

# Consumer Adoption of Recycled Bag for Retail Shopping

Rahida Ramli, Siohong Tih \*

Graduate School of Business, Universiti Kebangsaan Malaysia

**Abstract** This study explores the adoption of recycled shopping bag among consumers and provides important information by exploring the inertia and attachment concepts that relate closely with consumer adoption of recycled shopping bag. This study used qualitative method and the data were collected through interviews. In this study, the judgmental sampling technique was used. The research sample consisted of 46 individuals. They voluntarily participated in this study and were experienced in retail shopping. The findings showed that consumers' adoption and non-adoption of recycled shopping bag was related to the concepts of inertia and attachment. Based on the results, factors support consumers' adoption included environmental and product attachments. Environmental attachment refers to environmental care and support for green campaign. Product attachment consists of product utility, reliability and attractiveness. On the other hand, non-adoption might be caused by consumers' inertia that included habitual behavior, availability of plastic bag, laziness, negative experience and satisfaction with the utility of plastic bag. The implications of this study are that environmental education should be integrated into education system and life-long learning to create positive attachment. Industry players should design and produce functional and attractive recycled shopping bag. Furthermore the government might consider different level of enforcement with regards to environmental policy to reduce inert behavior. This study contribute to the existing literature on consumer environmental behavior by providing plausible theoretical explanation that potentially drive or restrict consumer adoption of recycled bag for retail shopping.

**Keywords** Consumer behavior, Recycled bag, Inertia, Attachment

## 1. Introduction

Plastic bags are used during shopping as a common packaging material. The demand for plastics has grown in parallel with increasing population. According to experts, plastic takes 100 to 500 years to decompose. A review on 'Environmental Protection Agency' United States conducted jointly by ICF Consultants, Consultants Owen-Illinois and the University of Florida in September 2006 showed that recycling or reusing a ton of plastic saves energy consumption by 51 to 56 million Btu (one million Btu is equivalent to the energy that can be produced by eight gallons gasoline). Plastic bags are produced from precious oil materials. If more plastics are produced, the more up less of our oil resources. Plastic also takes thousands of years for disposal. Plastic cannot be burned because it produces cancer-causing carcinogens and benzene. If planted, it will intoxicate and enter our water resources in the long run. In fact, there have been many cases of animals dying from ingested plastic [1].

As the need to protect the environment of escalating external conditions, the awareness among consumers is very

important. Consumers today are becoming more aware of how their actions will affect the balance of the environment and the future. Across the country, more than 20,000 tons of trash consisting of about 30 percent of plastic materials is dumped each day at the expense of the ecosystem and the environment. Based on previous research, plastic has the highest amount of waste in landfills with a rate of 70 percent. Without proper plastic disposal method, it may pose a threat to life and the balance of the eco system. Plastic can cause clogged drains, foul odors and health problems [2]. In order to support the environment, Pulau Pinang is the first state to begin a day without plastic campaign. The 'No Plastic Bag' campaign is launched every Monday since July 2009, and later extended to Tuesday and Wednesday in January 2010. It is enforced in all major and local supermarkets. Since the launch of the campaign, this is held every Monday from 6th July 2009 in the supermarkets; Pulau Pinang has saved more than 1 million plastic bags in four months. This step was followed by Selangor in 2010, whereby the campaign is set for every Saturday. In the early stages, about 80 retailers joined voluntarily. The "No Plastic Bag Day" campaign was a success that the federal government followed the footstep of the state governments through similar campaigns across the country.

This current study explored the adoption of recycled shopping bag among consumers. Recycled refers to the treatment or process of making discarded objects available

\* Corresponding author:

sh@ukm.edu.my (Siohong Tih)

Published online at <http://journal.sapub.org/economics>

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for use again in the original or other forms, or finding new ways of using discarded materials [3]. It is one of the most important environmentally-friendly techniques for rubbish disposal, with the important aim of promoting long-term environmental protection. This study focused on customers who purchased from retail or shopping malls in Peninsular Malaysia. The convenience sampling technique was used and respondents were selected based on their experience in dealing with purchasing or using recycled bags. This study investigated consumers' perception on adoption of recycled shopping bag in relation to the government 'No Plastic Bag Day' campaign and their opinion about the importance of protecting the environment from the perspective of traders, producers and consumers.

