

## CONSUMER INTENTION AND BEHAVIOUR TOWARDS THE USE OF NON-PLASTIC SHOPPING BAGS IN JAKARTA: PRELIMINARY STUDY

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### Spotrebiteľský zámer a správanie vo vzťahu k používaniu ekologických nákupných tašiek v Jakarte: vstupná štúdia

**Abstract:** *Purpose – The objective of this study is to investigate the antecedents and consequences of attitude towards the use of non-plastic bags. Design/methodology/approach – We proposed hypotheses to examine relationships of environmental concern, green attitude, green perceived value, social pressure and support of banning the plastic bags on the intention and behaviour to use non-plastic shopping bags. Survey data was collected from 120 consumers of supermarkets in Jakarta. Structural equation modelling was used to test hypotheses. Findings – The attitude followed by social pressure and environmental concern revealed the strongest effect on intention of using non-plastic bags. Consequently, intention to use non-plastic shopping bags had also a strong effect on behaviour of using non-plastic shopping bags. Practical implications – This study will provide information on factors that influence and affect consumer's behavioural intentions and behaviour to use non-plastic shopping bags. Limitations – Since consumers may have the different characteristics, it is likely that consumers' attitude and behaviour will be different based on the characteristics. Originality/value – Little research has been done on understanding consumer attitudes and behaviour towards the use of non-plastic bags in Indonesia.*

**Keywords:** *Environmental concern, environmental, green attitude, green value, behavioral intentions, using non-plastic shopping bags.*

**JEL Classification:** M31

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## 1 Introduction

Many countries across the world, both nationally and locally have introduced various policies to reduce plastic bag use, including bans and mandatory charge (Poortinga et al., 2016). The expansion of production and consumption of plastic bags have a negative impact to the environment. Indonesia ranks as the second country that disposes the most plastic waste into the ocean, following China in the first place (Jambeck et al., 2015). Local activity is necessary to reduce plastic waste, to encourage people to engage in pro-environmental behaviour in their daily life (Ohtomo and Ohnuma, 2014).

In Indonesia, the plastic consumption per capita increased 17 Kg per year (Plastic Packaging Opportunities in Indonesia, 2014), and the demand continues to increase in line with the population growth. Reducing plastic bags usage is considered as one of the most simple and effective way that can be done by everyone in daily life (Ohtomo and Ohnuma, 2014).

In handling these waste problems, which are caused by the use of plastic bags, it is deemed very important to identify various psychosocial determinants of behaviours that could reduce plastic bag use, and all related parties such as government, consumers, and business owners must play an important role in the promotion of green marketing practices.

Eco-friendly behaviour is necessary to reduce this environmental problem, such as the individual's support regarding bans imposed by government or retailers to reduce the use of plastic bags and any other innovative approaches that are adopted (Bamberg, Ajzen and Schmidt, 2003; Heath and Gifford, 2002).

Initiating this behavioural change for the whole society is not an easy one. Becker et al. (2014) argues that individual intentions are less powerful than habits and that institutional regulation, incentives and supports have the ability to encourage such behaviour change by altering the value and intention of the behaviour. Bans or taxation on plastic bags, incentives to use reusable bags or a returnable bottles system are among these regulations and incentives.

Research on ecologically conscious behaviour among consumers in Indonesia is limited. Little researches have examined ecological behaviour of Indonesia consumers' ecologically conscious behaviour, more specifically regarding the use of environmentally shopping bags. Exploring antecedents of consumers' ecological behaviour in Indonesia can provide a fruitful insight for marketers as well as policy makers.

