Eco-Labeling Perspectives amongst Malaysian Consumers

LES PERSPECTIVES DE L'ECO-ETIQUETAGE CHEZ LES CONSOMMATEURS MALAISIENS

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Abstract: This study explores the Malaysian consumers' trust of an eco-label and the influence it has in their choice for the corresponding environment friendly product. Taking into consideration the infancy stage of the Malaysia green marketing initiative, traditional approach to evaluating local consumer receptiveness to the eco-label might not be suitable. This paper approaches the introduction of eco-label with two perspectives in mind. Firstly, while earlier studies from the western scholars use eco-label as a part of the augmented product, this study introduces eco-label as a separate moderating variable. Secondly, the choice of employees working in ISO14001 certified organizations as the population explore a potentially conducive place to initiate a systematic effort in developing a green consumer community. The result is very encouraging. This study has shown that, with some exposure to environmental related experiences Malaysian consumer would indeed react positively to the eco-label. In fact, for situation that requires them to consider environmental aspects of a product that they wish to purchase, the eco-label will definitely be the crucial factor that will push them to make the right purchase choice.

Key words: Eco-label; Environmental attitude; Knowledge of Environmental Issues; Green Products; Environmental Management System

Résumé: L'étude démontre la confiance des consommateurs malaisiens en éco-étiquetage et l'influence qu'il exerce sur leur choix pour les produits plus écologiques. En prenant compte de cette étape primaire de l'initiative du marché écologique de Malaysie, les approches traditionnelles pour évaluer l'acceptation des consommateurs locaux envers l'éco-étiquetage semblent être non convenables. Cet

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article aborde le sujet d'éco-étiquetage en gardant deux perspectives dans l'esprit. Premièrement, pendant que les études antérieures des experts occidentaux utilisent l'éco-étiquetage comme une partie de produit supplémentaire, cette étude introduit l'éco-étiquetage comme une variable modératrice séparée. Deuxièmement, le choix des salariés travaillant dans des organisations certifiées par ISO 14001 en tant que la population explore un lieu potentiellement propice pour engager un effort systématique visant à développer une communauté de consommateurs écologique. Le résultat est très encourageant. Cette étude a montré qu'avec une certaine exposition des expériences relatives à l'environnement, les consommateurs malaisiens pourraient réagir positivement envers l'éco-lable. En fait, dans les situations où il leur faut prendre en compte les aspects environnementaux d'un produit qu'il veulent acheter, l'éco-étiquetage deviendra définitivement le facteur déterminant qui les poussent à faire le bon choix.

Mots-Clés: Eco-étiquetage; attitudes environnementales; connaissances sur des problèmes environnementaux; produits écologiques; système de management environnemental

1. INTRODUCTION

The Product Certification Program, Malaysia's national labeling program, was launched in 1996 by the Standards and Industrial Research Institute of Malaysia (SIRIM). It is a single-attribute, seal-of-approval product certification program verifying products according to environmental criteria such as Environmentally Degradable, Non-toxic Plastic Packaging Material, Hazardous Metal-Free Electrical and Electronic Equipment, Biodegradable Cleaning Agents and Recycled Paper. Another relatively more active eco-labeling scheme is for agricultural products promoted by the Federal Agriculture Marketing Authority (FAMA), known as Malaysia's Best logo. Only agricultural produces from farms adopting good agricultural practices (i.e. operate in an environmentally friendly way and yielding products that are of quality, safe and suitable for human consumption) could apply for the Malaysia Best logo. Another category of eco-label relates to the efficient use of energy - endorsed by the Malaysian Energy Commission. This Commission has already established an energy labeling scheme for household appliances. With the Energy Rating Label consumers will see the appliance energy performance at a glance and help them to compare products. Even though at the moment the Energy Rating Label is only used for refrigerators, the Energy Commission will expand its promotional efforts to encompass other energy efficient household appliances in the future.

