

“No Plastic Bag Day” Concept and Its Role in Malaysian’s Environmental Behaviour Development

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Abstract

The purpose of this study is to investigate the Malaysian values, awareness’s, and attitudes toward “No Plastic Bag Day” concept. It is also investigate how this event revolutionized the consumers’ behaviour every Saturday. This research is derived from quantitative research approach and will analyse 220 questionnaires which has been distributed in the Klang Valley area over a period of 2 months. In this research, PLS modelling approach will be used to analyse the relationship between Ecoliteracy, Perceived Behaviours, Consumer’s Attitude, and Subjective Norms with the Environmental Behaviour Development. The empirical analysis using PLS unveiled that Ecoliteracy, Perceived Behaviours and Subjective Norms has a significant relationship towards the environmental behaviour development in Malaysia.

Keywords: theory of planned behaviour, ecoliteracy, subjective norms, perceived behaviours

1. Introduction

Using the non-biodegradable plastic bags is one of the significant wastages which contribute to the environmental deterioration. However, plastic bags wastage issue rose up the awareness of public and persuade people to behave green at any aspect, from the working environment to housing. The globe is experiencing environment deterioration caused by over consumption of natural resources as well as the solid waste from certain unrecyclable products such as plastic bags. The environment deterioration often linked with the rapid growth in economic, industrial development and urban lifestyle (Haron et al., 2005). In other words, the rapidity of development and economic growth has increased the solid-waste; consequently, more problems regarding environment deterioration become prominent.

Without doubt, Governments and NGOs such as the United Nations Environment Program (UNEP) were created to aim to provide future foresee towards the education on environmental protection and evaluation of governmental efforts in environmental for environmentalism (Quick, 2012). Therefore, green marketing is becoming more important as the challenges and prospective are twofold. Firstly, the government will pressure global corporations to design and implement a sustainable of the green series such as green marketing, green supply-chain and green branding, (Chan et al., 2012).

Customers are the key players for hypermarkets and in conjunction with the campaign, customers actually have the responsibility of bringing their own recyclable bag, yet, again, Malaysian were cited lack of such practices in daily routine, (Haron et al., 2005; Ooi et al., 2012). Therefore, there is a debate as to should customers purchase on Saturday by bringing their own recycle bag or choose to purchase groceries on other days. This study also sought to determine if the consumers’ shopping behaviour being affected by purchases at stores that offer plastic bags. This study also intended to close the gap of limited study on environmental behaviour among Malaysian by looking at the factors that affecting the development of environmental behaviour. Therefore, the objective of this paper is identified as; to determine the factors influencing the consumers’ environmental behaviour development in Klang Valley area towards the “No Plastic Bag Day” campaign.

2. Literature Review

The phenomenon of environmental awareness is rising around the world, concurrent with many events which organized for increase the awareness towards environment, the local government of Malaysia launched the “No

Plastic Bag Day” every Monday at Penang during 2009 with the intention of preserve the environment and installing environmental friendly value among the public (Yunus, 2011). After one year of completion, Penang state government decided to extend from Monday to Tuesday and Wednesday as their “No Plastic Bag Day”. Concurrent with this event, Selangor state government also set every Saturday as “No Plastic Bag Day” during 2010.

Environmental behaviour often documented with awareness, locus of control, culture & beliefs, attitudes, environmental knowledge, education, behaviour control and etc (Ooi et al., 2012; Cheah & Phau, 2011). However, due to the cultural difference as well as the diverse perceived value, the environmental behaviour measurement in every country can be varied (Ooi et al., 2012). Since Malaysian adhere a low-power distance, which is collectivism, thus, government, friends, and peer pressure can be one of the important elements which affect the degree of environmentalism. Furthermore, the influence of education has received sound attention amongst scholars. Lastly, Theory of Planned Behaviour will be implemented for this study to connect the concepts of dependent variable and independent variable.

2.1 “No Plastic Bag Day” in Malaysia

Although Malaysian stated to practice of behave environmentally, yet, previous studies about Malaysian’s environmental behaviour is relatively low, including improper way of waste disposal, poor waste management and low degree of green practice in daily routine.

