

Determinants of Willingness to Pay of Organic Products

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Abstract: Demand of organic products is in an increasing rate and organic market is growing internationally and in the year 2009 the volume hit \$55.4 billion. Malaysia is also experiencing the blooming of demand of organic products. In fact, consumers have become more conscious about the healthy and quality products. They are willing to pay for premium price for organic products. In addition, organic market is a potential and profitable market for marketers to have a deep study on it since the demand of organic products is kept increasing. Thus, the objective of this study is to explore the determinants that motive organic consumers' willingness to pay for the organic products. A total of 479 samples were collected through self-administrative questionnaires in November 2012 from the organic consumers in Klang Valley, Malaysia. The study showed that environment consciousness, health consciousness, perceived expensiveness and labelling and certification, significantly predicted willingness to pay. Malaysian consumers consider organic products as very healthy and of environmental friendly. However, these products are perceived as rather expensive. Thus, marketing strategies for organic products should be targeted towards to those segments of consumers most appreciative of the positive attributes of organic products.

Key words: Willingness to Pay • Organic Products • Environment Consciousness • Health Consciousness • Perceived Expensiveness • Limit availability • Labelling and Certification

INTRODUCTION

Demand of organic products is in an increasing rate and organic market is growing internationally and in the year 2009, the volume hit \$55.4 billion [1]. The latent demand for organic products is estimated to be \$48.5 billion in 2007 [2]. However, the distribution of the world latent demand (or potential industry earnings), is not evenly distributed across regions. Asia is the largest market with \$17.0 billion or 35.1%, followed by Europe with \$12.6 billion or 25.9% and then North America and the Caribbean with \$11.3 billion or 23.2% of the world market [2]. Growing in organic farming allows smallholder to gain advantage as well as helps in economy development [3]. In fact, organic sector has brought an advantage to the smallholder such as an increase in income level and improve their living lifestyle [1]. In addition, organic farming has driven the export volume and the value chain which includes supermarket chain and downstream market. Furthermore, the growth of organic

sector brought a favourable result in production as well as in economy stability and growth [1]. Nowadays, economy worldwide is highly interconnected and it is obviously to notice that growing in demand of some countries have also benefited the other countries in economy expansion [4].

Consumers seek organic produce in a way of environmental degradation, or as the best way to eat healthy products [5]. Besides, government and others view that purchasing organic is a good way for developing fair trade due to most of the organic farmers are small-scale producers. The trend of eating and purchasing organic products has boosted up the organic sector in constructive rate. Transaction and trade of business have increased indirectly and these also bring a healthy rate for Malaysia's economy. Consumers also willing to pay for organic products during economy down turn in June 2008 [5]. Economy down turn did not bring a strong impact to this industry and the sale of organic products still in a healthy and encouraging rate [6].

Organic market is a potential and profitable market for marketers to have a deep study on it since the demand of organic products is kept increasing nowadays. Besides, organic industry is contributing to Malaysia's economy and citizen's health, as well as the environment. Customers' belief, feeling, attitudes, motivation and demand trend would bring a deep impact on food industry and this will bring challenges for marketers to design a marketing strategy. Policy makers seek consumer orientated analysis in the organic sector since the information is crucial for them. Thus, the objective of this study is to explore the determinants that motivate organic consumers' willingness to pay for the organic products. The study not only can improve the understanding of consumer behaviour and factors that affect customers, but it is also a necessary research to help marketers to market the products, help Government to understand the needs of citizen, help retailers or wholesalers to do some related activities to encourage consumers in order to choose organic products and help producer to estimate the production in the future.