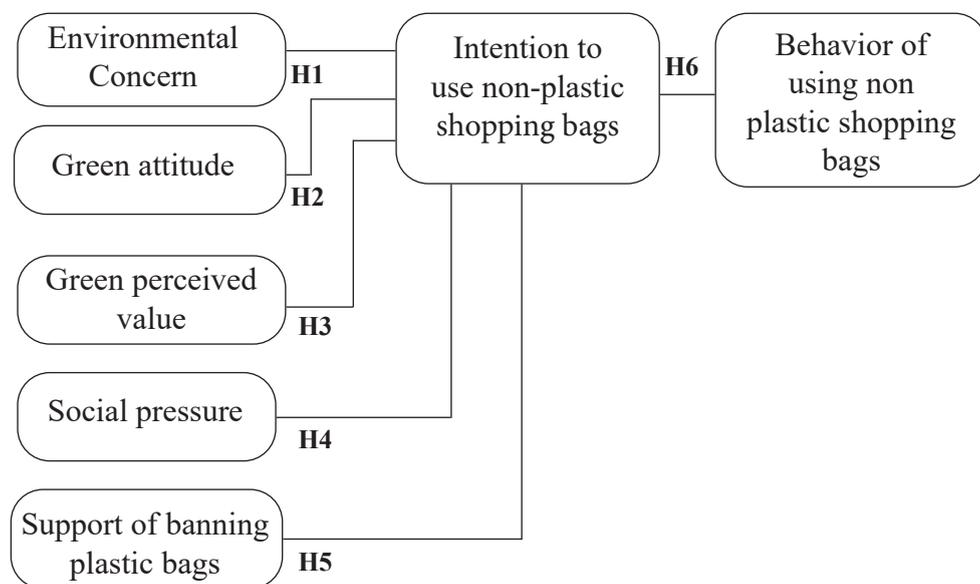
Therefore, the objective of this study is to investigate the influence of environmental concern, green attitude, green perceived value, support of banning the plastic bags, and social pressure towards the intention and behaviour to use non-plastic shopping bags.

## 2 Literature Review

Theory of Planned behaviour (TPB) is used to understand the psychosocial determinants of human social behaviour (Ajzen, 1991), which has been employed in various fields of social sciences and has become one of the most frequently referred models in the literature (Ohtomo and Ohnuma, 2014). Theory of Planned Behaviour (Ajzen, 1991) is used to explain the antecedents of intention to use environmentally friendly shopping bags. The theory argues that an individual’s intention to perform a behaviour is influenced by a combination of behavioural attitudes (i.e. a person’s beliefs about the desirability of behaviours); subjective norms (i.e. a person’s perceived relevance and importance of opinions of significant others); and behavioural control (i.e. a person’s sense of control over behaviour).

Specifically, this study considers consumer environmental concern, green attitude, green perceived value, support of banning the plastic bags, and social pressure towards the intention and behaviour of using non-plastic shopping bags. (See Figure 1).

**Figure 1:** Conceptual Framework



## 2.1 Concern, Green Perceived Value, Green Attitude and Intention to Use Non-Plastic Shopping Bags

Environmental concern refers to the degree of people's willingness to recognize and support the resolution of ecological problems (McCright, Xiao and Dunlap, 2014). It is an evaluation of, or an attitude towards facts, one's own behaviour or their behaviour with consequents for the environment (Ajzen et al., 1989). A person's concern about the effects and consequences of the ongoing environmental deterioration for future generations (Stern, Dietz and Kalof, 1993).

Kim and Chan (2011) reported that environmental concern is a widely used construct to explain the predisposition to engage in pro-environmental behaviour. Kilbourne and Pickett (2008) found that the increasing level of environmental concern tended to increase pro-environmental behaviour. Garvill (1999) in a study of the determinants of transportation mode choice in Sweden also found the relationship of environmental concern and the intention to reduce the car use.

Perceived value is a number of attributes which are related to the perception of a product's value. It can create a positive word of mouth influence and purchase intentions (Ashton, Solnet and Breakey, 2010; Sweeney, Soutar and Johnson, 1999). Green perceived value plays a more critical role in the environmental era (Chen and Chang, 2012).

Slotegraaf (2012) defines green value as a consumer's overall evaluation of the net benefit of a product or service between what is received and what is given based on the consumer's environmental desires, sustainable expectations, and green needs.