2.2 Environmental Behaviour (EB)

Since 1990s a lot of researchers have merged to identify and measure the behaviour of human beings to go green, (Ooi et al., 2012; Gooi, 2010; Haron et al., 2005). However, the environmentally responsible during the 1970s were mostly confined towards energy savings and political activism (Gooi, 2010). Environmental behaviours (EB) can be defined as the behaviour which an individual response to minimize the use of natural resources as well as an emanation of waste over the environment (Park & Ha, 2012). In another word, environmental behaviour is often related to people’s values (Poortinga et al., 2004). As values documented as conceptualized lifestyle and set certain attitudes towards our behaviour. Therefore, this stand saying that values play essential roles in rise of the environmental behaviour.

Furthermore, by looking at the value perspective, EB can be categorized into two schools of thoughts, “Impact-Oriented” and “Intent-Oriented” perspectives (Park & Ha, 2012). “Impact-Oriented” perspective refers to the response of the availability of resources and materials and leads to alter of the ecosystems. For example, the household waste disposal, drain clearing and clearing forest. Household recycling waste management is contributing to the waste management due to its time consuming and therefore people are avoiding (Nordlund & Garvill, 2002). Conversely, “Intent-Oriented” refers to the outcome of an individual decision making (Park & Ha, 2012). By looking on latter perspective based on psychology view, “Intent-Oriented” highly relies on the individual intention, beliefs, motives and the benefit to the environment. Both perceptives were linked to the behaviour of saving materials or energy and minimize the emanation of waste to the environment. One of the significant example rose by researchers is individuals repeatedly facing options to behave environmentally or not, and the factors which influence individual behaviour is the value orientation (Park & Ha, 2012; Nordlund & Garvill, 2002).

According to Ooi et al. (2012), elements that influence consumers for green intention can be varied from a country to another due to the diversity of cultures and other conditions. Thus, the conceptual model for this research was designed partly according to the Pro-Environmental Behaviour as well as the Theory of Planned Behaviour originated by Fishbein & Ajzen during 1975. Consumers’ environmental behaviour and attitude have been documented as a complexity model, as its shape by vital elements of emotions, perceived control, personal values and the degree of awareness towards the environmental deterioration (Cheah & Phau, 2011; Gooi, 2010).

There are other schools of thought towards Environmental Behaviour. According to Park and Ha (2012), they claimed that EB for everyone can be varying as it needs to be formed by various factors. This view is aligned with Cheah and Phau’s view saying that most of the research theoretical framework was developed accordingly to western country model. Furthermore, they also argue that even consumers understanding of EB is also important, yet not much people will translate into subsequent actions (Park & Ha, 2012).

2.3 Ecoliteracy

At root, individuals will need to have a basic understanding of how environmental knowledge works, through education, the most basic principles which government and school taught was to minimize the inputs and maximize the recycling output. “Ecoliteracy” often cited as the most essential role of education in the next

century in that people are more advanced compared to last decades, and the challenges of human beings is to build and nurture a sustainable community (Ramayah et al., 2010). Furthermore, Cheah and Phau (2011) agreed that the Ecoliteracy helps to shape the attitudes and intentions through the behaviour system. It has been discovered that illiteracy is correlated with attitudes and behaviour to the environment (Laroche et al., 1996). Such a stand is also parallel to the conceptual *Theory of Planned Behaviour*, originated by Ajzen (1985). The theory claims beliefs are often likely is a consequence of an action, perceived social pressure or education.

However, there are different thought of schools of view against Ecoliteracy. The empirical support of Ecoliteracy with behaviour is contradictory. Maloney and Ward (1973) stated that there is no significant linkage between environmental knowledge and compatible behaviour. Once again, there were another school of thought, Vining and Ebreo (1990) together with Chan et al. (2012) reported that Ecoliteracy is still playing a significant role in developing the environmental behaviour. According to the Theory of Planned Behaviour in relation to Ecoliteracy, the first hypothesis will be developed as: H1: Consumers' Ecoliteracy (environmental knowledge) level toward "No Plastic Bag Day" is positively related to the environmental behaviour development.

