard logos impacted consumers' decisions.

Table 4. Consumer' attitude toward organic agricultural information

Level	Understand organic agricultural products	Interested in organic agri. products	Difference between safety and organic	Government extension	Private sector extension
1 (Lowest)	19.66	11.00	14.67	18.34	26.41
2 (Low)	10.81	9.05	16.14	23.47	26.41
3 (Medium)	34.40	22.25	33.25	37.16	28.12
4 (High)	20.39	25.18	18.58	13.45	15.16
5 (Highest)	14.74	32.52	17.36	7.58	3.91

The willingness to pay for agricultural products

H₃: Concern for an environmental logo (Organic Thailand, IFOAM, PGS) will positively influence organic agricultural product purchasing behaviour

The study had chosen 3 standard logos (Organic Thailand, IFOAM, PGS). These logos were the major logos of organic products in various markets in Thailand. In table 4, the majority of respondents where the lowest level of recognized logos denotes, Organic Thailand, IFOAM, and PGS agricultural products. Table 4 assisted how consumers understood and reacted to the different safety and organic logo. These indicated respondents were familiar with logos, and knowledge, and they knew the difference between safety and organic products. The study showed 48.41% of consumers surveyed were willing to purchase varieties of organic logos at different additional prices. The additional price for certification was asked of the consumers. The study showed that certified brand impact quality products in the market. Approximately 25.43 % of major respondents were willing to buy if the additional price increased by more than 50 % for Organic Thailand, 33.00 % were a major willing to buy for IFOAM if the additional price increased by more than 50 %, and the major respondents were willing to pay 10.4 % for PGS if more than 50 % price increased (Table 6). According to choose experiment logit model to explain there were different endogenous variables, respondents who understood the concept of safety and organic agriculture and had an information standard logo tended to purchase (Table 5). The willingness to pay was estimated for individuals possessing certain characteristics of attitudes and the willingness to pay evaluated the explanatory variables. For the research, we analyzed preferences of organic products logo for consumers in the average willingness to pay of the respondents and the willingness to pay of those respondents that indicated the willingness. Organic Thailand logo increased by approximately, 13.5363 % in purchasing if the respondents understood organic agriculture (model 1). Respondents understood organic agriculture will increase by 13.5681 % in purchasing and where a positive impact of 0.5147 % on knowing the Organic Thailand logo, but a 0.2697 negative impact on knowing IFOAM (Model 2). Model 3 showed 13.5351 % in purchasing if respondents understood organic products and 13.5877 % in purchasing as same as 13.5877 % in purchasing in

model 5. Oppositely, the willingness to purchase the PGS logo did not impact consumers' purchasing decisions.

DISCUSSION

The majority of respondents were willing to pay more for third-party certified organic logos than locally certified logos. Product information including organic labels was important. Certified quality standards by third-party motivate increasing consumers' demand and good practices of producers. Labelling based on third-party certification was an instrument for gaining trust from consumers (McCluskey, 2000). Oppositely PGS was an alternative organic certification for smallholder farmers who did not have financial access to third-party organic logos. This logo provided guarantees and improves the local agricultural market. Some consumers did not trust PGS and were not willing to pay more for local and domestic guarantees (Hruschka *et al.*, 2021). Social desirability bias influenced consumers to choose organic logo products in the markets. The bias of increased price scale predicted payment auction. Education and level of income did not relate to consumers' preferences. Considering that interest and knowledge could prompt logo trust, belief, and action. It would be expected that the trust logo influence purchasing behavior. Interest and knowledge, including information, added to consumers' experiments do have an impact on the willingness to pay more for the logo.

The Thai government's organic programs also relied on the regional analysis of consumer preferences. The government identified consumer preferences across regions and products. There are 72 countries had implemented organic regulation, including not-fully implementation, and drafting (Willer and Lernoud, 2019). Consumers were willing to pay higher premium prices (Cranfield and Magnusson, 2003). Consumers were willing to pay higher prices for environmental benefits while producers attempted to switch to safety and organic production with certified logos (Onozaka and McFadden, 2011). The willingness to pay for marginal changes in production practices influences farmers' behaviour and lifestyle. Thus, third-party certification was required in niche markets (Olynk and Ortega, 2013). The success of a product's logo based on third-party certification for organic food depended upon a recognized logo, known what it stands for and a trusted logo (Janssen and Hamm, 2010).

Table 5. The estimated consumers' willingness to buy organic agricultural products toward logo, products information, and extension using choice experiment logit models.

