



Social influence and eco-label factors towards purchase intention of home products: A PLS approach

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ABSTRACT

Consumers today are more aware of environmental issues. This rise in ecologically conscious consumer behavior sometimes known as green consumers has seen an increase in many studies on the nature of green consumers in different markets. This study examines the attitude-behavior relationship that integrates two factors, namely: social influence and knowledge of eco-labels to examine their influence in the intention to purchase green home electronic products. The green home electronic products for this study are air conditioner, television and refrigerator. Using convenience sampling, 251 self-administered questionnaires were acquired from the consumers. The result indicates that social influence and eco label are significant influencers on green purchase intention of home electronic products. The results of this study will support marketers to have an all-inclusive marketing plan and promotional approaches to attract consumers to participate in buying green product. Implication for marketers is further discussed.

1. Introduction

Over the course of many years, environmental problems and its adverse impact on human health have become a subject of interest to everybody (Hatyko and Matulich, 2008). This has led changes in environmentally friendly consumer behaviour (Czap and Czap, 2010). When consumers prefer eco-friendly products and services, this change in behavior indicate consumers have started displaying environmental concern (Nimse et al., 2007). These behavioural changes about environment have generated an eco-friendly consumption called ‘green consumerism’ (Moisander, 2007). The result of an increase in awareness about green consumerism (Montoro et al., 2006; Wustenhagen and Bilharz, 2006)

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is driving businesses to realise that there are market opportunities for green products and services (Pickett-Baker and Ozaki, 2008).

Due to the importance of motivating green purchase behavior among consumers and since it is imperative to motivate consumers to become green consumers many researchers have attempted to understand the nature of behavior among green consumers in different countries (Medeiros and Ribeiro, 2013). Some of the studies investigate how consumers make informed choices while others study the determinants of green purchase behavior. The common themes found in these behavioral studies include purchase intentions, purchase decisions and willingness to pay for green products. In addition, many studies on green consumerism focus on Western context, but today attempts have been made to universally understand differences among green consumers in many cultures around the world. Chekima et al., (2015) also suggested that research on a specific product should be investigated as studies on the purchase of specific products are limited. Therefore, this study aims to examine the purchase of green home electronic products in Malaysia.

2. Literature Review

2.1 Underpinning theory

This research is based on the Theory of Reasoned Action (TRA) model which was used in many studies of consumer attitude and environmental behavior (Gotschi et al., 2010; Kaisser et al., 1999). This study integrates a model using two factors, namely, eco-label and social influence which is hypothesized to influence the purchase of green home electronic products (see Figure 1). Eco-label on products will raise the knowledge value for the green consumers which lead to green purchase intention. Likewise, it was found that several theories use different constructs to describe social influence and some studies have conceptualized social influence as subjective norms (Ventatesh et al., 2003).

2.2 Eco label

Green labelling, also known as eco-label is extremely researched in the field of green consumerism. Ecolabels are labels that indicate a product has environmental properties and features. It is a way to show the advantages and authorizations of being a green product in a tangible manner (European Commission, 2007). Green labels are also considered by the European Commission (2007) as “EU eco-labels”, “International eco-labels” and “Privately Sponsored eco-labels”. Thus, an eco-label product needs to ensure green standards are established and product compliance standards has been set. Primarily ecolabels provide consumers with specific information to assist consumers in their decision making. The eco labels inform consumers about specific environmental information before they make their purchase decision (Thorgersen et al., 2010)

In Europe and many other parts of the world, green markets and consumerism are on the rise. Rex and Baumann (2007) agree that green labels are not only as a mechanism to increase sales but also must be applied as an enforcement strategy and communication tool. Eventually, green label is a symbol of product green feature to enhance consumer knowledge (Thogersen et al., 2012). A study in China identified how green labels (eco-labels) play a pivotal indicator for consumers’ willingness to pay more for green products (Xu et al., 2012). Likewise, the readiness of the consumers to pay premium price for product with green labeling is associated with the consumers understanding the environmental benefits they will receive with the products (Owusu and Anifori, 2013; Xia and Zeng, 2006).