Research Framework and Hypothesis Specification:

Consumer willingness to pay organic products may be reflected by many motivators such as healthiness, environmentalism, perception, awareness and others [7-9]. As Thompson observed, "accounting for where foods are purchased is likely to be important in understanding where potential growth in organic food might occur" [10]. According to Rodriguez, Lacaze and Lupin [11], willingness to pay is "sum of money representing the difference between consumers' surplus before and after adding or improve a food product attributes" The number of consumers who are willing to pay a premium price for the organic products is in an increasing rate, the whole market for organic was growing as well [8]. A study compared consumers' willingness to pay for organic products and conventional products conducted by Pellegrini and Farinello [12] showed that consumers are willing to pay higher price for organic produced products.

Consumers' environmental attitudes brought a significant result in explaining consumers' organic purchases [7, 13, 14]. The relationship between environmentalism and consumer attitudes has strong correlation. For instance, consumer who concerns about recycle activities may also purchase organic products [15]. Environmental issues become one of the most important motives to push consumer to purchase organic products. Higher degree of consumer's concern about the environmentally production, positive attitudes will be

created [7]. Environmental concern has raised the interest of organic products [16]. There is more than 70% of respondents perceived that purchasing organic products is one of the ways to save the environment [12]. Peoples prefer to support environmental friendly products and prohibit any action, which causes pollution or environment damage [17]. Thus, if one has more positive perception towards environmental issue, one would be more willing to pay more for organic products.

Hypothesis 1: Positive perception towards environment consciousness will have positive effect on the willingness to pay.

Consumers perceive organic products contain higher level of nutrition and more safety to consume due to its production system. In particular, some of the studies have been found to be significant in explained organic consumers concerning about health issues [14, 18]. Many studies indicated that health conscious is the predominant concern among organic consumers [19]. Health conscious is a critical matter in order to have an impact on consumers' attitudes [20, 21]. In addition, both health issue and environmental concern are important indicators for heavy organic buyers [22]. Furthermore, consumer view "organically produced" is an essential matter when they have a higher health consciousness [13]. Consumers' health awareness plays an important role in order to forecast "consumers' attitudes", "purchase intention" and "purchase frequency" [13]. Health conscious will create positive attitudes of consumers toward organic products [7]. Besides that, one of the main determinants that influences consumers purchase decision is health conscious [16]. Perception towards organic products is one of the main reasons that caused consumers to choose organic products [17]. Rise in consumer interest toward organic consumption is caused by they perceive organic products is healthier and more environmental friendly [23]. When consumers are become health conscious and notice that the risk of consume conventional products is increasing, therefore, they try to discover an alternative in order to substitute it with safety and higher quality products [24]. Health and product safety are the vital motivator and consumers are willing to pay premium price for organic products since they view products intake is essential to maintain their health. Therefore, if one believes that the organic products have positive a impact on health, one would be more willing to pay more for organic products.

Hypothesis 2: Positive perception towards health consciousness will have positive effect on the willingness to pay.

Many previous researches discussed that price and availability of organic products become a critical issues for customers. One of the reasons why consumers did not buy organic products is caused by price [16]. In the studies conducted by Wang [25] declared premium price of organic cotton caused consumer did not buy it. The main obstacle for them to purchase organic products is premium price [24]. There is a research examined on the willingness of consumer to pay for environmentally certified wood products by Mohamed and Ibrahim in Malaysia [26]. It shows that only 32 percent of respondents are willing to pay for the premium price and they are willing to pay around 14.4 percent of the increase [26]. A study showed there are about 81 percent of respondents was agreed that price is an important indicator for them to make a decision. Furthermore, price for organic products does not act as a barrier for consumers when purchasing organic products, yet price is an aspect which consumers take into account during their decision making process and price is the element that makes the process more complicated [19]. High proportions of the respondents are not willing to pay premium price for organic products although organic products are healthier and do contribute to their own health [27]. Thus, if one perceived that the organic products are expensive, one would be less willing to pay more for organic products.