2.4 Attitudes towards the Behaviour Development

Attitudes often described as an expression towards a certain object or set of belief of favour or disfavour to certain people or object which will determine how the individual behave (Fishbein & Ajzen). The stronger of the attitude element is the behavioural intention to do the action will be more solid and frequent. For example, if an individual feel that consumers should react to the "No Plastic Bag Day" by preparing their own recyclable bag to hypermarket, he or she may practice it during every Saturday. Similarly, a consumer's belief on purchasing in hypermarket without plastic bag providing is inconvenient, he or she will choose not to purchase during Saturday but other days. Therefore, absence of the attitudes will alter the findings of plastic bag banned practice.

McCarty and Shrum (1994) found that the inconvenience of individuals believed recycling is higher than importance of recycling. The perception of inconvenience of recycling activity is greater than influence on their actions. The hypothesis related to this issue is designed by aligning the attitude towards the behaviour: H2: Consumers' Attitude toward "No Plastic Bag Day" is positively related to the environmental behaviour development.

2.5 Subjective Norms towards Behaviour Development

The subjective norm refers to the perceived behavioural expectation from society, friend, parents, and the environment which influence an individual that change their belief and behaviour intention, (Fishbein & Ajzen, 1975). For instance, most of the Malaysian doesn't have practices of bringing their own environmental bag for shopping, however, the Penang citizen behaviour started to change after Penang government implement the plastic bag banned event. Furthermore, subjective norms in developing countries such as Singapore, Thailand, Vietnam and Malaysia have the strong ability to affect individual's behaviour. Thus, subjective norms will be allocated in the third hypothesis development: H3: Consumers' Subjective Norms toward "No Plastic Bag Day" is positively related to environmental behaviour development.

2.6 Perceived Behavioural towards the Behaviour Development

The concept of perceived behaviour refers to the ability of enacting the actions (Fishbein & Ajzen, 1975). It consists of two aspects which are to what degree individual is able to control the behaviour and how he determines the central beliefs to perform or not the behaviour (Ajzen, 1991). As a general rule, the more the control on perceived behavioural, the more he or she will determine to do it. McCarty and Shrum (1994) investigated that individualistic people tend to be more unfriendly environmental. However, author determined to implement this variable to measure due to the different culture contains of difference influences, thus, the fourth hypothesis needs to be substantiated, H4: Consumers' Perceived Behavioural control over "No Plastic Bag Day" is positively related to environmental behaviour development

2.7 Theoretical Framework

The Theory of Planned Behaviour (TPB) is an extended version of the Ajzen's Theory of Reasoned Action (TRA) in result to overcome the shortage in dealing with behaviour over people's control (Fishbein & Ajzen, 1975). The theory's principle has been used to predict an aggregate of environmentalism behaviour (Conner & Armitage, 1998; Cameron, 2010; Ajzen, 1991). Both TPB and TRA models were invented to provide parsimonious descriptions towards informational and motivational influence on behaviour (Conner & Armitage, 1998). Fishbein and Azjen argue that an individual behaviour is established by the behaviour intention and the intention of the individual performed by three elements which are attitudes, subjective norms and perceive behavioural control. An individual behaviour is predictable based on his /her intention via TPB.

As mentioned in the literature review, the Environmental Behaviour in Asian countries typically is formed by Consumers' Ecoliteracy, Attitude, Subjective Norms and Perceived Behaviour (Ooi et al., 2012; Cheah & Phau, 2011). The absence of any elements will certainly affect the result of this study. Ecoliteracy often documented as one of the important factors which affect the intention of individual environmentalism. Authors such as Ramayah et al. (2010), Cheah and Phau (2011) agreed that Ecoliteracy helps to shape the attitudes and intentions through the behaviour system. It has been discovered that illiteracy is correlated with attitudes and behaviour to the environment (Laroche et al., 1996). Such a stand is also parallel to the conceptual *Theory of Planned Behaviour* originated by Ajzen (1985). The theory claims beliefs are often likely consequence of an action, perceived social pressure or education.

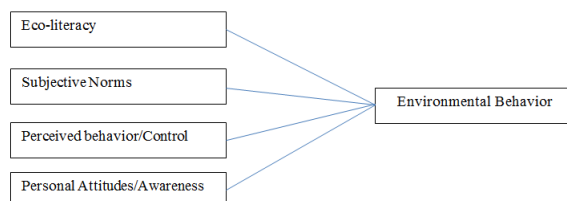


Figure 1. Proposed conceptual framework

3. Research Methodology

The quantitative technique will be conducted at different hypermarket located in Klang Valley such as *Giant*, *Aeon*, and *Tesco*. Scholars such as Sukamolson (2007), and Jones (2008) proposed that the independent and dependent variables can be studied in detail by using quantitative research. Potential location has then being narrowed down according to the distribution of hypermarkets. Finally, the key area being selected including rural and urban area which participated “No Plastic Bag Day” event during Saturday, namely Subang Jaya (urban), Bangsar (urban), Setia Alam (urban), Shah Alam (urban), Klang (rural), Banting (rural) and Port Klang.