Furthermore, green attitudes, knowledge as well as green brand awareness play significant roles when consumers purchase a green product (Matthes et al., 2013; Zhao et al., 2014). From the above discussion, the following hypothesis is proposed:

H1. Eco label influences the intention to purchase green home electronic products.

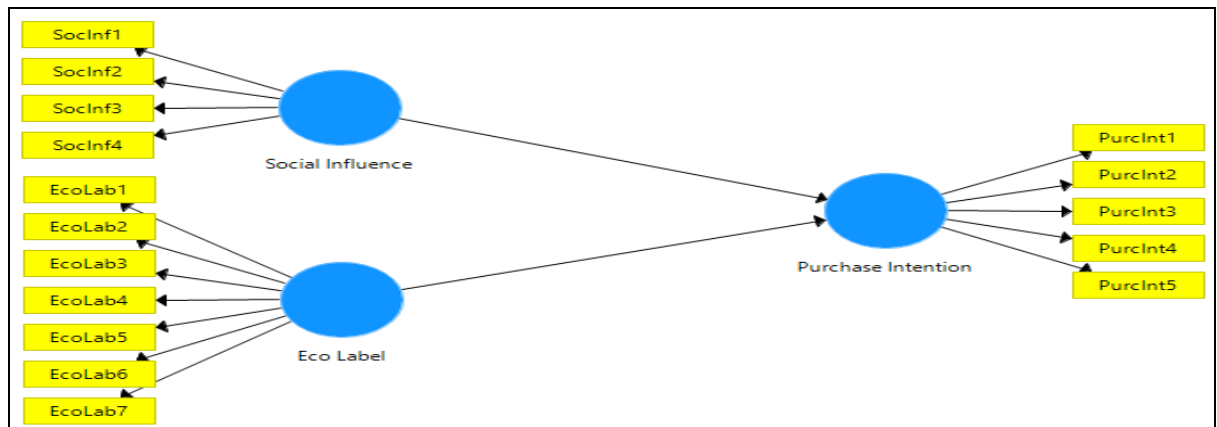


Fig.1. The proposed model

2.3 Social influence

Past studies have found many definitions of social influence and usually social influence is defined to which a consumer perceives how their family and friends as well as peers approve of them using certain products (Ventakesh et al., 2012). This acceptance by others will then grant the consumer as being part of a community or social group. Accordingly, the consumer will evaluate the product based on opinions of others (Escalas and Bettman, 2005) and sometimes due to peer pressure. Subsequently, consumers tend to buy products that others approve of (Lee, 2008), based on other people's preferences and tastes (Dholakia et al., 2004).

Today, it is common for consumers to behave in an environmentally friendly lifestyle (Grier and Deshpande, 2001) and this lifestyle increases one's self image and social acceptance among family and peers. Consumers choosing this green lifestyle understand the benefits of green products and they tend to purchase green products (Griskevicius et al., 2010). Hence, the following hypothesis is proposed:

H2. Social influence influences the intention to purchase green home electronics product.

2.4 Green purchase intention

There are many definitions of green purchase intention but for this study it is conceptualized as a person who prefers eco-friendly features of the products over traditional products in their purchase decision making process. Many companies use purchase intention to predict new product sales and repeat purchase of existing products. Studies by Beckford et al., (2010) and Chan (2001) found that green purchase intention is a significant predictor of green purchase behaviour. Because of this, consumers are likely to purchase green products. In another cross-cultural study, Chan and Lau (2002) found the consumers in China and America had different asymmetric influence on green purchase intentions and the researchers concluded that green purchase behaviour needs further studies.

3. Research Methodology

3.1 Measurement development

Measurement items used for the study were taken from previously validated studies. All the constructs are measured using multi-item scales adopted and adapted from previous studies on five-point Likert-type scales (1- strongly disagree to 5 - strongly agree). A total of 400 surveys were distributed throughout Malaysia. 251 responses were later collected and used for the analysis. This represented 63 % response rate which was acceptable according to Goyder (1985) who reported that acceptable range could vary between 30% and 70%.

