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CONSUMERS BEHAVIOR TOWARDS GREEN PURCHASE INTENTION

This study aims to identify the factors influencing consumer green purchase intentions, consumer attitudes to environmentally friendly products and practices of environmental behavior. According to the results of the analysis, social influence, environmental knowledge and environmental consumer behavior are significantly affecting green purchase intentions.

Keywords: green purchase; consumer behavior; environmental behavior; purchase intention.

JEL classification: M31; F18; O44.

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ПОВЕДІНКА СПОЖИВАЧА ВІДНОСНО ПРИДБАННЯ ЕКО-ТОВАРІВ

У статті виділено фактори, що впливають на наміри споживачів придбати еко-товари, а також на споживче ставлення до еко-товарів та на практику еко-свідомої поведінки в цілому. Згідно з результатами аналізу, соціальний вплив, екологічні знання та еко-відповідальна споживча поведінка багато в чому визначають намір придбання еко-товару.

Ключові слова: еко-покупка; споживча поведінка; еко-відповідальна поведінка; намір зробити покупку.

Рис. 1. Табл. 3. Літ. 24.

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ПОТРЕБИТЕЛЬСКОЕ ПОВЕДЕНИЕ ОТНОСИТЕЛЬНО ПРИБРЕТЕНИЯ ЭКО-ТОВАРОВ

В статье выделены факторы, влияющие на намерения потребителей совершить покупку эко-товаров, а также на потребительское отношение к эко-товарам и на практику эко-сознательного поведения в целом. Согласно результатам анализа, социальное влияние, экологические знания и эко-ответственное потребительское поведение во многом определяют намерение совершить эко-покупку.

Ключевые слова: эко-покупка; потребительское поведение; эко-ответственное поведение; намерение совершить покупку.

Introduction. Today, environmental problems are attracting citizens', companies' and institutions' attentions around the world. Global warming, polluted landfills, water and air pollution caused by industries, the use of pesticides, ecological misbalance and many other harmful factors have caught wide spread attention of the citizens worldwide. Consumers have started to realize that their purchase intentions can actually have huge impact to the environment. Furthermore, consumers have been changing the attitudes and due to government and competitive pressures. Thus, it is essential for firms to consider the "green" factor in this marketing strategies (Ghosh, 2010: 83). Green purchase behavior refers to buying environmental friendly products (Kilbourne and Pickett, 2008), also known as "green products" or "sustainable products".

Growth and development of industrialization worldwide and increasing government regulations to protect the environment on the other hand have forced many

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organizations consider the implications of the green supply. Most likely the environmental pressure on organizations will further be increased in the near future. Accordingly, attention to environmental issues and green management is being also reinforced (Mathiyazhagan et al., 2013).

Recently, many companies have taken more active approaches towards their concern for the environment, transforming the nature of their organization and products to reflect it better. There are many studies on consumer behavior concerning the environment but most of them are concentrated on one or two marketing mix elements and they do not link the factors that companies use to make consumers buy green products and their attitudes to these products.

Literature review. One of the most essential factors for marketers as they can easily target environmentally conscious consumers is environmental concern (Mostafa, 2007). Some studies found that people increasingly show interest in green consumption as reflected in their behavior through more recycling, buying fewer non-environmental products, and turning off unnecessary lights (Chen, 2010). Those who buy green products benefit in safety, health, status, and symbolism (Thøgersen et al., 2009). Nowadays, environmental concern is taken as a general attitude which revolves around cognitive and affective evaluations of the environmental preservation. Therefore, consumers are becoming more sensitive in their environmental attitudes, preferences and purchases (Sarigollu, 2009).

There is a great deal of influence of peers, family and opinion leaders on consumer consumption behavior. Consumer perceive high social value of the products which evolve during their interaction with friends, coworkers etc. (Deffuant et al., 2005). In other words, if a consumer thinks that a product has high social value he will search for the information regarding this product to see the benefits from purchasing it. Especially in the case of high involvement products, which are usually a symbol of status, other people's perception about the use of such product significantly affects purchasing decisions of consumers (Hair et al., 2009). Many study results show that social influence is the most important factor in green purchase behavior. In addition to that, interpersonal communication is also seen as an important factor effecting consumer green purchases (Lee, 2008). In other words, that can be a social group consisting of people with similar habits, desires and thinking, and this social group has the power to cultivate eco-friendly culture.

Environmental knowledge can be defined as a general knowledge of facts, concepts, and relationships concerning the natural environment and its major ecosystems (Fryxell and Lo, 2003). In other words, environmental knowledge involves what people know about the environment, key relationships leading to environmental aspects or impacts, an appreciation of the "whole systems", and collective responsibilities necessary for sustainable development. M. Mostafa (2009) found that environmental knowledge has a significant impact on consumer intention to buy green products.