In general, this study explored consumers' adoption of recycled or reusable shopping bag. This study identified the factors related to usage or non-usage of recycled shopping bag. It also aimed to clarify the potential association between consumer inertia and consumer environmental attachment. Specifically, the objectives of this study were (i) to understand consumer's usage of recycling bag; (ii) to explore the association between consumer's inertia and usage of recycled bag; and (iii) to explore the association between consumer's environmental attachment and usage of recycled bag.

## 2. Literature Review

### 2.1. Theory of Inertia

Sir Isaac Newton, in his *Newton's Principle*, conducted a study about physical movement or inertia. According to Newton's theory, inertia is an independent state that is not affected by anything around it. Inertia also refers to a situation or power of resisting [4]. Referring to consumer and behavior, inertia is when repurchasing behavior occurs under unconditional behavior that reflects an unconscious process. When a consumer goes shopping, she or he will refer to the same product or brand. This refers to the same habit where the consumer does less effort and feels comfortable to perform the same action. Inertia is also related to the process when a consumer repeats the purchase of the same brand passively without thinking much about negative perceptions and the effect of the action [5]. The inertia will be reflected in the consumer when they tend to repeat the same purchase in reaction of various marketing variables. Inertia relates the consumer's passiveness or the degree that they seek for information on a product, where the seeking process for the related substitutes has diminished. Therefore, it can be considered as low level consumers' interaction, but it is related to consumers' level of satisfaction, trust and continuous commitment toward a product or brand [6]. From the literature, it can be concluded that the more inert is a customer, the more insensitive they are to the environment.

Some researchers relate customer with inertia as lazy, passive and inactive and not thinking much in term of

repurchase action. Kafchehi *et al* (2012) described inertia as a condition where customers' repeated purchases occur because of their laziness, inactiveness, or passiveness; therefore, it is highly possible for consumer with inertia to build a long-term relationship and would be associated with greater loyalty toward an existing product or brand [7, 8]. Inertia is also described as an act of purchase and use of a brand or product with the same conditions and repetitive that was done without making any effort to find out information about other alternatives. Customers are not motivated to make decision and are comfortable and become a habit for them to do that [9].

Inertia is associated with a regular pattern of action when buying a brand and products on every shopping event. This is because less effort is required in the search for information and there is no attempt to change the action. Inertia makes customer to not find time and go through the decision process in selecting another option [10]. Inertia is a passive action that involves emotional and performed without conscious. Consumers with high level of inertia will have no desire to change anything that was normally done. However, users who have low level of inertia are easier to make the decision to change the style or the purchase of a product or brand loyalty. It is evident that high inertia will cause the client to not want to switch to another action even when feeling unsatisfied. Customers always feel safe to rely on the brand or product that is always there when needed. Consumers take comfort in the familiar; the primary motive for the attachment being security and safety [11]. In conclusion, the main factors for customer inertia to change are high barriers; high cost and offered options are not attractive [12].

Inertia is when less effort is required by the consumer when shopping. Use of recycled bag requires effort, where the user needs to break current comfortable situation. Users might not felt that any action to change existing plastic bag consumption is important because they do not want to use their time searching for new info. Inertia therefore might explain consumer non-adoption of recycled bag for retail shopping and an inert consumer tends to avoid making new decision. They are bounded by the passive action and tend to avoid learning new routine and behavior. Inert customers prefer the status quo as any change in action might be overly risky.

### 2.2. Theory of Attachment

The concept of emotional attachment is the result of a research led by Bowlby, 1982, which suggested that strong emotional connection is associated with basic human need. When a user feels anxious, the user will get physical or psychological support and protection from the attachment to a product or brand. Bowlby, in his research, defined attachment as "the propensity of human beings to make strong affection bonds to particular others" [13]. Their study focused on the basic feelings of a child who is tied to her mother from childhood to adolescence and adulthood. The

study also looked at the development of the feelings of affection, love and romance in an adult. Bowlby believed that a child would find refuge, love and safety and protection from harm [14].