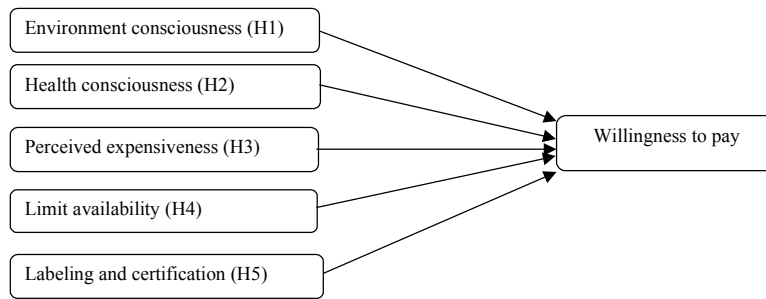
Hypothesis 3: Perceived expensiveness on the price of organic products will have negative effect upon the willingness to pay.

Most mentioned obstacle to purchase of organic products was deficiencies in distribution channels [18, 24, 28]. Convenience issues and availability of the information about organic products play a pivotal role as well. Thus, if one perceived limit availability of organic products will have effect one's willingness to pay for organic products [19].

Hypothesis 4: Limit availability of organic product will have effect on the willingness to pay.

Certification and quality assurance of organic products are becoming more important in the international level. Labelling acts as an important source for consumer to recognize which organic products have gone through a comprehensive control system [29]. Moreover, labelling and certification act as a trust builder between end users and producers [19]. Producers view it as a marketing strategy to differentiate themselves from competitors, protect themselves and add value for them [30]. About 65 percent respondents believe that certified organic products and the certification must at least from any local institutes to make sure the organic products meet quality requirement [27]. Organic certification adds value to both organic consumers and non-buyers by provide additional information when in their purchasing stage [31]. Consumers will receive more knowledge and information from labelling provided on the good [32]. As the same way, labelling and certification assist in providing more information to consumers [33]. Consumer will not trust and purchase any organic products which have no certification or labelling [8, 34]. Consumers in UK are better in recognizing the word "organic" instead of any certification or particular label [35]. In accordance, consumer's perceived quality of organic products should not only depend on its taste or visual characteristic, but must include certification or organic labelling as well [36]. Certification is crucial in order to make consumers feel confidence towards organic products. Additionally, certification can make consumers' buying process straightforward since it helps consumers easy to identify and recognize organic products [19]. Certified quality label become a necessary element in most of the society, especially in the developed country since it is important to satisfy consumers physiological needs [37]. Consumers in Denmark are confidence toward control system of organic products and most of them can recognize and trust the labelling [38]. Higher products involvement of consumer (recognizes labelling and certificate) will authorise their attitudes and intention to obtain organic products [23]. Therefore, if one believes that the labelling and certification on organic products, one would be more willing to pay more for organic products. The suggested research model is depicted as Fig. 1.

Hypothesis 5: Labelling and certification on organic products will have positive effect on the willingness to pay.



H = Hypothesis

Fig. 1: Determinants of willingness to pay of organic products.

Research Methodology

Data Collection: The targeted sample is consumers of organic products in Klang Valley, the place of major demand of consumption of organic products [39]. In 2007, the market value for organic products in Klang Valley is estimated about US\$61.6 million or 31.7 per cent of the Market Value of Malaysia [2]. Although the sample mostly a convenience sample, i.e. organic consumers were approached randomly, it is noted that the non-probability sampling techniques is used when generalization from the research findings is not the main concern to the researchers and is often used in exploratory studies [40-43]. The representative of the overall population may questionable; however, the survey is still expected to provide a first exploratory and insights of organic products issues and perception of organics products by consumers in Malaysia.

Survey questionnaires will be used to elicit the required data for the cross-sectional study. The questionnaire was designed to analyse the study. Then, respondents were asked on three different aspects. The first section is comprised of socio-demographic

characteristics (i.e. age group, gender, ethnic group, marital status, income level and educational background). The second section is consisted of questions related to organic products consumption (consumption level and frequency of purchase). Finally, several questions on perception towards willingness to pay, environment consciousness, health consciousness, perceived expensiveness, limit availability and labelling and certification were included. The questions in third section were measured of the five-point Likert scale of 1 = very disagree and 5 = very agree.