The questionnaire is divided into four sections. Section A measured the consumers' social influence with 5 items (Cheah and Pau, 2011; Biswas and Roy, 2015; Lin and Huang, 2012) while Section B the questions asked on eco label of home electronic products with 7 items (Khan et al, 2016, Valentine et al, 2014; Kong et al, 2014). Section C asked about green purchase intention of the consumers to purchase home electronic products with 5 items (Rehman and Dost, 2013). The home electronic products for this study are air conditioner, television and refrigerator. Section D consisted of socio-demographic information about the consumers such as gender, ethnic group, state of origin, area, marital status, age, household size, education level, income and lifestyle.

3.2 Data analysis

To analyse data, the partial least square (PLS) approach using the SMART PLS Version 3.0 was used in order to test the hypothesis generated (Ringle et al, 2015). Bootstrapping method (500 resamples) was used to determine the significance levels for loadings, weights and path coefficients (Gil Garcia, 2008).

4. Results

4.1 Demographics profile of respondents

Of the 251 respondents, a total of 175 respondents (69.7 percent) were female while 76 respondents (30.3 percent) were male. The group age of 30-39 years old (39.8 percent) and 40-49 years old (27.5 percent) account for the biggest portion of sample followed by ages of 50-59 years old (15.9 percent). For education attainment, about 33.9 percent possessed a degree qualification, 27.9 percent obtained a Master or Phd education and 19.1 percent of the respondents hold a Diploma qualification. Most of the respondents were also married and a majority of the respondents were Malay (69.3 percent).

4.2 Measurement model

As suggested by Anderson and Gerbing (1988), we used the two-step approach. Convergent validity and reliability were first assessed as shown in Table 1 followed by the discriminant validity in Table 2. If the loadings are greater than 0.5, composite reliability greater than 0.7 (Gefen et al, 2000) and the average variance extracted greater than 0.5 (Fornell and Lacker, 1981), convergent validity can be ascertained (Bagozzi and Yi, 1991).

In Table 2, the discriminant validity was tested using the Fornel and Lacker (1981) criterion. The criteria states that the average variance shared between each construct and its measures should be greater than the variance shared between the construct and other construct.

As shown in Table 2, the correlations for each construct is less than the square root of the average variance extracted by the indicators measuring that construct indicating adequate discriminant validity.

Table 1. Results of measurement model model

Model Construct	Measurement item	Loading	CR	AVE
Eco Label	EcoLab1	0.863	0.93	0.656
	EcoLab2	0.857		
	EcoLab3	0.873		
	EcoLab4	0.688		
	EcoLab5	0.830		
	EcoLab6	0.773		
	EcoLab7	0.769		
Purchase Intention	PurcInt1	0.761	0.911	0.671
	PurcInt2	0.897		
	PurcInt3	0.853		
	PurcInt4	0.785		
	PurcInt5	0.793		
Social Influence	SocInf1	0.886	0.874	0.591
	SocInf2	0.869		
	SocInf3	0.746		
	SocInf4	0.827		

Note: SocInf5 was deleted due to low loadings <0.50;

Table 2. Discriminant validity of constructs

Constructs	1	2	3
Eco Label	<i>0.810</i>		
Purchase Intention	0.730	<i>0.819</i>	
Social Influence	0.482	0.529	<i>0.769</i>

Note: Diagonals represent the square root of the average variance extracted while the other entries represent the correlations

4.3 Structural model

Next, the structural model was tested. The results are presented in Table 3 and Figure 2. The R^2 values ranged 0.575 suggests that the modeled variables can explain 57.5 percent of the variance of the respective dependent variables. As shown in Table 3, all hypotheses were fully supported.