In the marketing context, a consumer can build a sense of bonded to a product or brand depending on their emotional degree on the product and brand. It also depends on the level of individual interaction with the object. Customer's attachment to a product or brand will determine their level of commitment to the product and the brand. The attachment level may cause consumers to be willing to spend excessively for the desired product or brand. The feeling of attachment varies in strength and it is associated with the feelings of passion, connection and affection. Essentially, a consumer's sense of attachment is driven by the feelings of affection, love and care [15]. Loyalty towards a product and brand will influence their commitments to build a long-term relationship with the brand and the product.

The attachment theory has been the basis for several researchers to say that consumers are becoming emotionally attached to a brand or a product. Louis and Lombart defined attachment as a bond between the brand and the individual's sense [16]. It connects the positive feelings between consumers with a brand and product. Closer relationship will make it easier for consumer to use perspective, identity and resources to achieve the desired objectives [11]. In addition, there were studies in the field of marketing found that users can be attached to a place [17], favorite object [18], celebrity [19] and the environment [20]. Thus, it is a tendency that consumers who are attach to the environment would be more willing to take appropriate action (i.e. using recycled bag for shopping). It is yet to explore the explanation of environmental attachment on consumer adoption of recycled bag for retail shopping.

### 3. Research Method

The research sample consisted of 46 individuals who voluntarily participated in this study. This research used the judgmental sampling technique, which was convenience sampling, to obtain the data. Samples were chosen based on the judgment of the researcher. The samples were chosen because the respondents had experience in retail shopping and were able to express their views with regards to the adoption of recycled bag. They were also able to share their opinions about the "No plastic bag" campaign at retail shopping outlets on particular days. There were 32 women and 14 men participants in this research. The total of women respondents was higher than men, because women are commonly involved in shopping. This was also shared by Goodman in his talk at the Time Use Institute [21]. From his research, women accounted for nearly two-thirds of all grocery shoppers. On a typical day, 17 percent of women perform grocery shopping, compared to only 10 percent of men. The study by Nasuddin et. al. in Malaysia also had

more female respondents [22]. The respondents in their survey consisted of 17 males and 83 females, which reflected that women were mostly responsible for household and food purchases. Interview sessions were conducted in Bahasa Melayu and English, depending on the respondent's preference. The results of the interview were recorded on paper in the forms of mind-mapping diagram, chart and sentences or statements. To increase the validity and reliability of the gathered information, the respondents were asked to review the recorded data and put their signature to validate that the information reflected their opinions and ideas. The participation was on a voluntary basis and respondents were free to express their opinions.

Data collection took place for 6 weeks between 1st April 2014 until 18th May 2014. The data were analyzed iteratively and the themes were verified to determine whether participants' experiences were adequately and accurately represented. Narrative analysis was carried out by abstracting appropriate coding or themes. Based on the coded data and themes, an analytical framework was developed. The framework was used to describe the pattern of the data, and further categories or factors were identified with regards to related and repeated themes. The data analysis process began with intensive reading and analysis of the data. Then, researcher examined the similarities and differences within the data. Secondly, researcher reviewed the purpose of the evaluation and focused on the research questions and objectives. Then, the data was organized by transcribing, translating, cross-checking and coding the data. The next step was identification of data patterns and connections within and between categories. Finally, researcher interpreted the data by identifying the themes and factors to explain the research phenomenon.