The data were collected through a self-administrative questionnaire in November 2012. A total of 500 questionnaires were distributed to about 30 organic retail shops and consumers of organic products in Klang Valley. Out of the 483 questionnaires that were returned, four were incomplete and therefore, not used in any of the analyses. The total of 479 completed questionnaires represented on individual response rate of 81 per cent. The detailed of the descriptive analysis of the respondents' characteristics are shown in Table 1.

Table 1: Demographical profile.

Characteristics	%	n	Characteristics	%	n
Gender			Ethnic Group		
Male	30.1	144	Malays	5.8	28
Female	69.9	335	Chinese	87.9	421
			Indians	6.2	30
Age Group			Education Level		
21-30	38.2	183	Primary and below	5.6	27
31-40	23.6	113	Secondary	24.1	115
41-50	21.1	101	Pre-university/Diploma/ Vocational/ Technical	27.3	131
51 and above	17.1	82	Degree and above	43.0	206
Marital Status			Employment Status		
Single	43.4	208	Employed	49.5	237
Currently married	52.4	251	Self-employed	20.5	98
Others	4.2	20	Students	13.2	63
			Housewife	12.7	61
			Retried	4.2	20
Total	100.0	479	Total	100.0	479

Variable Definition: In the proposed model of organic products, the dependent variable, willingness to pay is measured by eight self-reported level of willingness to pay on a 1 to 5 scale where 5 indicates the highest level of willingness to pay. Environment consciousness and health consciousness were measured by four self-reported level of environment and health consciousness, respectively, in scale 1 to 5 where 5 indicates the highest level of consciousness. Health consciousness was measured by four observed variables, to 5 scale where 5 indicates highest of agreement. Perceived expensiveness and limit availability were measured by three variables on a 1 to 5 scale where 5 indicates the higher level of agreement on expensiveness and limit availability, respectively. Labelling and certification is measured by two self-reported level of labelling and certification on a 1 to 5 scale where 5 indicates the highest level of agreement.

RESULTS

To analyze factors affecting the consumption level of organic products, Principal component analysis (PCA) with varimax rotation was conducted to assess

the underlying structure. Prior to performing PCA, the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of 0.5 and above. The Kaiser-Meyer-Oklin value was 0.86, exceeding the recommended value of 0.6 [44] and Bartlett's Test of Sphericity [45] reached statistical significance, supporting the factorability of the correlation matrix. After rotation, PCA revealed the presence of simple structure [46] of six components with eigenvalues exceeding one (Table 2). An inspection of the screeplot revealed a break after the six components. The Cronbach's alpha (α) for the six components or factors exceeding the value of 0.7, which indicates that the items form the scales, have reasonable internal consistency reliability, respectively (Table 3).

Multiple linear regressions was conducted to assess whether the five predictor variables, environment consciousness, health consciousness, perceived expensiveness, limit availability and labelling and certification, significantly predicted willingness to pay. Preliminary analyses were conducted to ensure no serious violation of the assumptions of normality, linearity, multicollinearity, Homoscedasticity and autocorrelation. The full modal containing eight predictors were

Table 2: The results of principal component analysis (PCA).

