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THE IMPACT OF ENVIRONMENTAL VALUES ON REUSABLE SHOPPING BAG USAGE: EMPIRICAL EVIDENCE FROM PASIR GUDANG, JOHOR

Siti Melinda Haris^{1*}, Adryana Syasya Ad Rohaizan², Syasya Nazifa Shamsuddin³, Shawal Sahid Hamid @ Hussain⁴, Mohd Idham Mohd Yusof^{5,6}

¹ Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA, Kampus Seremban, 70300 Seremban, Negeri Sembilan, Malaysia

Email: melinda596@uitm.edu.my

² Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA, Kampus Seremban, 70300 Seremban, Negeri Sembilan, Malaysia

Email: 2022619186@student.uitm.edu.my

³ Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA, Kampus Seremban, 70300 Seremban, Negeri Sembilan, Malaysia

Email: 2022458164@student.uitm.edu.my

⁴ Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA, Kampus Seremban, 70300 Seremban, Negeri Sembilan, Malaysia

Email: shawalhussain@uitm.edu.my

⁵ Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA, Kampus Seremban, 70300 Seremban, Negeri Sembilan, Malaysia

Email: shawalhussain@uitm.edu.my

⁶ Faculty of Forestry and Environment, Universiti Putra Malaysia, 43400, UPM Serdang, Malaysia

Email: idham708@uitm.edu.my

* Corresponding Author

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Abstract:

The increasing global consumption of plastic bags poses a significant environmental challenge. With an annual per capita consumption of 17kg of plastic per individual, Malaysia ranks second in Asia for plastic pollution and eighth for poor waste management. Despite government initiatives such as implementing a minimum charge of RM0.20 per plastic bag in supermarkets, consumption remains high. The problem can be tackled through the use of reusable shopping bags. However, the use of such bags by Malaysians remains low. Therefore, this study examined the impact of environmental values on consumer behaviour towards reusable shopping bags among residents of Pasir Gudang, Johor. Using a survey method with a sample size of 230 respondents, this study investigated the influence of biospheric, altruistic and egoistic values on the use of reusable shopping bags. The results showed a significant correlation between biospheric, altruistic and egoistic values and the use of

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reusable bags. This study contributes to the discourse on environmental values and sustainable consumption in developing countries such as Malaysia.

Keywords:

Environmental Values, Consumer Behaviour, Reusable Shopping Bag, Altruism, Egoism, Biosphere

Introduction

Plastic pollution has become one of the most pressing global environmental issues, with single-use plastic bags significantly contributing to waste accumulation and marine pollution. Plastic bags represent a significant component of marine debris, posing risks to marine ecosystems, wildlife, and human health (United Nations Environment Programme, 2021). According to the Natural Resources Defence Council (2023), single-use plastic bags are designed for one-time use to carry purchased items, after which they are typically discarded. The bags are usually made of non-biodegradable plastic with a thickness of less than 0.057 millimetres. These thin, single-use, and non-biodegradable plastic bags are widely provided for shoppers in shops and supermarkets. However, they are rarely recycled. Excessive use contributes to plastic pollution, as recycling centres often reject it as non-recyclable, thereby worsening waste management problems.

The growing reliance on plastic bags has led to severe environmental consequences, including ocean pollution, habitat destruction, and excessive landfill buildup (National Geographic, 2025). According to the 2020 report by WWF Malaysia, Malaysia is among the most plastic-consuming countries in Asia (Taylor, 2020). Despite government efforts to reduce single-use plastics by promoting reusable alternatives, usage among Malaysians remains inconsistent. A study by the Federation of Malaysian Consumers Associations (FOMCA) revealed that only 56% of Malaysians are concerned about the issue of single-use plastics (Astro Awani, 2021). The observed low level of public concern shows limited awareness of the environmental consequences of single-use plastic bags.

Although Malaysia participates in global environmental discussions, plastic pollution remains a significant domestic issue. In 2025, a memorandum submitted to Prime Minister Anwar Ibrahim and key ministers calls for Malaysia to assume a leading role in the upcoming negotiations for the Global Plastics Treaty (INC-5.2) in Geneva. It advocates for robust international measures to tackle plastic pollution at its source and to protect the health of the planet, its biodiversity, and overall sustainability (Sahabat Alam Malaysia, 2025). The pressing nature of the issue is underscored by the evident plastic waste found in Langkawi and Mabul Island, as well as the recorded threats to health, biodiversity, and climate (Greenpeace Malaysia, 2025).