### 4. Findings and Discussion

In this study, questions related to respondents' demographic profiles were also asked. There were five questions covering gender, age, marital status, working status and monthly income. As summarized in Table 1, most respondents were female (73.9% or 34 respondents), while 26.1% (12 respondents) were male. From 46 respondents, about 48.0% (22 respondents) were between 31 and 40 years old, followed by 34.8% (16 respondents) between 21 and 30 years old, and similarly, 4 respondents were between 16 and 20 years old. Similarly, about 9.0% (4 respondents) were between 41 and 50 years old. 60.9% of respondents (28 respondents) were married, and 39.1% (18 respondents) were single. For the working status, 73.9% of the respondents (34 respondents) were working and 26.1% (12 respondents) were not working. The highest income was RM 5001 and above for 30.4% (14 respondents), followed by below RM 1000 for 28.3% (13 respondents). About 24.0% (11 respondents) had between RM 1001 and RM 3000 monthly income and finally, 17.4% (8 respondents) had

between RM 3001 and RM 5000 monthly income.

**Table 1.** Sample Characteristics

Demographic Variables	Frequency	%
<i>Gender</i>		
Male	12	26.1
Female	34	73.9
<i>Age</i>		
16 till 20	4	8.7
21 till 30	16	34.8
31 till 40	22	47.8
41 till 50	4	8.7
<i>Marital Status</i>		
Single	18	39.1
Married	28	60.9
<i>Working Status</i>		
Not Working	12	26.1
Working	34	73.9
<i>Monthly Income</i>		
Below RM 1000	13	28.3
RM 1000 till RM 3000	11	23.9
RM 3001 till RM5000	8	17.4
Above RM 5000	14	30.4

#### 4.1. Consumer Inertia and Adoption of Recycled Bag

Table 2 shows the indicating factors for consumer inertia regarding the usage of recycled bag. There were five inertia factors being identified with reference to literature, namely habitual behavior [23], availability, laziness [24], negative prior experience and satisfaction with existing offering [6]. The highest frequency was 27 respondents who related their habitual behavior to the resistance in using recycled bag. The second highly cited factor was availability (14 respondents). The third factor was laziness (8 respondents). Next was prior negative experience (6 respondents) and finally was satisfaction with plastic bag utility (3 respondents).

People tend to perform the same action when they feel comfortable and are used to it. Respondents had always forgotten to bring the recycled bag, always put it in the store, used the bag as clothing bag, it was a hassle, it was unnecessary to have and they were not used to bringing recycled bag and asking for plastic bag at retail outlets became their habit. Respondents too had always forgotten days without plastic. This situation also led to the feeling of embarrassment when respondents needed to bring their own recycled bags because they were not used to bringing them. The next factor was availability. Respondents did not want to bring the recycled bags because plastic bags were provided at the stores.

Shopping malls and retail shops encouraged consumers to shop at their stores by providing free plastic bags. They also provided attractive and colorful plastic bags. This situation make respondents refuse to change their behavior because they felt safe and knew that even if they did not bring recycled bag along, they would be provided with plastic bags. Respondents also felt lazy to move because they felt lazy to

bring, wash and hold recycled bags. Prior negative experience when using the recycled bags was also a factor for inertia. From their experience, recycled bags were not suitable for wet groceries, soiled easily and needed to be washed for cleanliness. Further, they did not bring the bags because they did not know the amount of groceries that would fit in one single recycled bag.

**Table 2.** Factors for Consumer Inertia and Adoption of Recycled Bag

Inertia Factors	Frequency	Sample Responses
Habitual behaviour	27	<p>“We not used to. It is not our culture to bring recycled bag from home.”(Respondent 8)</p> <p>“Become habit to use plastic bag even buy lots of item and don’t mind paying.”(Respondent 33)</p>
Availability	14	<p>“A lot of shopping mall provide plastic bag for free.”(Respondent 8)</p> <p>“The supermarket gives [plastic bag] for free, so no need to bring the recycled bag and no urgent reason to bring because we can get plastic bag everywhere.”(Respondent 20)</p> <p>“Easy to get plastic bag everywhere.” (Respondent 43)</p>
Laziness	8	<p>“Feel lazy to wash [recycled bag].”(Respondent 11)</p> <p>“Lazy to bring...”(Respondent 26)</p> <p>“Lazy to hold...”(Respondent 32)</p>
Negative Prior Experience	6	<p>“Recycled bag is not suitable for wet groceries (fresh products, fish, vegetable).”(Respondent 2)</p> <p>“Hassle and not suitable for wet products because need to wash for next usage.”(Respondents 18)</p> <p>“Don’t bring because don’t know how many groceries will fit in 1 recycled bag.”(Respondent 23)</p>
Satisfaction	3	<p>“Easy and convenience to use plastics bag.”(Respondent 11)</p> <p>“Plastic bags are clean, easy to hold.”(Respondent 14)</p> <p>“Attract to plastic bag because of brand and proud to use plastic with brand.”(Respondent 35)</p>