A total of 250 questionnaires are distributed in targeted areas via using non-random sampling technique. 50 questionnaires are distributed on each hypermarket during the selected day with the aim of unbiased or over population selected in certain hypermarket. The target population for this research is limited to Malaysian and non-Malaysian in Klang Valley area. The quantitative data are divided into three main parts, namely respondent's demographic profile, awareness and perception, and proposed research framework model. Frequency analyses will be employing to explore the respondents demographic through SPSS Software version 20. Cross-tabulation analysis is adapted to compare the demographic and respondents' opinion towards the plastic bag banned. Furthermore research model estimations are using partial least square (PLS) modelling to test the relationships.

4. Research Findings

Eventually, author only managed to collect 220 respondents in total. Therefore, the response rate is 0.88%. Following to the demographic profile, the summarized result which demonstrated in Table 1 was analysed through SPSS version 20.

Table 1. Summary of respondents' demographic profile

Variables	Category	Frequency	Valid Percentage (%)
Gender	Male	112	50.9
	Female	108	49.1
Age	18-22	29	13.2
	23-27	93	42.3
	28-32	31	14.1
	33-37	36	16.4
	38-50	6	2.7
	51 and above	25	11.4
Educational Level	High School	35	15.9
	Diploma	52	23.6
	Bachelor	97	44.1
	Master	36	16.4
Occupation	Private sector	150	68.2
	Government sector	-	-
	Unemployed	50	22.7
	Others	20	9.1

4.1 Partial Least Squares (PLS) Modelling

To account for the fatal effects of measurement inaccuracy, Partial Least Square (PLS) modelling tool is proposed for this study. PLS has many benefits over conventional regression including enables the simultaneous analysis of up to 200 indicators, multiple biological outputs, providing predictive accuracy result and lower risk in correlation changing (Cramer, 1993). The proposed structural model was constructed by five latent factors namely Ecoliteracy, Attitude, Subjective Norms, Perceived Behaviour and Environmental Behaviour. The arrows distinguish regression relationships between measurement model as well as structural model.

Each latent factor consists of four to five indicators however the result then was shown that few indicators were weak and unable to meet the criterion, suggested by Hair et al., 2003. With the intention of not to affect the Cronbach alpha value, few indicators were removed from this study.

4.2 Partial Least Squares (Pls) Results, Reliability & Validity Analysis

PLS is suggested to simultaneously analyse and test the relationship between latent variables (Huang et al., 2011). PLS provides the function of analysing up to 200 variables which enhances the reliability of the research. Gefen (2000) conclude that PLS is fit to exploratory and confirmatory researches due to its flexibility of measurement assessing and correction.

Firstly, reliability test and validity test were conducted with the intention of examining the data's reliability, (Table 2, Table 3 & Table 4). According to Hair et al. (2003), he suggests that internal consistency reliability value should be in a rule of thumb 0.6 to 0.7 or above. However, among all the variables there are few indicators which affect the Cronbach's Alpha to score less than 0.6, thus, the author decided to remove it in-order to increase the reliability value. One item from Attitude (Att3), one item from Ecoliteracy (Eco3) and two items from Subjective Norms (Sub4 & Sub5) were removed due to large standardized residuals from final model. The final model recorded acceptable of cronbach alpha value of 0.6084 to 0.8290 which indicating a good model criterion by Hair suggestion (Hair et al., 2003).

Likewise, the convergence validity uses two measures the differences between latent variables by looking at Average Variance Extracted (AVE). The AVE criterion of this research is also met, as the value of the five AVEs exceed 0.5, as suggested by Fornell and Larcker, (Fornell & Larcker, 1981). This indicates that the five latent variables consist of good relation with the constructs. Additionally, table 4 reports the testing of discriminant validity between constructs criterion is also met. The 5 latent variables respond higher than the estimated correlation between them.