Gounaris, Tzempelikos and Chatzipanagiotou (2007) indicated that perceived value was positively influenced purchase intention. Previous studies demonstrated that perceived value influenced purchase intention (Eggert and Ulaga, 2002; Gounaris, Tzempelikos and Chatzipanagiotou, 2007; Tam, 2004). In a more specific context, Yu and Lee (2019) indicated that perceived value had a positive effect on intention to purchase upcycled products.

Based on this perspective, a consumer who avoids using plastic bags and prefers using environmentally friendly shopping bags can be considered that it is related to green value. Therefore, consumers ascribe value to the green attribute of non-plastic shopping bags.

Consumer attitude is a major determinant of behavioural intention (Ajzen, 1991; Chang and Chou, 2018). It is defined as an individual feeling of favour/disfavour regarding to perform a certain behaviour.

A study of Chang and Chou (2018) regarding consumer intention towards bringing one's own shopping bags indicated that that consumers' attitude and perceived behavioural control has a positive relationship with BYOB intention. The attitude of a person towards the performance of a certain behaviour affects the intention regarding the performance of the behaviour, and consequently will affect the actual behaviour (Sudarmadi et al., 2001; Wu and Mweemba, 2010). Intention is the most important part of behaviour in social psychology (Abraham and Sheeran, 2003).

Other studies support the relationship of consumer attitude on behavioural intention (Chen, 2007; Tang, Wang and Lu, 2014; Yu and Lee, 2019).

The following hypotheses were proposed:

H1. Environmental concern has a positive effect on intention to use non-plastic shopping bags.

H2. Green perceived value has a positive effect on Intention to use non-Plastic Shopping bags.

H3. Green Attitude has a positive effect on Intention to use Non-plastic shopping bags

## **2.2 Social Pressure, Support of Banning Plastic Bags Intention to Use Non-Plastic Shopping Bags, and Behaviour of Using Non-Plastic Shopping Bags**

Subjective norm, i.e. social pressure is defined as the individual's perception of the likelihood that the potential reference group or individuals approve or disapprove of performing the given behaviour (Ajzen, 1991). Subjective norm is shown as a direct determinant of behavioural intention (Ajzen, 1991). A strong relationship between subjective norm and intention has been shown in previous research (Bamberg, 2003; Kalafatis et al., 1999; Kim and Chung, 2011).

A study of Arı and Yılmaz (2016) revealed that subjective norms or social pressure influenced the intention to reduce plastic bag use. It was also shown that environmental awareness regarding plastic bag use affects the intention

to use cloth bags, positively.

Regarding the influence of support on the banning of plastic bags towards the intention to use non-plastic behaviour, a study of Mugisha and Diiro (2015) regarding households' responsiveness toward government ban on polyethyleneshopping bags in Uganda found that majority of respondents expressed the need and willingness to stop using polyethylene bags and prefer to use more eco-friendly alternative materials.

Another study of Santos et al. in Brazil (2013) found that consumers are concerned with environmental issues and are willing to change their behaviour in view of the introduction of the legislation determining the substitution of conventional plastic bags by compostable carrier bags.

Theoretically, based on TPB intention is the best predictors of behaviour, the stronger intention leads to a higher likeability of the concerned behaviour to occur (Ajzen, 1991). Previous empirical studies indicate the ability of intentions to predict behaviour (Mamun et al., 2019; Marques et al., 2012). A more specific study of Ari and Yilmaz (2016) regarding consumer attitude towards the use of plastic bag and cloth bags indicated that the intention to use cloth bags affects the behaviour to use fewer plastic bags, positively.

Based on review of the literature, the following hypotheses were proposed:

H4: Social Pressure has a positive effect on Intention to use non-plastic shopping bags.

H5: Support of banning Plastic Bags has a positive effect on Intention to use non-plastic shopping bags.

H6: Intention to use non-plastic shopping bags will have a positive influence on behaviour to use non-plastic shopping bags.