Malaysia has implemented measures to curb single-use plastics, including the No Plastic Bag Day campaign and introducing a minimum charge of RM0.20 per plastic bag. However, studies indicate that the culture of bringing one's reusable bag is still weak among Malaysians. Che Lah and Chamhuri (2020) found that 62.3% of consumers do not bring their bags because they forget, while 57.3% are willing to pay the charge to obtain plastic bags. Similarly, Asmuni

Hussin, Khalili, and Zain (2015) reported moderate consumer participation, with only 47.7% willing to pay the charge, and estimated program effectiveness at approximately 52.3%. An article by The Star (2023) reported that the RM0.20 charge had little effect on changing consumer attitudes, as many preferred to pay the fee rather than bring their bags. Moreover, Sinar Daily (2023) highlighted that consumer dependence on plastic bags and a lack of business cooperation had hindered government efforts to reduce single-use plastics. These findings demonstrate that behaviour change remains inconsistent despite policy and campaign efforts, and requires a more comprehensive approach to reduce plastic consumption effectively.

Environmental psychology emphasises that values are crucial in decision-making, particularly when it comes to pro-environmental behaviour. Individual values such as concern for the environment (biospheric values), concern for others' well-being (altruistic values), and personal interests (egoistic values) influence attitudes and behaviours related to environmental issues. Studies also show that these values affect individuals' risk perceptions and willingness to engage in pro-environmental actions (Bouman, Steg, & Kiers, 2018; Zhang, 2013). In Malaysia, where diverse cultural norms and economic factors influence environmental campaigns, it is crucial to understand how values shape consumer choice. Analysing biospheric, altruistic, and egoistic values provides a framework for understanding the motivations behind the use of reusable bags.

This study examines the influence of environmental values on consumer behaviour, aiming to understand how these values impact the willingness to engage in sustainable consumption. The research is important for advancing initiatives that encourage sustainable consumption practices. The findings will contribute to efforts promoting a greener economy and responsible consumption patterns. Specifically, the study will examine how biospheric, altruistic, and egoistic values influence consumers' willingness to use reusable shopping bags. Ultimately, the study aims to inform stakeholders about effective strategies for promoting sustainable shopping habits by identifying the key behavioural factors involved.

Literature Review

In a broad sense, values are defined as the desired goals that always take priority in different situations and serve as a guiding principle in a person's life or a group (Schwartz, 1994). Meanwhile, environmental value refers to the principles and norms that individuals, communities, and societies hold regarding the environment, influencing their relationship with nature. Environmental values play a central role in shaping environmentally friendly behaviour. These values determine behaviour and attitudes towards environmental protection, sustainability, environmental responsibility and policy (Schultz et al., 2005; Stern & Dietz, 1994; UNESCO, 2021).

According to Stern and Dietz (1994), three key environmental value orientations affect individual behaviour: biospheric, altruistic, and egoistic values. These values shape an individual's attitude toward environmental issues and motivation to act. In the Value-Belief-Norm (VBN) theory, Stern et al. (1999) explained that personal values, environmental beliefs and personal norms influence individual behaviour. This theory explains that biospheric values (concern for the environment), altruistic values (concern for others) and ego values (self-interest) have a direct influence on environmentally conscious behaviour. Building on this theoretical foundation, many empirical studies have examined these value orientations in various behavioural contexts.

Biosphere values reflect a profound concern for the environment and all entities on Earth, including non-human life forms. Individuals with strong biosphere values prioritise environmental well-being and are likely to prioritise the preservation of ecosystems and biodiversity in all their actions (Schultz et al., 2005; Himes et al., 2024; Al Mamun et al., 2025). These values are closely linked to intrinsic motivation for pro-environmental actions, such as reducing plastic use or avoiding unnecessary waste, and are the strongest predictors of sustainable behaviour (Bouman et al., 2020).

Many previous studies have shown that these values are associated with pro-environmental behaviour. For example, Steg and De Groot (2010) found that biosphere values strongly predict pro-environmental intentions and behaviours, such as recycling and reducing plastic use. Fatoki (2023) found that university students in South Africa with strong biospheric and altruistic value orientations were more likely to have high pro-environmental behaviour.