Environmental attitudes and desires are complex and multidimensional. Environmental attitude refers to individual's value judgment and it taps individual's cognitive assessment of the value of environmental protection (Lee, 2008). According to F. Kaiser et al. (1999) environmental attitude is one of the promising concept to support ecological behavior. Some researchers have endeavored to classify consumers

based on their environmental beliefs and attitudes. M. Mostafa (2009) illustrated that environmental attitudes have a positive effect on consumer green product purchase intention. There were some empiric evidences showing a positive relationship between environmental attitudes towards ecological behavior (Kaiser et al., 1999).

Awareness of green products has long been studied in marketing which eventually established a subdiscipline known as "green marketing". Consumers are not too much concerned about the environment but as they have become more sophisticated, they require clear information for choosing one product over another so that to benefit the environment. But many consumers remain confused about which products are better for society and the environment. Green product awareness refers to the extent to which individuals believe their actions make a difference in solving a problem (Kaufmann et al., 2012). Majority of the respondents are willing to pay price premium, but the level of acceptability varies considerably (Aryal, 2009).

According to the theory of planned behavior by J. Ajzen (1991), combination of attitudes towards behavior, subjective norms, and perceived behavioral control guide the formation of an intention, and thus, intention is assumed to be the predecessor of actual behavior. Intentions are assumed to control the motivational factors that influence behavior. Green purchase intention in the study was conceptualized as two-dimension variables, with price and quality as the measurement for green purchase intention. Whereas the study by N. Abdul et al. (2009) referred to green purchase intention as the probability and willingness of a person to give preference to the products having eco-friendly features over conventional products in their purchase considerations.

The central research question addressed in the present study is which factors determine consumers behavior towards green purchases intention? As stated above, there are many factors, but the focus in this paper will be on 5 factors as social influence, environmental attitude, environmental consumer behavior, awareness of green products and environmental knowledge. Therefore, the second question of this study is between these factors how does the influence towards green purchases intention (GPI) distribute? In order to measure the strength of the influence of these 5 factors in relation to consumers behavior, this study formulate 5 hypotheses. Based on the results found in the previous literature a theoretical model for our research has been development.

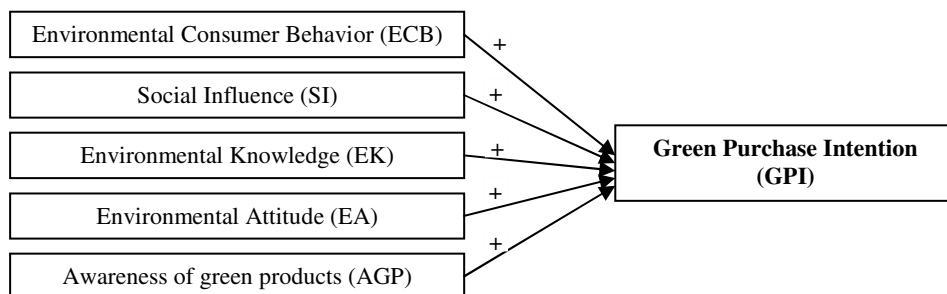


Figure 1. Theoretical model for further research, author's

Methodology. Data used to study which factors affect consumers behavior toward green purchase intention comprises of a 202 consumer sample, representing

HCM city green products market. Interviews were conducted face-to-face by trained headcounters, to buyers proportionally randomly selected according to regional population, gender and age. We used a replied questionnaire, consumer behavior was measured on a 7-point Lickert scales reflecting 7 different opinions about green products consumption.

Principal components analysis is further applied to show the of the 5 factors relation to consumer behavior towards green products. Green purchase intentions are going to be used as a dependent variable in the model that also involves the following variables independent: social influence, environmental attitude, environmental consumer behavior, awareness of green products and environmental knowledge. Confirmatory factor analysis will be used for inclusion in the structural model to test the effect of consumer involvement.

Questionnaire also included interviewees' demographic characteristics. Gender, age, education level, occupation and income will be the variables to be used to test their effect over consumption behavior towards green products.

Measure/Instrument. Due to their established reliability and validity all these constructs were considered from the consumer perspective. Reliability analysis for the scale was run through Cronbach's alpha. Then, the study was preliminarily assessed and screened by EFA method, Cronbach's Alpha coefficients for each component and regression linear. The selection criteria are satisfied when the concepts have correlation coefficients turn-total (item-total correlation) > 0.40 , Cronbach's alpha coefficients > 0.60 ; system load factor > 0.40 ; total variance extracted for $\geq 50\%$ (Hair et al., 1998).