Table 3. Path coefficient and hypothesis testing

Hypothesis	Relationship	Coefficient	t-value	Decision
H1	Eco Label -> Purchase Intention	0.617	11.304**	Supported
H2	Social Influence -> Purchase Intention	0.234	3.898**	Supported

Note: *p<0.05; **p<0.01

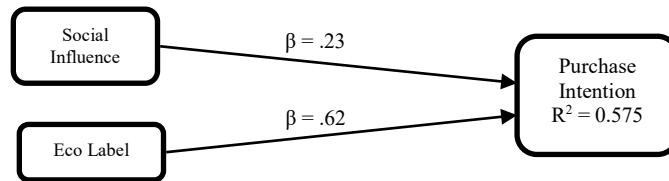


Fig.2. Results of the structural model analysis

5. Discussion and conclusion

Social influence and eco-labels are two factors investigated in this study to determine if these factors influence the intention to purchase green home electronic products. The findings suggest that both social influence and eco-labels have positive effects on purchase intention of home electronic products. In terms of theoretical contribution, the findings of this study support the theory of reasoned action as social influence and eco-labels which is related to the motivation in TRA was found to motivate and influence consumers to perform a behaviour, namely the purchase of green home electrical products.

Social influence showed a stronger influence than eco label in this study which is consistent with a study by Aindrila Biswas and Roy (2015) in India which found that peer opinion and social recognition was the strongest influence behind sustainable consumption behavior. This suggests that other perceptions about one's behaviour have considerable influence on consumers' purchase behaviour for green products. Consumers like to be perceived by others as adopting an eco-friendly lifestyle and therefore the purchase of green home electronic products and consuming these products reflect the acceptance by others.

The study also found eco-label to influence purchase intention among consumers. The results of this study is similar to the results by Rashid (2009) that found eco-labels as informative instruments for consumers to inform them of the environmental impact of their green product purchase intention. In addition, eco labels provided manufacturers of green products with a tool to increase their market share (Rashid, 2009).

For producers of green home electronic products, tangible details need to be highlighted on the eco labels. The home electronic products must have labels indicating economic and environmental benefits together with logos of green certification, low electricity consumption, details of chemicals used, and if needed a recyclable package should be included in the eco-label. These consumer-oriented approaches may convert consumers to support green products and subsequently drive consumers to purchase more green products.

Because social influence facilitates consumer's willingness to purchase green products, green marketers can encourage people to ask their friends, relatives, or colleagues to engage in environmental protection activities on environmental issues. Green marketers need to engage people in environmental activities and must adopt various communication tools and methods to increase the visibility of environmental activities. Using social media such as Facebook, Twitter, Tumblr, and LinkedIn, or through e-mail to increase the visibility of environmental activities should be increased because today people share their activity information through these social media. In addition, marketing managers for green products in Malaysia market should focus on attaching improved self-importance, social image and eco-friendly lifestyle when advertising home electronic products.

6. Limitation

As with most studies, this study has certain limitations. The sample data are collected from three cities in Malaysia and may not represent the Malaysian population *per se*. Furthermore, the study is a cross-sectional study rather than a longitudinal in approach which could have measured changes in behaviour.