These are indeed encouraging development. Evidences that the Malaysian business sector is also not far behind in responding to challenges arising from demand made from the consumers for environmentally friendly products. However after looking deeper into these developments, the response might not be originating from local causes. According to Dr. Chen Sau Soon, programme head of SIRIM Environment and Bioprocess Technology Center, industries have only become more environment-conscious due to export market demand for environment-friendly goods or complying with instruction from oversea head office. In fact, by August 2006, only 1 company thus far has actually successfully applied for the SIRIM Eco-label. Searching through literature also found very few studies done on the respond of local consumers toward the use of eco-label in purchase decisions. None of these studies were related to local eco-labels. After taking into consideration the above discussion, the main question for this study is does Malaysian consumer trust of an eco-label strengthen the preference they would give for the corresponding environment friendly product? The research framework consisting of all relevant variables is depicted in **Figure 1** and will be elaborated further in the following section.

1.1 Eco-labels

Eco-labels refer to a product's collective overall environmental performance (Giridhar, 1998). They are indicators of the environmental performance of a product, developed to try to prevent consumers from being confused over claims of environmental friendliness (Childs and Whiting, 1998). A sound eco-label program would look at the entire life cycle of the product including production, distribution, use and disposal. The first of such programs was the Germany's Blue Angel program, which began in 1978. A number of programs have been developed in other countries: The Swan (Nordic Eco labeling), Environmental Choice (Canada 1988), Eco Mark (Japan 1989), Green Seal (US 1990), Eco-Mark (India 1991) and Eco-label (EU 1993). Eco-labels are potentially attractive instruments informing consumers about the environmental impact of their purchasing decisions, while simultaneously providing producers with a tool for extracting market place preference and thus market share. Generically eco-labels can be classified into 2 categories: a) self-declaration claims and b) independent third-party claims. Self declaration claims are placed on a product by the manufacturer, retailer or marketer and may be made on a single attribute or an overall assessment of the product. Product claim could include "environment friendly"", "ozone friendly", "organic", "pesticide-free", "degradable", and "recyclable" which are usually described on the packaging. However, these claims are usually not independently verified. Independent third-party claims on the other hand are based on compliance with predetermined criteria, which are independently verified by a competent authority. The criteria are usually built on a product life-cycle approach.

A study by Teisl, Roe and Hick (2002) provided market-based evidence that consumers can respond positively to eco-labels and consequently contributed to the increased market share of the product concerned. Thogersen (2002) in a rather extensive study involving respondents from 4 different countries, found that large majority of them pay attention to eco-labels at least sometimes. Grankvist et al., (2004) also found that information about environmental outcomes provided by eco-labels did influence product preference, especially those with strong concern for the environment. Apart from that, they also noted that women, graduate and young respondents showed positive attitude toward eco-labeled products. Loureiro and Lotade (2005) have identified consumers especially in much developed countries have shown their willingness to pay higher premium for eco-labeled products. However, there are also some studies that highlighted the disagreement on whether or not eco-labeling programs may be an effective tool to motivate consumer's response (Wessells et al., 1999). While discussing the strength and weaknesses of eco-labeling scheme Erskine and Collins (1997) concluded that, in practice, it would be very difficult to have a workable and effective eco-labeling scheme that could clearly contribute to improving the environment. Some studies even reported a weak correlation between environmental concern and the choice of eco-labeled product (Magnusson et al., 2001). Even consumer who know and trust a relevant environmental label will not use it due to information overload (Jacoby, 1984). These discussions have showed that the use of eco-label in itself could not predict positive response from the respondents. It seems to suggest that the use of eco-labels in assisting the eventual purchase decision can be influenced by other exogenous factors such as source credibility (Cary, Bhaskaran and Polonsky, 2004; Erskine and Collins, 1997; Nilsson, Tuncer and Thidell, 2004), the strength of the environmental concern (Grankvist et al., 2004), and availability of eco-labeled product on the retail shelf (Thogersen, 2000). An observation common for all of the above studies is that the eco-labels are discussed as part of the augmented product and treated as a dependent variable. This is understandable taking into consideration the relatively advance stage of environmental awareness among western society and the easy availability of eco-labeled product in the retail outlets. This situation would not be applicable for a society who is relatively still unaware of the concept of a green product, much more for eco-labeled product. Thus, rather than focusing on eco-labels products as dependent variable, a study to uncover the independent role of eco-label moderating the relationship between predictor variables to its purchase decisions is attempted in this study. A preliminary study carried out to determine the level of awareness of eco-label among local consumers, shows a very low recognition for local eco-labels. In anticipation of skewed result a fairly recognizable eco-label (ENERGY STAR) was instead used (which correspond to the purchase intention of the green product chosen as the dependent

variable) in this study.