Results and data analysis. Steps in structural equation modeling (SEM) analysis by AMOS 22.0 are CFA analysis, measurement analysis, discriminant analysis, composite reliability analysis and direct impact analysis, testing the fit for the hypothesized structural model, revised model (Sentosa et al., 2012). In the total 202 respondents, the proportions of men and women have small differences, accounting for 54.44% male and 45.56% female, 26.15% are below 25 y.o., maximum (40.81%) are from age group of 26 y.o. to 35 y.o. 17.73% are over 35 years to 45 years, and the rest (15.31%) are from age group of over 45 years and above.

As KMO coefficient = 0.864, EFA matches the data and the statistical test Chi-square Bertlett 3107.712, $p = 0.000$ significance level. Thus, the observed concepts are correlated with each other considering the overall scope. The variance extracted by 69.172 shows that factors derived from 69.172% explain the data variance, Eigenvalues in the system by 1.201. Therefore, the scale draw is acceptable. The scales have observed concepts excluded by of EFA, Cronbach's alpha coefficients were recalculated, and the results achieved the reliability requirements.

Hypothesis testing.

Environmental Consumer Behavior (ECB) and Green Purchase Intention (GPI). According to the results of the study, the variable of ECB has a positive relationship toward GPI with Beta = 0.194 and $p < 0.05$. This means environmental consumer behavior contributes by 19.4% to green purchase intention. This result validates H1.

Social Influence (SI) and Green Purchase Intention (GPI). According to the result of the study, the variable of SI has a significant positive relationship with GPI, Beta =

0.470 and $p < 0.05$. This means that social influence contributes by 47% to green purchase intention. The result validates H2.

Environmental Knowledge (EK) and Green Purchase Intention (GPI). According to the results of the study, the variable of EK has a significant positive relationship with GPI, Beta = 0.147 and $p = 0.00 < 0.05$. This means environmental knowledge contributes by 14.7% to green purchase intention. Thus result validates H3.

Environmental Attitude (EA) and Green Purchase Intention (GPI). According to the results of the study, the variable of EA has a significant positive relationship toward GPI, Beta = 0.239 and $p < 0.05$. This means environmental attitude contributes by 23.9% to green purchase intention. This result validates H4.

Awareness of green products (AGP) and Green Purchase Intention (GPI). According to the results, the variable of AGP has a significant positive relationship toward GPI, Beta = 0.145 and $p < 0.05$. This means the awareness of green products contributes by 14.5% to green purchase intention. This result validates H5.

Confirming factor analysis (CFA). The correlation coefficient between the components with accompanying standard deviation shows these coefficients are less than 0.05 (with statistical significance). Therefore, the components of social influence, environmental attitude, environmental knowledge, environmental consumer behavior and awareness of green products are worth distinguishing.

Regarding the general relevance, linear structural analysis shows this valuable model chi-squared statistics is 153.278 with 78 degrees of freedom and the value of $p = 0.000$. Chi-squared relative degrees of freedom according Cmin/df was 1.965 (< 2). Other indicators such as GFI = 0.935 (> 0.9), TLI = 0.974 (> 0.9), CFI = 0.981 (> 0.9) and RMSEA = 0.058 (< 0.08). Therefore, this model fits the data collected. This also allows the draw of individual judgments about the direction of the observed variables. About values convergence, the standardized weights of the scales are > 0.5 and with statistical significance $p < 0.05$, so the scale achieved the convergence value.

Structural equation modeling (SEM). SEM was performed to explore the relationship between the structure of green environmental behavior and green purchase intention. After establishing the reliability and validity of the measurement model, this section presents the results of the hypothesis testing the proposed model. J.F. Hair et al. (2014) outlines the procedure in assessing the structural model by PLS which included collinearity assessment, significance and relevance of structural model relationships, the r-square (R^2) for exogenous-endogenous relationships, effect size and predictive relevance of the model (Hair et al., 2014).

The results show this model has valuable chi-squared statistics of 127.137 with 78 degrees of freedom ($p = 0.000$). Chi-squared relative degrees of freedom according Cmin/df was 1.630 (< 2). Other indicators are GFI = 0.947 (> 0.9), TLI = 0.980 (> 0.9), CFI = 0.985 (> 0.9) and RMSEA = 0.047 (< 0.08). Therefore, this model achieved compatibility with the data already collected. However, environmental attitude (EA), awareness of green products (AGP) were excluded from the model because of no statistical significance at the 95% confidence level and the estimated values are normalized so they have direct influence, positive full value.

