Examining the Environmental Performance of Fashion Products Associated with Eco-label

Chi-wai Kan[1*], Cheby Yuen-ting Chow[1], Lavanchawee Sujarittanonta[2]

Institute of Textiles and Clothing, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong[1]
Faculty of Science & Technology, Rajamangala University of Technology Phra Nakhon, Bangkok, Thailand[2]

*Corresponding Author, e-mail: tccwk@polyu.edu.hk

Abstract

In this study, we examined the effectiveness of eco-label based on how the environmental performance information presented in the fashion products and understanding of consumers to such information. Effective eco-labels implied that it increases the purchasing intention of the consumers' and lead them to make buying decision. In addition, successful eco-labels alarm consumer's eco-friendly awareness after they read the information about the design and the meaning of fashion products.

Keywords: Consumer, Eco-label, Environmental performance, Fashion products

INTRODUCTION

Eco-label is an important green marketing tool on green goods and services [1]. Recently, there are increasing trend of using eco-labels for promoting and identifying the eco-friendly products [2]. According to Sammer and Wustenhagen [3], eco-labels is the vital tool to provide and list the information of products between buyers and sellers. Also, eco-labels provide two main functions to consumers, which are information function and value function. Information function: noticing consumer about intangible products' features such as quality; Value function: adding value on products e.g. creditability. In addition, eco-label information helps consumers make green purchasing decision and also show them how the products are made [4, 5]. In this study, consumers' perception on the environmental performance of fashion products associated with eco-label would be examined.

METHODOLOGY

Hypothesis. The environmental performance of products is positively associated with eco-label.

Survey. Questionnaire survey was conducted and two groups of questions, eco-label (ECOLABEL) and environmental performance of product (Performance) were asked. The questions were listed below and the questions were measured on 6 point Likert-type scale, in which 1 represents strongly disagree and 6 represents strongly agree. The target group was with the age ranged 18-28.

Questions on eco-label

ECOLABEL 1: Eco-label provides information on quality and performance with respect to environmental issues.
ECOLABEL 2: Eco-label is effective to understand the products environmental performance.
ECOLABEL 3: Eco-label indicates products have been manufactured under environmentally friendly conditions.
ECOLABEL 4: Eco-label indicates products have been manufactured from environmentally friendly materials.
ECOLABEL 5: Eco-label indicate products do not pose any threat to human health.
ECOLABEL 6: Eco-label enhances the environmental market differentiation of a brand's products.
ECOLABEL 7: I trust that information on eco-labels of products is true.
ECOLABEL 8: I have learnt about environmental performance of the product from eco-labels.

Questions on environmental performance of products

Performance 1: I like the idea of green products.
Performance 2: I consider about buying environmentally friendly products.
Performance 3: I concern about social and environmental impacts of the products in fashion industry.
Performance 4: Environmental performance of product is important to me.
Performance 5: Environmental performance of products plays an important role in the consumers' purchasing decisions.
Performance 6: Environmental performance of products influences my purchase decisions.

Data Analysis. SPSS (Statistical Package for Social Science) v.20 was used for data analysis.

RESULT AND DISCUSSION

Survey. Total 206 questionnaires were collected within three weeks in social media platform and after screening and eliminating invalid questionnaires, 199 valid questionnaires were finally collected for further analysis.

Descriptive Statistics. Table 1 and Table 2 show the descriptive statistics on eco-label and environmental performance of products respectively. Table 1 shows the mean and standard deviation of variable of eco-label in which the mean of eight questions are higher than 4 (the slightly agree). It indicates that most of the respondents had positive agreement to use of eco-label. Table 2 shows the mean and standard deviation of variable of environmental performance of product where the mean of three out of six questions are higher than 4 and others are nearly 4 (the slightly agree). It indicates that environmental performance of product is most important information provided by eco-labels.

Reliability Analysis. Table 3 shows the reliability analysis results. For the reliability test on eco-label, there are eight questions on eco-label for measurement. The value of Cronbach's Alpha is 0.877, which is within the accepted range of 0.7-0.95. Therefore, the results of eco-label have a great reliability and the scale has high consistency. It could be suitable to have further analysis. In case of reliability test on environmental performance of products, there are six questions on environmental performance of products for measurement. The value of

Cronbach's Alpha is 0.852, which is within the accepted range of 0.7-0.95. Therefore, the results of eco-label have a great reliability and the scale has high consistency. It could be suitable to have further analysis.