#### 4.2. Consumer Environmental Attachment

There were three attachment factors that affected consumer adoption of recycled bag, which were environmental, product utility and product reliability attachment. Table 3 highlights the association between these factors. Respondents were attached to the environment and environmental protection (9 respondents). Product utility showed the second highest frequency (7 respondents) compared to product reliability and attractiveness attachment. The primary factor was environmental attachment, they care

about environment and would not do sometime that has negative impact on environment. Furthermore, it was product utility attachment. Respondents felt that recycled bag was easy to bring, easy to use, cheap, could be used many times, and had nice colors and various attractive styles and designs. Nevertheless, product reliability and attractiveness were also mentioned. Respondents found recycled bags were easy to use, durable, could be used many times and economical. There are also different designs of recycled bags available for selection.

In the synthesis of findings, two factors, namely environmental attachment and product attachment might have impact on consumer adoption of recycled shopping bag. Environmental attachment consists of consumer attachment towards environmental care and green campaign. Product attachment closely linked with product utility, reliability and attractiveness. Whereas consumer inertia would explain consumer non-adoption of recycled shopping bag due to habitual behavior, availability and satisfaction with plastic

bag, laziness and negative prior experience when using recycled bag for wet products.

#### 4.3. Discussion on Research Findings

In this study that involved 46 voluntary respondents, only 14 (30.4%) brought recycled bags and used it for retail shopping. Only one male respondent supported 'No Plastic Bag Campaign' and brought recycled bags when shopping or buying groceries. This result was also in line with the study by Jamilah et. al. conducted in Penang and Kuala Lumpur [25]. Similarly, from their research, they found that the practice of avoiding the use of plastic bag and using recycled bag is still minimal. Respondents had minimal awareness about the environment, which makes it difficult for them to predict the potential negative effects due to excessive use of plastics. According to Wu, respondents' habitual behavior caused them to refuse to change to recycled bags [23]. This is because people's behavior is repeated almost daily and usually in the same context [26].

**Table 3.** Attachment Concept and Consumer Adoption of Recycled Bag

Attachment Factors	Frequency	Sample Responses
<b>Environmental Attachment</b>		
*Environmental Care	9	"I care about environment." (Respondent 9)
*Support Green Campaign		"I will keep environment green." (Respondent 10)
		"I love to see environment [being protected]. Plastic bags took long time to compose, slow." (Respondent 15)
		"Plastic bag will harm the environment." (Respondent 19)
		"I refuse to use plastic bag because it is not good for environment." (Respondent 37)
		"I need to protect the environment." (Respondent 41)
		"It is inconvenience to have many plastic at home because it cannot be burn and there are no second use for plastic bag because already have plastic for garbage. We need to pay for plastic bag. I support the government campaign for 'No Plastic Bag Day' and recycled bag already store inside handbag or car. If not rarely remember to bring." (Respondent 24)
<b>Product Attachment</b>		
*Product Utility Attachment	7	"Recycled bag is easy to bring." (Respondent 1)
		"Recycled bag is reusable; we can wash and use it again." (Respondent 5)
		"Convenience because we don't have to bring a lot of plastic bag after shopping. Recycled bag is spacious." (Respondent 7)
		"Recycled bag is cheap and reusable; we can use it for long time and will save cost, nice color." (Respondent 15)
		"[Recycled bag is] more convenience and in difference size." (Respondent 37)
*Product Reliability Attachment	3	"Recycled bag is easy to use, durability, economically safe." (Respondent 5)
		"Recycled bag more durable, plastic bag easy to torn." (Respondent 41)
		"Recycled bag is durable and can use many times." (Respondent 45)
*Product Attractiveness	3	"[I] will bring because not provided, this practices is good for environment, convenience, there are a lot of attractive recycled bag and can fill more item in 1 bag/ bigger space." (Respondent 7)
		"Recycled bag have own style/ trend, follow from childhood cartoon, recycled bag have [different] design and color." (Respondent 28)
		"Recycled bags have more choice and attractive." (Respondent 45)