1.2 Environmental knowledge and attitudes toward environmental protection

The state of one's knowledge about an issue impacts significantly upon his or her decision making process. The importance of knowledge and the impact of lack of knowledge in the decision-making process have been demonstrated in numerous studies (Laroche et. al 2001; Verdugo, 1996, and Oskamp et al., 1991). This study has initially conceptualized consumer knowledge as having two dimensions, namely Knowledge of Environmental Issues and Knowledge of Green Product Features. The factor analysis of the 20 items measuring perceived knowledge of selected environmental issues were carried out and resulted in 3 dimensions. The first factor consist of perceived knowledge respondents had concerning attributes of green products such as "no animal testing, natural ingredient cosmetics, wood product from sustainable forest, organic vegetables, ozone friendly aerosols, biodegradability and unleaded petrol". The second factor consists of respondent's perceived knowledge of general environmental issues such as "vanishing wildlife habitat, destruction of the rain forest, the greenhouse effect and pollution from pesticides". The last factor (concrete knowledge) consist of respondent's perceived knowledge regarding "waste management, hazardous waste and recycled material" which seems to be relevant issues related to their actual activities at their workplace or factory **(Table 1)**.

Environmental attitude is defined as "a learned predisposition to respond consistently favorable or unfavorable manner with respect to the environment". Overall, there has been consistent empirical evidence supporting a positive association between environmental attitude and behavior. These studies have also indicated that even if people have little knowledge about the environment they would still exhibit strong emotional attachment to environmental wellbeing (Ling-yee, 1997; Dispoto, 1997). Attitude, as opposed to knowledge and behavior, is the most significant predictor of consumers' willingness to pay more for ecologically favorable products (Laroche et. al., 2001). Issues about the dimensionality of environmental attitude have been inconclusive. This study has conceptualized it to be a uni-dimensional construct. Similar approach to the uni-dimensionality of environmental attitude could also be found in earlier literatures (Noe and Snow, 1990; Edgell and Nowell, 1989; Bohlen et al., 1993; Sharifah et al., 2005; Minton and Rose, 1997). The measurement for this construct was adapted from Bohlen et al. (1993). They constructed a list of items that is believed could capture the concern a person have regarding environmental protection efforts. A 5-point Likert scale (1 = Strongly disagree and 5 = Stongly agree) was used.

1.3 Green Purchase Intention

Green purchase intention (PI) is conceptualized as the probability and willingness of a person to give preference to products having eco-friendly features over other traditional products in their purchase considerations. The green product used for this study was the energy-saving bulb as compared to the traditional tungsten bulb. A detailed and graphical description of the two products was provided for comparison and the respondents were required to give their response using Likert scale of between 5 (strongly agree) and 1 (strongly disagree).

2. METHODOLOGY

The population for this study is employees of organizations that have successfully adopted the environmental management system ISO14001 since 1996. Questionnaires were either sent by "express mail" or delivered by hand to the environmental management representative (EMR), who would then asked to randomly select 15 employees from their organization to be respondents for the survey. A total of 526 employees were then finally selected. There are justifications for using this population. Firstly, due to the early stage of the green marketing initiatives in this country. Secondly, organization

implementing the EMS would be a potentially conducive place to initiate a systematic effort in developing a green consumer community.