The results show that the model last calibration value chi-squared statistics is 71.481 with 48 degrees of freedom ($p = 0.000$). Chi-squared relative degrees of freedom according Cmin/df was 1.992 (< 2). Other indicators are GFI = 0.951 (> 0.9),

TLI = 0.978 (> 0.9), CFI = 0.985 (> 0.9) and RMSEA = 0.059 (< 0.08). Therefore, this model achieved compatibility with the data collected.

Table 1. Estimating causal relationships between the factors of green purchase intention, author's calculations in SPSS 22.0

	Relations		Estimate	S.E.	C.R.	P	Label
GPI	<---	ECB	0.091	0.030	3.011	0.003	accepted
GPI	<---	EK	0.603	0.048	1.675	***	accepted
GPI	<---	SI	0.783	0.098	8.023	***	accepted
GPI	<---	AGP	-0.031	0.038	-0.821	0.411	not accepted

Table 2. Estimating causal relationships between the factors of green purchase intention, author's calculations in SPSS 22.0

	Relations		Estimate	S.E.	C.R.	P	Label
GPI	<---	ECB	0.089	0.030	2.954	0.003	accepted
GPI	<---	EK	0.607	0.047	12.833	***	accepted
GPI	<---	SI	0.772	0.095	8.102	***	accepted

Testing the reliability of estimates by Bootstrap. Bootstrap method is then used to test the model estimates, the last model with the pattern repeat is N = 1000. The estimation results from the samples are averaged together with the deviations as presented in Table 3, CR has very small absolute value, it can be said that deviation is very small; while not statistically significant at the 95% confidence level. Thus, we can conclude that the model estimates can be trusted. As a result of testing, the hypothesis EK, ECB and SI are in the same direction relationship with the green purchase intention are accepted. There are three relationships here worth theoretically.

Table 3. Results estimated by bootstrap with N = 1000, author's calculations in SPSS 22.0

			Estimate standard			Estimate Bootstrap with N = 1000			
Parameter			Estimate	SE	SE-SE	Mean	Bias	SE-Bias	CR
GPI	<--	ECB	0.083	0.032	0.001	0.083	-0.001	0.001	-1.000
GPI	<--	EK	0.548	0.072	0.002	0.553	-0.005	0.002	-2.500
GPI	<--	SI	0.461	0.071	0.002	0.455	-0.006	0.002	-3.000

Discussion and implications.

1. Results and discussion. P. Ellen et al. (2010) research entails that environment protection has emerged as an important topic not only for businesses but also for societies and governments. The main objective of the study was to explore the relationship between consumer green buying intention and green marketing. It seems eco-branded products have been commercially successful due to positive public image, which lead buyers to purchase and causing the growth of brand loyalty (Ginsberg and Bloom, 2004). Overall, it could be concluded that even though all predictor variables impact green purchase intention, only 3 independent variables have a significant influence, these are environmental knowledge, environmental consumer behavior and social influence.

Finally, the results do not support a positive relationship between environmental attitude and awareness of green products with green purchase intention. This result is inconsistent with the most of previous studies. However, it is worth noting that although the effect of the environmental attitude and awareness of green products with green purchase intention is not significant. Thus, its effect on green purchase intention may be indirect, through other behaviors, such as concern, attitude, perceived protection of the environment. Hence, social psychologists began to look for much more comprehensive and reliable predictors of human behavior (Hartmann and Apaolaza-Ibanez, 2006). The value orientation theory covers 5 basic aspects pertinent to human actions (Watkins and Gnoth, 2011). Contrasting to it, people belonging to Asian culture tend to think themselves as living in harmony with the nature and environment but they did not respond to it, they stay at the level of knowing and concerning, they do not really actualize their concern into acts, because they mostly think that their acts would not affect much the environment. The study here proposes the findings that would be useful in the future and are expected to be beneficial to those willing to participate in green marketing activities. The results indicate high concern from the respondents with the variables such as environmental knowledge, environmental consumer behavior and social influence. Most of the respondents were aware of green products or green movement as such, most of them encounter the related ads on radio, TV or Internet. These facts can be the guidelines for consideration in future promotions.

To sum up, businesses and government can educate buyers about the environment friendly process. This is an extensive procedure that will take long time to nurture the concern for environment. To enhance the effect of the related factors promotion through various channels is necessary so that more people are exposed to it and thus turn these factors into action.

2. Suggestions for further research. Further research should be conducted into the effect of green purchase intention using a much larger sample in a different national setting to validate the findings of this study and to see if the measures developed here are statistically reliable and valid across different national settings. An important limitation of our research is the questionnaire technique, i.e., filling of the questionnaire. This method is sometimes unable to provide the true response as many respondents only fill up the questionnaire without knowing the importance of the research and not really understanding the importance of the questions asked.

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