### **3 Methodology**

#### **3.1 Sample and Data Collection**

To test the hypotheses proposed in this paper, a quantitative (survey) research method was adopted. Consumers of three supermarkets in Jakarta on February–March 2019, participated in this study. A purposive sampling was used in term of their regular shopping in the supermarkets. These respondents are

selected based on their understanding of green behaviour, before distributing the questionnaires. The objective of study and questions was explain to the respondents. From 180 responses collected, 120 valid responses were used for further analysis.

Table 1 provides the demographic profile of the sample. The respondents mainly covered various consumer groups.

**Table 1:** Respondents' Profile

Demographic Characteristics	Frequency	%
<b>Gender</b>		
Female	90	75
Male	30	25
<b>Age</b>		
18-25	10	8.3
26-35	25	20.8
36-45	52	43.3
46-55	28	23.3
56-65	5	4.3
<b>Education</b>		
Primary	2	1.7
High School	20	16.7
Bachelor	95	79.1
Postgraduate	3	2.5
<b>Occupation</b>		
Student	28	23.3
Housewife	42	35.0
Employed	40	33.3
Self-employed	10	8.3
<b>Total</b>	120	100

As shown in Table 1, most of the respondents are female (75 %), while male respondents are only 25%. The age of respondents is between 18 to 65. Most of respondent age is between 25–36. Most of their education is bachelor (95%), based on the occupation 42% are housewife and 40% employed.

### 3.2 Measures

Environmental Concern was measured using instrument adapted from (Mufidah et al., 2018). It consists of three items:

1. I am very worried regarding the condition of the world environment and what that will mean for my future so I need to keep the environment by using non-plastic shopping bags.
2. Humans are very often misusing/damaging the environment, so it is necessary for me to help save the environment by using non-plastic shopping bags.
3. When humans interfere with nature, nature produces disastrous consequences so I need to participate by using non plastic bags, to avoid/reduce the disruption of nature

Green value was measured using instrument adapted from (Yu and Lee, 2019):

1. This product has more environmental benefits than other products.
2. This product is environmentally friendly.
3. This product has more environmental concern than other products.
4. This product's environmental functions provide a very good value.

Support of Banning the Plastic Bags was measured using instrument adapted from (Ari and Yilmaz, 2016):

1. Super Markets and other grocery stores should charge the use of plastic bags to customers.
2. Government should ban the use of plastic bags.

The following constructs were measured using instruments adapted from (Ohtomo and Ohnuma, 2014):

Attitude was measured using two items statements:

1. I think I should take action to reduce the usage of plastic bags.
2. I think using plastic bags is harmful to the environment.

Subjective norm. Two items were used to measured subjective norm:

1. Most people who are important to me (e.g., family or friends) would support a decision not to receive free plastic bags.
2. Most people would approve of me not receiving free plastic bags.

Behavioural intention was measured using two items:

1. I intend not to receive free plastic bags.
2. I intend to go shopping with reusable shopping bags in the future.

Behaviour of using non-plastic shopping bags was measured using two items:

1. I prefer to use non-plastic shopping bags during daily shopping.
2. I often refuse to use free plastic bags.

## 4 Results and Discussion

### 4.1 Results of Quantitative Analysis

Following the two-step approach, a measurement model was first estimated using a confirmatory factor analysis (CFA). Each measurement item was loaded on its prior construct. The instrument reliability was assessed using Cronbach's alpha. The alpha values range from 0.73-89.

Convergent validity meets the requirements in this study all the items had relatively high factor loadings on the underlying construct, the values range from 0.77 to 0.82. Overall model fit for CFA was assess using the Chi-square test and goodness of-fit-indices. Other indices of fit were assessed i.e. Comparative Fit Index (CFI), the Normed Fit Index (NFI), Root Mean Square Error (RMSEA) indicated the measurement model fit the data well (CFI = 0.910), NFI = 0.906, RMSEA = 0.07).

As the second step, the proposed structural model was assessed, on the basis of CFI = 0.97, NFI = 0.96, RMSEA = 0.06) indicated that the model fit was acceptable. Results of estimated structural coefficients were presented in Table 1.