3. RESULTS AND DISCUSSION

It is well documented in earlier studies that consumers skeptical of an environment friendly claim will result in their refusal to purchase such products (Grankvist et. al., 2004; Thorgesen, 2000; Peattie, 1995). In this study, the interaction effect of trust in eco-label with all the independent variables was found to be significant, thus confirming the moderating effect occurring between the independent variables (environmental attitude and knowledge) and purchase intention. The regression model was initially found to be not significant (step 2) has changed to be positively significant when the interaction effect was included in the following model (step 3) thus showing the pure moderating effect that trust in eco-label has **(Table 2)**. The effect of trust in eco-label as a moderator between attitude toward environmental protection and purchase intention is without doubt the most clear cut outcome of this study. The result shows that consumers with positive attitude toward environmental protection would be more inclined to purchase a product with environment friendly features, when they have trust in the environmental claims espoused by the corresponding eco-label. The higher the trust in eco-label, the more positive influence it would have on the relationship between the dependent and independent variable. The line graph **(Figure 2)** shows a relatively steeper slope and would explain the highly elastic effect the interaction between trust in eco-label and attitude toward environmental protection has on purchase intention of a product with an environmental friendly feature. However an interesting and rather unexpected outcome is the fact that even for those consumers with low trusts in eco-label, the moderating effect is also as similar to those with high trust in eco-label, albeit of relatively lower intensity. This would mean that the level of trust in eco-label seems not to be too relevant to the outcome of the moderating effect. The more important variable in this model again seems to point to attitude towards environmental protection, with trust in eco-level as only confirming this concern that they have and ultimately translating it into their preference for consumer product with environment friendly features.

As discussed above, the moderating effect of trust in eco-label between knowledge of green product and purchase intention is found to be not significant. This result would be very peculiar since it would mean a person having good knowledge of products with environmental friendly features would still not be interested to purchase such product even if a trusted eco-label was used to influence him to behave otherwise. This outcome actually confirms the infancy stage the concepts of green products are in Malaysia. Even if the respondents may have had some trust in the established eco-label used in this study, they were not able to designate it to any available environment friendly products existing in the local market. Thus the expected influence of an eco-label in strengthening the relation between knowledge of green products features and its corresponding eco-label would not be able to materialize. This would also imply that it is still not enough for consumers to only have some trust in an eco-label; but at the same time a clear understanding of what the label means is also equally crucial. Finally, the eco-label is also seen as an augmented level of the green product – treating the eco-label as part of the product itself – would probably be the ideal state before any marketing initiative were to be successful.

The moderating effect of trust in eco-label between Concrete Knowledge and Purchase intention was found to be significant. This is not at all surprising since as previous findings have shown, concrete knowledge by itself already has a direct and significant contribution to the respondents' preference for green products. Thus the existence of a highly trustful eco-label would help in cementing this consumer preference for the eco-friendly product further. The commitment of these respondents who have actual "hands-on" experience (through their involvement with the EMS) was made more apparent when they responded negatively if they were presented with a less trustful eco-label. Even with high level concrete knowledge the respondents' intention to purchase the product has decline, probably because they would not be certain about the eco-friendliness of the product that is available **(Figure 3)**. Thus the need for a credible source of information and certification is very much needed so as to ally such trust toward an

eco-label associated to the product. This is where a third party certification body such as SIRIM could play an important role because a trusted eco-label is something very useful and would be an important reference in distinguishing between green and other products.

4. CONCLUSION

A very important situational factor is that, eco-label itself is something very new in Malaysia, not in its existence, but as a conscious and elaborate marketing strategy that focuses on influencing consumer purchase decision. Nothing much is done by local producers or marketers to develop awareness and trust toward an eco-label, and what ever trust consumers have would probably be accidental and derived from their interaction with environmental issues at work or elsewhere. Respondents' involvement with the EMS could probably be one of the most influential; considering the amount of activity and time spent daily with environmental matters while at work. This study also shows that it did not need to take a lot of trust in eco-label to have an impact on Malaysian consumers to have their concern for environmental protection be translated into consumer purchase choice. Probably the high level of sophistication needed to understand environmental issues and what more of dealing with features of green products, are the factors driving them to be more trusting in familiar eco-labels. Even if they would start with low level trust in eco-label (since the need for such label would still be limited due to the new experience in purchasing green products) attitude in environmental protection would still be the crucial element in the entire green purchase model.

Marketers wanting to take advantage of the environmental features of their products have two major challenges ahead of them. The first, relatively easier task would be to attract the potential consumers' attention on an established and well-trusted eco-label. The second which is more difficult and time consuming step would be to educate and provide information to the consumers what the eco-label signify. Of course this responsibility should not be burdened by the manufacturers alone, but has to have the active and continuous support of the relevant licensing authority (SIRIM), the Government Ministries and NGOs. A total community approach to educating citizens of an existing eco-label and how it could be used in dispensing their responsibility as environmentally concern consumers, especially when making a simple purchase of a product.