As an overall conclusion, the result of reliability is consistent and the proposed model is validated as well. Furthermore, the items loading and cross-loading criterion was met both and can be seen that the convergent validity of indicators were validated.

Table 2. Summary of reliability test

Constructs	Items	Cronbach Alpha
Attitude	Att1, Att2, Att4, Att5	0.7427
Ecoliteracy	Eco1, Eco2, Eco3, Eco4	0.7090
Environmental Behaviour	Post1, Post2, Post3, Post4, Post5	0.8290
Perceived Behaviour	Per1, Per2, Per3, Per4	0.7183
Subjective Norms	Sub1, Sub2, Sub3	0.6084

Table 3. Assessment of the measurement model

Constructs	Indicator	Loading	AVE	Composite Reliability
Eco-literacy	Eco 1	0.781	0.5368	0.8217
	Eco 2	0.749		
	Eco 4	0.758		
	Eco 5	0.633		
	Attitude	Att 1		
Perceived behaviour	Att 2	0.812	0.5948	0.8131
	Att 4	0.880		
	Att 5	0.553		
	Per 1	0.513		
	Per 2	0.861		
	Per 3	0.658		
	Per 4	0.827		

Subjective norms	Sub 1	0.848	0.5555	0.7859
	Sub 2	0.773		
	Sub 3	0.591		
Environmental behaviour	Post 1	0.801	0.5948	0.8799
	Post 2	0.774		
	Post 3	0.699		
	Post 4	0.800		
	Post 5	0.778		

Table 4. Discriminant validity (inter-correlation) of variable constructs

Correlations of Latent Variable	Attitude	Ecoliteracy	Environmental Behaviour	Perceived Behaviour	Subjective Norms
Attitude	1.0000	-	-	-	-
Ecoliteracy	0.4379	1.0000	-	-	-
Environmental Behaviour	0.2872	0.5498	1.0000	-	-
Perceived Behaviour	0.2229	0.4100	0.4797	1.0000	-
Subjective Norms	0.2014	0.4314	0.5040	0.3739	1.0000

Table 5. Statistical results of outer model evaluation [loading (bold)]

	Attitude	Ecoliteracy	Environmental Behaviour	Perceived Behaviour	Subjective Norms
Att1	0.7062	0.3096	0.1209	0.0301	0.0639
Att2	0.8122	0.3893	0.1858	0.2209	0.2391
Att4	0.8803	0.365	0.3161	0.281	0.1839
Att5	0.5528	0.2431	0.1501	-0.0025	0.0672
Eco1	0.313	0.7813	0.4329	0.3839	0.3815
Eco2	0.3269	0.7488	0.3713	0.3392	0.3219
Eco3	0.2902	0.7583	0.4152	0.1857	0.2164
Eco4	0.356	0.6333	0.3853	0.2921	0.3437
Per1	-0.0078	0.1693	0.1485	0.513	0.1316
Per2	0.2471	0.4543	0.4758	0.8608	0.3552
Per3	0.0907	0.1272	0.2253	0.6583	0.1929
Per4	0.1952	0.3147	0.4089	0.827	0.3213
Post1	0.2729	0.3505	0.8015	0.3799	0.3973
Post2	0.3273	0.3963	0.774	0.3261	0.3717
Post3	0.2371	0.4552	0.6985	0.4723	0.3743
Post4	0.1162	0.4521	0.8	0.2945	0.4162
Post5	0.1555	0.4512	0.7777	0.3576	0.3785
Sub1	0.158	0.4407	0.4762	0.3398	0.8484
Sub2	0.0974	0.2689	0.3669	0.2627	0.7731
Sub3	0.2362	0.2043	0.2349	0.2159	0.5909

4.3 Structural (Inner) Model Evaluations

The result demonstrated the convergence and discriminant requirements were met in the outer model evaluation, therefore, the inner model evaluations will be tested in this section and hypothesis testing will be determined according to the value.

Table 6.