Items	1	2	3	4	5	6
WTP1: I will continue to consume organic products without affect by the price changes.	0.77					
WTP2: I don't mind spending more time sourcing for organic food.	0.77					
WTP3: I am willing to pay a higher price for organic products.	0.75					
WTP4: I'm willing to buy organic food even though choices are limited.	0.71					
WTP5: Buying organic food is the right thing to do even if they cost more.	0.70					
WTP6: I would still buy organic food even though conventional alternatives are on sale.	0.69					
WTP7: I will continue to purchase organic products.	0.65					
WTP8: I'm willing to buy organic food because the benefits outweigh the cost.	0.64					
EC1: Environmental pollution is a serious issue		0.84				
EC2: I am greatly concerned about the harm being done to plant and animal life by pollution.		0.75				
EC3: The government should pay more attention to environmental issues.		0.74				
EC4: I feel I am more environmentally conscious than most people.		0.62				
HC1: Organic products are more nutritional than conventional food.			0.83			
HC2: Organic products are healthier than conventionally grown food.			0.83			
HC3: Organic products are more safety to consume and contain less health risk.			0.69			
HC4: Organic food tastes better			0.56			
PE1: Only consumers with higher income can afford organic food.				0.84		
PE2: Organic food is beyond my budget.				0.79		
PE3: Organic food is too expensive.				0.74		
LA1: Organic food is only available in limited stores/ markets.					0.81	
LA2: Buying organic food is highly inconvenient.					0.76	
LA3: The stores that I frequently shop do not sell a variety of organic food.					0.73	
LC1: I will only purchase organic products with organic certification or organic labelling.						0.87
LC2: Organic labelling and certification is important for me to recognize organic products.						0.85
Total	6.36	2.91	1.89	1.60	1.35	1.08
% of Variance	26.50	12.14	7.86	6.67	5.61	4.50
Cumulative%	26.50	38.65	46.51	53.18	58.79	63.29

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

(WTP: Willingness to pay (WTP), EC: Environment consciousness, HC: Health consciousness, PE: Perceived expensiveness, LA: Limit availability and LC: Labelling and certification)

Table 3: Descriptive statistics on the constructs and Cronbach's alpha.

	Item	Mean	Std. Deviation	Cronbach's Alpha
Willingness to pay (WTP)	8	3.46	0.64	0.88
Environment consciousness	4	4.03	0.64	0.78
Health consciousness	4	3.89	0.68	0.79
Perceived expensiveness	3	3.46	0.78	0.72
Limit availability	3	3.12	0.77	0.73
Labelling and certification	2	3.77	0.76	0.79

Table 4: Regression Table.

	B	SE B	β
(Constant)	1.73	0.21	
Environment consciousness	0.12	0.04	0.12**
Health consciousness	0.41	0.04	0.44**
Perceived expensiveness	-0.26	0.03	-0.31**
Limit availability	0.02	0.03	0.03
Labelling and certification	0.12	0.03	0.14**

Note: R² = 39.2%, F= 60.92**, * p < 0.05, ** p < 0.01

Table 5: Summary of results.

Hypothesis	Results
Hypothesis 1	Supported
Hypothesis 2	Supported
Hypothesis 3	Supported
Hypothesis 4	Not Supported
Hypothesis 5	Supported

statistically significant, $F = 60.9$, $p < 0.01$ (Table 4). The model as a whole is explained between 39.2 per cent of the variance in willingness to pay (Table 4). The results showed that most of the predictor variables except limit availability are significant at five per cent level of significance. These revealed that all the hypotheses except the hypothesis four are supported (Table 5). All the independent variables (environment consciousness, health consciousness, perceived expensiveness, limit availability and labelling and certification) were found to be has high mean value where almost all the grand mean values are more than three (Table 3). As a result, it is suggested that all the predictors are agreed by consumers to choose organic product, however; not all of the consumers are willing to pay for organic products.

DISCUSSION

Organic industry in Malaysia is in an encouraging rate where most of the customers are starting to consume organic products. Government views that organic industry is a profitable sector to boost Malaysian economy up to the value chain. High demand of organic products become the main motive for this research to conduct in order to provide insight for all related parties

to understanding the determinants that push customers to consume organic product. The study showed that environment consciousness, health consciousness, perceived expensiveness and labelling and certification, significantly predicted willingness to pay.