MODEL	INTERCEPT	EDU	INCOME	INTORG	UNORG	GOVINFO	PRIINFO	ORGTHAI	IFOAM	PGS	DIFF
1	-48.4314 (-0.0573)	-0.0207 (0.9902)	-0.1081 (0.9315)	0.3653 (0.915)	13.5365** (0.0082)	-0.0596 (0.9815)	-0.0306 (0.9903)				2.3702 (0.8747)
2	-48.3693 -0.0622	-0.0188 (0.9913)	-0.109 (0.9319)	0.3635 (0.927)	13.5681* (0.0132)	-0.0634 (0.9806)	-0.012 (0.9965)	0.5147*** (<.0001)	-0.2697* (0.0216)	0.00445 (-0.9796)	-2.3344 (0.8780)
3	1.6625 (0.0331)	0.00367 (0.9656)						-0.0568 (0.6981)	0.1873 (0.3298)	0.00445 (0.9796)	-4.9328*** <.0001
4	-48.2060 (0.0614)		0.3136 (0.9308)	0.2966 (0.9425)	13.5351** (0.0095)	0.0698 (0.9790)	-0.0293 (0.9918)	0.0283 (0.9913)	0.0839 (0.9824)	-0.0902 (0.9781)	2.1952 (0.8843)
5	-48.0960 (0.0657)				13.5877* (0.0158)		-0.00024 (0.9999)	0.0263 (0.9920)	0.0933 (0.9806)	-0.1028 (0.9754)	2.1388 (0.8873)

$p < 0.05$, ** $p < 0.01$ and *** $p < 0.001$

Source: Author's own data from the survey

EDU = education, INCOME = income, INTORG = interested organic agricultural products, UNORG = understand organic agricultural products, , UNSAFE = understand organic agricultural products, GOVINFO = government extension, PRIINFO = private extension, ORGTHAI = known Organic Thailand, IFOAM = known IFOM, PGS = known PGS, DIFF = known the different between safety and organic logo

Table 6. Consumers' decision-making toward agricultural products logo.

Consumer Decision	Consumers' willingness to pay for organic logo				
	Increased Price	Organic Thailand	IFOAM	PGS	
Not Buy	51.48	1 (< 10 %)	16.38	7.14	25.3
Buy	48.51	2 (10-20 %)	13.94	11.08	28.6
		3 (21-35 %)	21.29	20.94	24.1
		4 (36-50 %)	22.98	27.83	11.6
		5 (> 50%)	25.43	33.00	10.4

Source: Author's own data from the survey

The study showed that premium prices toward logos and brands impact purchasing decisions. Including perception levels and attitudes on safety and organic logo depended on knowledge, the study showed the respondents understood agricultural production, the respondents impacted on willingness to buy for logo toward standard guarantee products. The knowledge related to the different logos was perceived as a control in determining the standard in Thailand. Consumers who believed in environmental benefits and were willing to pay more for premium products (Thilmany *et al.*, 2008). Product value (environment and health concern) impacted developing economic countries. Environmental issues influence the power to purchase and raised the demand for safe and organic products. Additionally, in the study of Panya and Sirisai (2003) people in urban areas had more responsibility for environmental concerns than those in rural areas. Consumers were willing to buy based on logo and brand recognition in developed and developing countries. Individual personalities were important in purchasing choices (Steg *et al.*, 2014). The attitudes to buying organic products depended upon expectations and individual behaviors. Consumers were willing to trade-off between a trusted logo and their money. Organic products applied to their social status, society, and culture affected food personalities (Stead *et al.*, 2011). Age has been a factor related to younger have more concerns than older adults. Arcury and Christianson (1990) also, attitudes, behaviors, personalities, and preferences of individuals impacted opportunities for expanding new products in the present and future markets. Price was limited in purchasing power products (Bourn and Prescott, 2002). Usually, the demand and willingness to pay for new products were high in the markets. Middle-class incomes were usually concerned about healthy quality foods. Purchasing powers of healthy foods were expanding in premium green food markets (Backett-Milburn *et al.*, 2010). Consumers would trades-off between high prices and good quality products. Consumer experience was important to develop marketing strategies for safe and organic products.

CONCLUSION AND RECOMMENDATIONS

The findings of this study may have some policies implemented. The government should take the necessary initiatives to introduce certification of third-

party in response to consumers' higher demand and willingness to pay for certified logos. To achieve this, the government should utilize specialized bodies to create policy formulation and provide technical and financial support for the value chain. Policy and marketing recommendation was better for stimulating standard food consumption. Health, safety and environment were new trends of agribusiness thus they should be supported and implemented by policy-makers. Innovation for smart farmers will apply to ensure a competitive of the products in the markets. In Thailand, the policy on organic agriculture has begun in 2006 and is expected to decrease farmers' debt, improve productivity, reduce health risks, and improve the environment.

This suggested that the market potential for organic products, especially food would be increased. Trends of a healthy and good attitude in organic were expanding, new consumers would increase in the markets. Organic stores or organic sections in the supermarket should be expanding in convenience stores and other provinces. Organic farmers usually faced prices and markets. This study recommended knowledge impact on demand for organic products thus knowledge and information providers (private, public, and academic) were necessary for the supply chain of productions and consumers. Another recommendation should be a fair trade between the demand and supply of organic products. These are expected to maintain sustainable healthy products farmers and consumptions in the markets in present and future. Additionally, government and private sector should inform all generations of consumers about the safety and organic products.

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