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References

- Anderson, J. C., and Gerbing, D. W. (1988). Structural equation modelling in practice: a review and recommended two-step approach. *Psychological Bulletin*, 103 (3), 411-423
- Beckford, C. L., Jacobs, C., Williams, N. & Nahdee, R. (2010). Aboriginal Environmental Wisdom, Stewardship, and Sustainability: Lessons from the Walpole Island First Nations, Ontario, Canada. *The journal of environmental education*, 41(4), 239-248.
- Biswas, A. and Roy, M. (2015). Green Products: an exploratory study on the consumer behaviour in emerging economies of the East. *Journal of Cleaner Production*. 87, 463 -468
- Chan, R. Y. K. (2001). Determinants of Chinese Consumers' Green Purchase Behavior. *Psychology & Marketing*, 18(4), 389-413
- Chan, R. Y. K., and Lau, L. B. Y. (2002). Explaining Green Purchasing Behavior. *Journal of International Consumer Marketing*, 14: 2, 9- 40.
- Cheah, I. and Phau, I. (2011). Attitudes towards environmentally friendly products. *Marketing Intelligence & Planning*. 29 (5), 452 -472.
- Chekima B, Syed A W, Oswald A I and Sohaib C (2015). Determinant Factors of Consumer's Green Purchase Intention: The Moderating Role of Environmental Advertising. *Asian Social Science*. 11(10), 318-329
- Czap, N. V., and Czap, H. J. (2010). An experimental investigation of revealed environmental concern. *Ecological Economics*, 69 (10), 2033-2041
- Dholakia, U.M., Bagozzi, R.P. and Pearo, L.K. (2004). A social influence model of consumer participation in network- and small-group-based virtual communities. *International Journal of Research in Marketing*, 21 (3), 241-263.
- Escalas, J. E., and Bettman J. R. (2005). Self-construal, reference groups, and brand meaning. *Journal of Consumer Research*, 32 (3), 378-389.
- European Commission (2007). Costs and Benefits of Green Public Procurement in Europe. Prepared by Institute of Applied Ecology and ICLEI for EC, 4-242.
- Fornell, C. and Lacker, D.F. (1981). Evaluation structural equation models with unobserved variables and measurement error. *Journal of Marketing Research*, 18 (1), 39-50.
- Haytko D.L, and Matulich E. (2008). Green advertising and environmentally responsible consumer

- behaviors: linkages examined. *Journal of Management and Marketing Research*, 1, 2–11.
- Lee, K. (2008), “Opportunities for green marketing: young consumers”, *Marketing Intelligence and Planning*, Vol. 26 No. 6, pp. 573-586
- Gefen, D., Straub, D.W. and Boudreau, M.-C. (2000). Structural equation modelling and regression: guidelines for research practice. *Communications of the Association for Information Systems*, 4, 1-79
- Gil-Garcia, J. R. (2008). Using partial least squares in digital government research. In Garson, G. D. and Khosrow-Pour, M. (Eds), *Handbook of Research on Public Information Technology*, Idea Group, Hershey, PA, 239-253
- Grier, S.A. and Deshpande, R. (2001). Social dimensions of consumer distinctiveness: the influence of social status on group identity and advertising persuasion. *Journal of Marketing Research*, 38 (2), 216-224
- Griskevicius, V., Tybur, J.M., and Bergh, B.V. (2010). Going green to be seen: status, reputation, and conspicuous conservation. *Journal of Personality and Social Psychology*, 98 (3), 392-404
- Goyder, J. (1985). Face-to-face interviews and mailed questionnaires: The net difference in response rate. *Public Opinion Quarterly*, 49(2), 234-252.
- Khan, M. R. T., Siwar, C., and Chamhuri, N. (2016). Factors Affecting Consumers’ Perception of Eco-Labels: Evidence from Malaysia. *Proceedings of the Australia-Middle East Conference on Business and Social Sciences*, (718-748), Dubai.
- Kong, W., Harun, A., Sulong, R. S., and Lily, J. (2014). The Influence of Consumers’ Perception of Green Products on Green Purchase Intention. *International Journal of Asian Social Sciences*, 4 (8), 924-939.
- Lee, K. (2008). Opportunities for green marketing: young consumers. *Marketing Intelligence and Planning*, 26 (6), 573-586
- Lin, P. C. and Huang, Y. H. (2012). The influence factors on choice behaviour regarding green products based on the theory of consumption values. *Journal of Cleaner Production*, 22, 11-18
- Matthes, J., Wonneberger, A., and Schmuck, D. (2013). Consumers' green involvement and the persuasive effects of emotional versus functional ads. *J. Bus. Res.*, 1-9.
- Medeiros, J. F. M., and Ribeiro, J. L. D. (2013). Market success factors of sustainable products. *Independent Journal of Management and Production*, 4 (1), 188-207
- Moisander J. 2007. Motivational complexity of green consumerism. *International Journal of Consumer Studies* 31(4), 404–409
- Montoro, F.J., Luque, T., Fuentes, F. and Can˜adas, P. (2006). Improving attitudes toward brands with environmental associations: an experimental approach. *Journal of Consumer Marketing*, 23 (1), 26-33
- Nimse, P., Vijayan, A., Kumar, A., and Varadarajan, C. (2007). A review of green product databases. *American Institute of Chemical Engineers*, Vol. 26 No. 2, pp. 131-137
- Oliver, J.D. and Lee, S. (2010), “Hybrid car purchase intentions: a cross-cultural analysis”. *Journal of Consumer Marketing*, Vol. 27 No. 2, pp. 96-103.
- Nyborg, K., Howarth, R.B., and Brekke, K.A. (2006). Green consumers and public policy: on socially contingent moral motivation. *Resource and Energy Economics*, 28 (4), 351-366.