Respondents only had delicate awareness on the aspects that were relevant to their everyday lives, for example floods and landslides. This was in line with the studies by Norjan *et. al.*, who found that awareness arises from the knowledge experienced by the individual [27]. The study about recycling practice amongst Malaysian conducted by Sharifah *et. al.* also reflected poor environmental knowledge [3]. Various factors in rejecting to use recycled bags were related to inertia. As discussed in the literature review, respondents might avoid being different. They were used to the “culture of being same” and felt embarrassed if they bring recycled bags. Habit is not the same as an activity; rather it is an emotional tendency to execute certain actions provoked by habit-related cues. Habit determines behavior when it is performed repeatedly, with limited awareness and is non-reflective [28]. They will do the same habit because they are in security linkage and do not have sufficient motivation to assess alternatives and make decisions according to habits [29].

Results indicate that respondents were willing to pay to maintain status quo [6]. Even though respondents knew the effects of plastic on the environment, they still wanted to continue using plastic as they felt comfortable using it, it was convenient and it was part of their habitual behavior. Similar to the study by Fatemeh and Shahnaz, they found that inert customers are typified as lazy, inactive, or passive because they refuse to change their habit [24]. People who do not perform pro-environmentally believe that they cannot control the situation or should not have to be accountable for it.

This study found that the major factor in using recycled bags was care for the environment. Generally, respondents knew and understood about environmental protection. Respondents felt attached to the environment and environmental products and wanted to see the environment as green, safe and cared for the next generation. Respondents were familiar with environmental problems and therefore, were willing to act accordingly to protect the environment. From this study, 13 female respondents brought recycled bags when shopping. Research showed that women tend to react more emotionally to environmental problems. Furthermore, stronger emotional reaction increases the likelihood that a person will engage in pro-environmental behavior [30]. Respondents preferred pro-environmental behaviors that require the smallest cost. Respondents could save cost by bringing recycled bag. Strength and stronger attachments are associated with stronger feelings of relation, liking, adoring, and excitement. Another plausible explanation is that respondents were attached to recycled bag usage because the bags had attractive designs, nice colors, different sizes and wider choices and attractive. This was proven by a research on emotional attachment by Thompson *et. al.*, in which the result showed how consumers are attached to a brand related to their feeling [15].

Respondents’ inertia and attachment influenced their behavior. Inert respondents would not move and continue using available plastic bag even it involves cost. Meanwhile,

respondents with environmental attachment tended to use recycled bags. Respondents who were attached to the environment would act pro-actively. Environmentally - attached respondents believed that their actions would impact community health and supported government’s policy, thus leaving favorable environment for future generations.

## 5. Conclusions

The aim of this study was to explore consumer adoption of recycled shopping bag in relation to the theories of inertia and attachment. Based on the result, there were five factors reflect consumer inertia regarding usage of recycled bag. The frequently mentioned factor was habitual behavior that causes mindless behavior of using easily available plastic bag. The second factor was availability of plastic bag at the majority of shopping malls and outlets. The third factor was laziness as recycled bag need frequent clean-up. Next was prior negative experience when using recycled bag and finally, satisfaction with plastic bag due to convenience. Factors affected consumers’ attachment and usage of recycled bag, which were environmental and product attachment. Environmental attachment associated with environmental care and supported green campaign. Product attachment related to product utility, reliability and attractiveness. Product utility was frequently repeated by the respondents compared to product reliability. The participants also responded towards natural resource usage, environmental management and pollution prevention.