Table 1. Descriptive statistics on eco-label

Questions	Mean	Standard Deviation	N
ECOLABEL 1	4.271	0.908	199
ECOLABEL 2	4.201	1.049	199
ECOLABEL 3	4.276	0.100	199
ECOLABEL 4	4.372	1.060	199
ECOLABEL 5	4.035	1.148	199
ECOLABEL 6	4.312	1.027	199
ECOLABEL 7	4.236	1.020	199
ECOLABEL 8	4.020	1.235	199

Table 2. Descriptive statistics on the environmental performance of products

Questions	Mean	Standard Deviation	N
Performance 1	4.628	0.923	199
Performance 2	4.080	1.084	199
Performance 3	4.080	1.075	199
Performance 4	3.975	1.089	199
Performance 5	3.910	1.219	199
Performance 6	3.869	1.130	199

Table 3. Reliability test results

Item	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
Eco-label	0.877	0.879
Environmental performance of products	0.852	0.847

Table 4. Correlation between eco-label and environmental performance of products

		Performace mean
ECOLABEL mean	Pearson Correlation	0.649**
	Sig. (2-tailed)	0.000
	N	199

**. Correlation is significant at the 0.01 level (2-tailed).

Correlation Test. Eco-label and environmental performance of products are the two variables included in the hypothesis. From Table 4, it presents the result on hypothesis. The significance level of two variables is 0.000 as shown in the Correlation Table which is less than 0.05 (A significance level of 0.05 reflects a 95% confidence interval). The value of Pearson correlation value is 0.649 at 0.01 significance level which is close to 1. It indicates that there is positive

relationship between eco-label and environmental performance of products Therefore, hypothesis is supported by correlation result.

Simple Linear Regression Analysis. Eco-label and environmental performance of products are the two variables in hypothesis. The null and alternative hypothesis would be shown as below:

H0: Environment performance of products has no linear relationship with eco-label.
H1: Environment performance of products has linear relationship with eco-label.

Table 5. ANOVA Table of H1[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56.884	1	56.884	143.384	0.000[b]
	Residual	78.155	197	0.397		
	Total	135.039	198			

a. Dependent Variable: Performace mean
b. Predictors: (Constant), ECOLABEL mean

Table 6. Coefficant Table of H1[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Standard Error	Beta		
1	(Constant)	1.180	0.247		4.776	0.000
	ECOLABEL mean	0.690	0.058	0.649	11.974	0.000

a. Dependent Variable: Performace mean

Table 7. Model Summary Table of H1

Model	R	R Square	Adjusted R Square	Sandard Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.649[a]	0.421	0.418	0.630	0.421	143.384	1	197	0.000[a]

a. Predictors: (Constant), ECOLABEL mean

From ANOVA Table in Table 5, the p-value of the F test is 0.000 which is less than 0.05 (i.e. rejects the H0 that regression coefficient is zero). As a result, the environmental performance of products has significant linear relationship with eco-label at a significance level of 0.05. Moreover, the Coefficient Table in Table 6 shows the p-value of t test for the environmental performance of products associated with eco-label is 0.000 which is less than 0.05. Thus, it could claim that environmental performance of products has linear relationship with eco-label at a significance level of 0.05. According to the Model Summary Table in Table 7, the coefficient of determination R^2 (R Square) is 0.421. It shows that 42.1% of the variation in the environmental performance of products could be interpreted by the variable of eco-label. There is 42.1% of coefficient determination and the overall linear relationship of the model is also considered by significant value (p-value of F test and t test<0.05). The hypothesis is

supported.

CONCLUSIONS

We explored the impact of eco-labels on environmental performance of products. The eco-labels allow consumers to differentiate the green products and non-green products by informing them the environmental effects, which have high attractiveness on environmental consumerism. According to the results, it showed that eco-labels have a significant positive relationship with products' environmental performance. It can be further confirmed that eco-labels could provide the consumers with the environmental performance of products during the purchasing.

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