- Oliver, J. D., and Lee, S. (2010). Hybrid car purchase intentions: a cross-cultural analysis. *Journal of Consumer Marketing*, 27 (2), 96-103
- Owusu, V., and Anifori, M. O. (2013). Consumer willingness to pay a premium for organic fruit and vegetable in Ghana. *International Food and Agribusiness Management Review*, 16(1).
- Ozaki, R. and Sevastyanova, K. (2011), "Going hybrid: an analysis of consumer purchase motivations", *Energy Policy*, Vol. 39 No. 5, pp. 2217-2227
- Ozaki, R., and Sevastyanova, K. (2011). Going hybrid: an analysis of consumer purchase motivations. *Energy Policy*, 39 (5), 2217-2227
- Park, J. and Ha, S. (2012). Understanding pro-environmental behaviour: a comparison of sustainable consumers and apathetic consumers. *International Journal of Retail and Distribution Management*, 40 (5), 388-403.
- Pickett-Backer, J., and Ozaki, R. (2008). Pro-environmental products: marketing influence on consumer purchase decision. *Journal of Consumer Marketing*, 25 (5), 281-293
- Rashid, NR. (2009). Awareness of Eco-Label In Malaysia's Green Marketing Initiative. *International Journal of Business and Management*, 4(8),132-141.
- Rehman, Z., and Dost, M. K. (2013). Conceptualizing green purchase intention in emerging markets: An empirical analysis on Pakistan. In *West East Institute Academic Conference held in Istanbul* (99-120).
- Rex, E., and Baumann, H. (2007). Beyond ecolabels: What green marketing can learn from conventional marketing. *Journal of cleaner production*, 15, 567-576.
- Ringle, C. M., Wende, S., and Becker, J. M. (2015). SmartPLS 3. Bönningstedt: SmartPLS
- Sen, S., Zeynep, G. C., and Vicki, M. (2001). Withholding consumption: a social dilemma perspective on consumer boycotts. *Journal of Consumer Research*, 28 (3), 399-417
- Thøgersen, J., Jørgensen, A., and Sandager, S. (2012). Consumer decision-making regarding a "green" everyday product. *Psychol. Mark*, 29 (4), 187-197.
- Valentine, M., Stichelbaut, V., and Chowbury, R. H. (2014). Consumers' attitude toward eco-labels within the food industry: focus on generation y in Europe. *Linnaeus University*
- Venkatesh, V., Thong, J. Y. L., and Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory, *MIS Quarterly*, 36(1), 157-178.
- Wustenhagen, R. and Bilharz, M. (2006). Green energy market development in Germany: effective public policy and emerging customer demand. *Energy Policy*, 34, 1681-1696.
- Xia, W., and Zeng, Y. (2006). Consumer's attitudes and willingness-to-pay for Green food in Beijing.
- Xu, P., Zeng, Y., Fong, Q., Lone, T., and Liu, Y. (2012). Chinese consumers' willingness to pay for green- and eco-labelled seafood. *Food Control*, 28, 74-82
- Zhao, H., Gao, Q., Wu, Y., Wang, Y., Zhu, X., 2014. What affects green consumer behavior in China? A case study from Qingdao. *J. Clean. Prod.*, 63, 143-151.