To elaborate the research implications, different stakeholders are involved. Results showed that consumers linked emotional benefits in making decision on whether to adopt recycled shopping bag. Inert consumers needed the pull-and-push factor for them to react positively and use recycled bag. From the research, respondents’ adoption of recycled or reusable shopping bag was still low. The government campaign on recycling practices, no plastic day, and care for the environment may require more effort. At retail outlets, retailers still provide plastic bag for consumers. This research also informed us that while it was true that most people were aware of the environmental hazards of plastic bag usage, this did not stop them from using plastic bags even on the “No Plastic Bag” days.

This study found that consumers’ adoption of recycled bag for retail shopping was related to factors such as care for the environment, cost, attractiveness of the recycled bag design, ease and convenience of the bag. The first implication was that to attract adoption of recycled bag among consumers, education plays a key role to instill awareness on environmental protection. This means that educational institutions and related government bodies can collaborate to integrate environmental education at schools, higher learning institutions and public domains. The government should play an important role in educating general consumers towards environmental protection, especially at school. For example, recycling behavior can be instilled in the primary and

secondary educations [31], and it is important that the effort continues in the tertiary education level. For higher education institutions, universities may want to introduce related curriculum and activities related to environmental sustainability.

Second, the recycled bag design also plays certain roles. The findings implied that effort could be placed on designing appropriate, attractive and matching recycled shopping bag for different groups of shoppers (i.e. female and male) and for different purposes at affordable costs. Retailers and key players in the related industries (i.e. bag designers, recycled bags producers) may want to collaborate in certain initiatives to encourage adoption of retailers' recycled bags. Retail bonus points for recycled bag adoption may also encourage more usage of recycled bag.

On the other hand, it was found in this study that non-adoption of recycled shopping bag was due to forgetfulness, willingness to pay insignificant charges for plastic bag, availability of free plastic bag or factors related to consumer inertia. In this aspect, charges for plastic bag should be increased and significant incentive should be given to motivate behavioral changes. Ultimately, education on environmental sustainability and how it influences economic, social and profitability components as a whole shall increase the awareness of general public. At the moment, only small proportions of the populations are well-aware and react towards environmental sustainability.

Since most countries face environmental issues, it is important to raise environmental awareness among Malaysians by educating them about recycling. Based on research findings, respondents had higher tendency to use plastic bag for retail shopping. As in the literature, consumers were inert because they were not forced to make changes. They also did not feel burdensome to pay for plastic. The government may consider taking further appropriate action to encourage higher adoption of recycled bag among public.

To regulate the usage of plastic bag, the government may consider alternative packaging materials such as biodegradable plastic bag and recycled bag. The government can reduce taxes or levies to encourage retailers to be involved in the campaign on environmental sustainability. Retailers also need to support the government effort, such as by encouraging the usage of reusable bags by increasing bonuses or free gifts to attract shoppers to adopt reusable shopping bag.

In addition, various advertising mediums can be used to raise awareness about the importance of protecting the environment. Consumers might not aware or not have sufficient knowledge about the long-term negative effect of plastic bag. Media may act proactively to promote and educate people on environmental sustainability. Dissemination of information and environmental programs are expected to contribute towards encouraging more environmentally-friendly lifestyle.

There were limitations recognized in this research. It is important to acknowledge these limitations and suggests

possible extended studies for future research. The first limitation of this study was potential influence of geographical factor on respondents' perception and behavior. This research used non-probability and judgmental sample to collect the data. Samples were selected based on the knowledge of the studied population and the purpose of the study. This research was conducted at limited locations; hence, it might not gather enough representations from urban and suburban consumers. Respondents' view might be different between urban and sub-urban areas since government campaigns were actively promoted in urban areas. Future research may want to consider proper representation of urban and sub-urban consumers for further investigation.

Second, since this was an exploratory study, the identified factors were subjected to further testing to examine their relationships with consumers' adoption of recycled bag. Future research may want to quantify the data and propose more conclusive suggestions for policy makers and industrial players in effort to promote the adoption of recycled bag among retail shoppers.

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