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Table 1
Factor Analysis for Perceived Environmental Knowledge

	Factor Loading		
	1	**2**	**3**
Knowledge of Green Products			
a. Biodegradability	**.63**	.18	.19
b. Wood product from sustainable forest	**.76**	.22	.20
c. No animal testing	**.77**	.17	.05
d. Ozone friendly aerosols	**.72**	.21	.25
e. Organic vegetable	**.76**	.30	.03
f. Natural ingredient cosmetics	**.76**	.30	-.10
g. Minimum packaging materials	**.76**	.22	.16
h. Unleaded petrol	**.61**	.23	.31
Knowledge of Environmental Issues			
a. Greenhouse effects	.29	**.75**	.29
b. Pollution from pesticides	.30	**.75**	.23
c. Destruction of rainforest	.34	**.79**	.19
d. Vanishing wildlife habitat	.33	**.80**	.09
Concrete Knowledge			
a. Hazardous waste	.06	.24	**.83**
b. Waste Management	.07	.20	**.86**
c. Recycled materials	.27	.29	**.62**
Eigen values	9.79	2.52	1.27
Percentage of variance	26.50	23.72	17.73
Kaiser-Meyer-Olkin	.92		
Bartlett's Test of Sphercity (Sig.)	.00		
Reliability	.91	.91	.81

Note: 5 items were dropped due to cross-loading.

Table 2
Moderating effect of Trust of Eco-Label on the Relationship between Ecological Concern and Purchase Intention

Dependent **Variable**	Independent **Variables**	Std Beta **Step 1**	Std Beta **Step 2**	Std Beta **Step 3**
Purchase	Attitude	.47**	.47**	.09
Intention	Know Issues	.07	.07	-.05
	Know Green Product	.02	.01	-.17
	Know Concrete	-.01	-.01	.36*
	Moderator			
	Trust in Eco Label		.03	-.34
	Interaction Terms			
	Attitude X Label Trust			.61*
	Know A X Label Trust			.19
	Know B X Label Trust			.25
	Know AB X Label Trust			-.49*

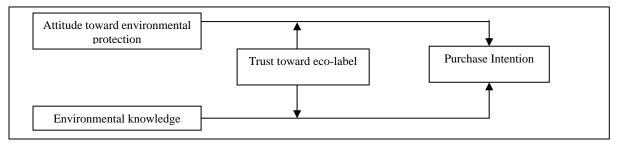|			
R2	.23	.24	.25
Adjusted R^2	.23	.23	.24
R2 change	.23	.001	.02
F change	35.51	.65	2.71
Sig. F change	.000	.42	.03

p<.05*   p<.01**
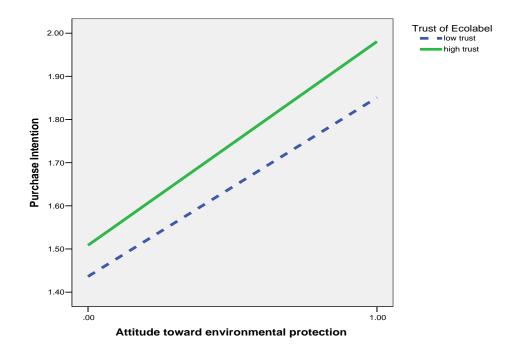

Figure 1. Research framework

Figure 2. The impact of trust in eco-label as moderator on the relationship between environmental attitude and purchase intention
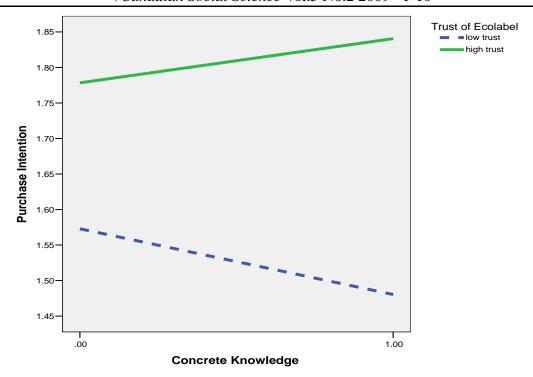
Figure 3. The impact of trust in eco-label as moderator on the relationship between concrete knowledge and purchase intention