**Table 2:** Structural Model Results

Hypothesized Relationship	Standardized Coefficient	Results
H1 Environmental Concern → Intention	0.41*	Supported
H2 Green Perceived Value → Intention	0.28*	Supported
H3 Green Attitude → Intention	0.57**	Supported
H4 Social Pressure → Intention	0.46*	Supported
H5 Support of banning plastic bags → Intention	0.39*	Supported
H6 Intention → Behaviour	0.53*	Supported

Note: \* $p < .05$  \*\* $p < .01$

As shown in Table 2, all antecedents of intention to use non-plastic shopping bags were found to be significantly and positively influenced the intention of using non-plastic shopping bags. Therefore H1, H2, H3, H4, and H5 were supported. The results of the study were consistent with the study by Kilbourne and Pickett (2008), who found that the increasing level of environmental concern tend to increase pro-environmental behaviour. It was also supported Garvil (1999) who found the relationship of environmental concern and intention to reduce the car use.

Regarding the effect of green value on intention (H2), it was consistent with previous studies, which demonstrated that perceived value influenced purchase intention (Eggert and Ulaga, 2002; Gounaris, Tzempelikos and Chatzipanagiotou, 2007; Tam, 2004; Yu and Lee, 2019).

Furthermore, regarding the effect of green attitude on intention (H3), it was consistent with the study of Chang and Chou (2018) who indicated that that consumers' attitude and perceived behavioural control has a positive relationship with Bring Your Own Bag (BYOB) intention. Another studies also supported the relationship of consumer attitude and behavioural intention (Chen, 2007; Tang, Wang and Lu, 2014; Yu and Lee, 2019).

Furthermore, the effect of subjective norm, i.e. social pressure towards intention (H4) was consistent with previous research, which found a strong relationship between subjective norm and intention (Bamberg, Ajzen and Schmidt, 2003; Kalafatis et al., 1999; Kim and Chung, 2011).

This finding also supports a study of Arı and Yılmaz (2016), who reported that subjective norms or social pressure influenced the intention to reduce plastic

bag use.

The effect of support on banning of plastic bags by government on intention to use plastic bags (H5) was consistent with a study by Mugisha and Diiro (2015) regarding households' responsiveness towards government ban on polyethyleneshopping bags, who found that majority of respondents expressed the need and willingness to stop using polyethylene bags and prefer to use more eco-friendly alternative materials. It also supports the study of Santos et al. in Brazil (2013) who found that consumers are concerned with environmental issues and are willing to change their behaviour related to the introduction of the legislation regarding the use of the substitution of conventional plastic bags.

Finally, intention to use non-plastic bags positively influenced behaviour of using non-plastic bags. The findings were consistent with the study of Mamun et al., (2019); Marques et al., (2012). It also supports the findings of Ari and Yilmaz (2016) that reported that consumer that the intention to use cloth bags positively affects the behaviour to use fewer plastic bags.

## 5 Conclusion

The present study examined a conceptual framework that predicts the antecedents and consequences of the intention to use non-plastic shopping bags. The attitude, followed by social pressure, and environmental concern, revealed had the strongest effect on intention of using non-plastic bags. Consequently, the intention to use non-plastic shopping bags had also a strong effect on behaviour of using non-plastic shopping bags.

This research provides insights for policy makers regarding how to encourage consumers of not using plastic shopping bags. The findings of this study suggest that policy makers and marketers need to consider environmental concern to create a positive attitude towards the use of non-plastic shopping bags. Since social pressure revealed has an influence to consumers of not using plastic shopping bags, social advertisement could be created using a reference group in order to strengthen pressure to customer to avoid using the plastic bags. Based on the results of this study there is also possibility of government to introduce legislation to ban the use of plastic bags or to apply a tax of using the plastic shopping bags.

There are several limitations of this study. Another variable that might have influence on actual behaviour such as consumer demographic factors were not

included in the model. Future research could also conduct a field experiment aimed at promoting pro-environment behaviour.

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