Paths Hypothesized Relationship		
$R^2 = 0.4370$		
Eco	→ EB (H1)	$\beta = 0.318$ (t = 4.706)
Att	→ EB (H2)	$\beta = 0.040$ (t = 0.529)
Sub	→ EB (H3)	$\beta = 0.269$ (t = 3.974)
Per	→ EB (H4)	$\beta = 0.240$ (t = 3.485)

Att = Attitude; Eco = Ecoliteracy; Per = Perceived Behaviour; Sub = Subjective Norms; EB = Environmental Behaviour

4.4 Hypothesis Conclusions

As mentioned, environmental behaviour was regressed on Ecoliteracy (H1), Attitude (H2), Subjective Norms (H3) and Perceived Behaviour (H4). The analysis showed the context of H1: Consumer's Ecoliteracy level

toward “No Plastic Bag Day” in relation to the environmental behaviour development is **positive** and **significant**. The result of inner model estimation demonstrated the significance relationship in a level of 5% ($\beta = 0.318$; $t = 4.706$). On the other hand, the result demonstrated that Attitude failed to support H2 due to its weak path relationship. Therefore, H2 is not supported as its coefficient is **not significant** ($\beta = 0.040$; $t = 0.529$).

Furthermore, in context of Hypothesis 3: Consumers’ Subjective Norms toward “No Plastic Bag Day” in relation to the environmental behaviour development is positive and significant. The result revealed that Subjective Norms having a strong **significant** relationship with environmental behaviour development at 5% level ($\beta = 0.269$; $t = 3.974$). Lastly, H4 proposed that Consumers’ Perceived Behavioural control toward “No Plastic Bag Day” is positively related to environmental behaviour development. The result shows that H4 is supported and having a **positive** and **significant level** at 5% ($\beta = 0.240$; $t = 3.485$).

To conclude the result of regression, Ecoliteracy (H1), Subjective Norms (H3) and Perceived Behavioural (H4) showed a positive and significant relationship, while only Attitude (H2) failed to have a significant relationship. Among H1 to H4, Ecoliteracy (H1) exerts the strongest effect on environmental behaviour development, following by Subjective Norms and Perceived Behavioural respectively. Therefore, the research objective of determination of the factors in influencing consumers’ environmental behaviour development in Klang Valley area towards the “No Plastic Bag Day” event is achieved. It is essential to note that which determinants have the most significant influence in environmental behaviour development as the outcome able to enhance the upcoming events which organize in Klang Valley area. Furthermore, this research is also strived to understand the consumers’ perception towards the event with the intention of maximize the extreme effect on individual life. Table 7 shows the summary of hypotheses testing:

Table 7. Output of the outer model estimation

Objective: To determine the factors in influencing consumers’ environmental behaviour development in Klang Valley area towards the “No Plastic Bag Day” campaign;	
Hypotheses	Accept/Reject
H1: Consumers’ Ecoliteracy (environmental knowledge) level toward “No Plastic Bag Day” is positively related to environmental behaviour development.	Accepted
H2: Consumers’ Attitude toward “No Plastic Bag Day” is positively related to the environmental behaviour development.	Rejected
H3: Consumers’ Subjective Norms toward “No Plastic Bag Day” is positively related to environmental behaviour development.	Accepted
H4: Consumers’ Perceived Behavioural control over “No Plastic Bag Day” is positively related to environmental behaviour development	Accepted

5. Conclusion

The core objective of this study was to examine the impact of “No Plastic Bag Day” campaign towards the development of consumers’ environmental behaviour in Klang Valley area, namely, to examine the determinants of influencing environmental behaviour development in Klang Valley area towards the “No Plastic Bag Day” campaign. Furthermore, H1 to H4 are proposed to test the relationships between environmental behaviour and its determinants. As mentioned, environmental behaviour was regressed on Ecoliteracy (H1), Attitude (H2), Subjective Norms (H3) and Perceived Behaviour (H4). The findings show that, among all four determinants, only “consumer attitudes” failed to be significant in the regression, but the other three factors found to be positively and significantly related to the environmental behaviour development. To promote this behaviour, Government should cooperate with relevant association to generate better awareness through appropriate channel such as social media, word-of-mouth and road show. Furthermore, government and schools should involve and encourage youngster to educate their family members as findings shows that the veteran who aged 38 to 50 and 50 & above actually responds to this event, however, to make it consistent, intellectual transfer by word-of-mouth would makes a difference. This research has also opined that Ecoliteracy actually contains the strongest relationship in environmental behaviour development.

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