In this study, it is found out that one of the influential variables is consumers' environmental attitudes. Consumers agree that organic products are more environments friendly [47]. In addition, consumers are more willing to pay for environment products. As a result, for current stage government and marketers should emphasize the quality of organic product and educate the public regarding production of organic products which can bring a better and fewer pollution environments for our next generation. Furthermore, marketers should target on consumers who care about environment issues.

Organic product consumption is strongly motivated by health consciousness. Organic farming system is free of synthetic fertilizers, pesticides and chemicals. With this system, the food produced contains higher nutrients and safety to consume since they reduce the possibility to get food poisoning [7]. Consequence, consumers perceived organic products is healthier and safety than conventional products [48]. When the household are more health conscious, they will concern about products defect and nutrients composition [20]. For instance, additives, the amount of fat, refined sugar and others.

High premium price has been identified by the respondents as the main barrier toward making organic products less appealing to a broader consumer base. Consumers are more likely to purchase organic products as the price of organic products decrease [47]. Low purchase rates of organic products are highly affected by its price [16]. This issue had been supported by local report that price becomes a main barrier to purchase organic products for Malaysian [49]. As a result, government should put more effort in lowering the price of organic products. Promotion and discount should be conducted to attract customers who intend to purchase organic products but not willing to pay high price for it.

However, low availability seems do not defer consumers to spend more on organic products. This may due to there are increasing number of organic retail shops operating in Klang Valley [50].

Labelling and certification is significant in this research. Awareness of the organic label can increase the probability that a consumer would be willing to pay a premium for organic products [9]. Consumers are not willing to pay for products, which are lacked of full information and incomplete labelling. Thus, it would be advisable for Department of Agriculture Malaysia (DOA) to be aggressively promoting the certification of Malaysian Organic Scheme (SOM) for local organic farming [51]. In Malaysia, organic certification for local aquaculture industry has been introduced by Fisheries Department Malaysia in the year 2009. The certification of organic products acts as a reliable medium for consumers to ensure that particular products to govern by organic standard [52]. In addition, advertising and education through newspaper and magazines is essential for organic industry to growth. Moreover, personal communication is greatly effective in notify others about organic products. Government can conduct organic products fair and event to increase the exposure of organic knowledge to public and increase the effectiveness of personal communication by train all the sale assistants or promoters. Hence, they can pass the information to the public accurately and increase the organic knowledge of public. In future, the new legislation on the organic production, especially on labeling and certifying of organic products is urgently needed to stimulate the demand of organic products.

CONCLUSIONS

Malaysian consumers consider organic products as very healthy and of environmental friendly. However, these products are perceived as rather expensive. The results showed that some consumers have more positive attitudes toward organic products and they exhibit an increased willingness to spend for these products. Thus, marketing strategies for organic products should be targeted towards to those segments of consumers most appreciative of the positive attributes of organic products. The education of consumers must become one of the first objectives for organic producers. An important task is to increase consumers' knowledge of what an organic product is and how to differentiate it in the marketplace. Educational activities should be managed by NGOs and organic producers' organisations at organic retail shops, restaurants, wholesale, farming, fairs

and even organics products show. Organic retail stores perhaps may be an effective and nature channel for facilitating consumer educations and disseminating knowledge [53, 54]. Most consumers may be unintentionally aware about the existence of a new product when they are more likely to read the product description if they find it interesting [54]. Increasing consumers' awareness and knowledge of organic products, maintaining customer satisfaction and delight, targeting right socio-demographical segment group, increasing availability and range of fresh organic vegetables and products may be the most effective to enlarge the market share. Lastly, this study may help all parties include government, social, marketer and others. This research can act as a guideline and provide insight for related parties to plan for current market and implement a strategy to boost the organic industry.

One limitation in this study is that the sample is restricted to one geographic area in Malaysia. Further, the study was conducted with the visitors to the organic shops, who may inherently hold more positive attitudes towards organic products. Therefore, additional studies will be necessary to better discriminate between consumer groups, to determine which segments are most appropriate for marketing of organics products.

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