Altruistic values are a concern for the present and future welfare of others. People with a strong altruistic orientation are influenced by the perceived consequences of environmental degradation on human health, social equity, and the well-being of others (De Groot & Steg, 2007). These individuals may carry reusable bags because they are concerned about the environment and want to reduce harmful impacts on future generations. Altruistic values are often associated with social responsibility and are positively associated with collective environmental action (Ghazali et al., 2019).

Bouman et al. (2020) confirmed that altruistic values significantly influence environmental behaviour, particularly when individuals believe their actions benefit others or future generations. This implies that altruistic motivations can be strategically utilised in behaviour change interventions to promote sustainability from a community and intergenerational perspective.

Egoistic values are concerned with personal gain, comfort, and convenience. Individuals prioritising egoistic values tend to consider environmental behaviour based on comparing personal benefits or costs. As a result, their engagement in sustainable practices may be limited unless these actions benefit self-interest, such as saving money or increasing status (De Groot & Steg, 2007).

While biospheric and altruistic values are often positively linked to pro-environmental behaviour, egoistic values show a more complex relationship. Previous studies have shown that egoistic values are negatively associated with pro-environmental behaviour (Bouman, Steg, & Kiers, 2018; Bouman et al., 2020). Egoistic values are often associated with low or conditional environmental behaviour, where they depend on perceived personal benefits (De Groot & Steg, 2007).

In the Malaysian context, the “No Plastic Bag Day” campaign was first introduced in Penang in 2009 and has since been implemented in other states. This initiative charges customers a minimum fee of RM0.20 for plastic bags to promote the use of reusable bags (Asmuni, Hussin, Khalili, and Zain, 2015). Although many supermarkets have adopted this method, Malaysia still faces significant challenges in terms of plastic waste. According to the World Wildlife Fund for Nature (WWF) report, Malaysia had the highest annual per capita plastic consumption among six Asian countries in 2020, indicating ineffective government initiatives (World

Wildlife Fund for Nature, 2020). This highlights the necessity for interventions that align with values, reinforcing biospheric and altruistic motivations in behavioural policy design. Such values can significantly influence consumers' awareness of the environmental impacts of pollution, climate change, and other related issues (Ghazali et al., 2019). This suggests that government policy could be more effective if it aligns with public value orientations, rather than relying solely on financial penalties. Thus, understanding the distribution and prevalence of value orientations within the population can guide the development of more effective and targeted behavioural interventions.

To sum up, the literature emphasises the vital role of environmental value orientations in shaping pro-environmental behaviour. Nonetheless, gaps still exist in understanding how these values influence consumer behaviour within specific socio-economic, cultural, and policy contexts, such as Malaysia. This study addresses the gap by exploring the relationship between value orientations and consumer behaviour regarding reusable bags.

Methodology

The study employed a quantitative methodology using a structured questionnaire available in both Malay and English. The survey included items using a five-point Likert scale, adapted from previously validated instruments (Muposhi, Mpinganjira, & Wait, 2021; Abdullah, Abdul Rahman, & Mohamed Zain, 2023). The constructs assessed included consumer behaviour, biospheric, altruistic and egoistic values.

Respondents were selected through purposive sampling, focusing on adult residents of Pasir Gudang, Johor, with a sample size of 230 respondents. This area was selected due to its industrial nature and high population density, which provides significant commercial activity relevant to environmental consumer behaviour. The majority of respondents, 83%, were aged between 18 and 29 years old, with a high proportion of females, at 73.5% of the respondents. The survey was distributed online and conducted physically in commercial areas to ensure demographic diversity.

Data analysis included descriptive statistics, reliability assessments by Cronbach's alpha, and Pearson correlation analyses, all conducted using SPSS version 26. All primary constructs showed satisfactory reliability as indicated by Cronbach's alpha values above 0.7. Correlation analyses were conducted to examine whether environmental values significantly predict environmental consumer behaviours related to the use of reusable bags.

Results

This study provides empirical evidence of the relationship between environmental values and pro-environmental consumer behaviour, particularly regarding the use of reusable shopping bags among residents of Pasir Gudang, Johor. Out of the total 230 respondents ($n = 230$), demographic analysis revealed that a significant portion of participants were young adults aged 18 to 29 years, comprising 83% of the sample, with the majority being female, accounting for 73.5% of the respondents. In addition, the demographic was predominantly Malay (94.3% of participants), with a clear majority stating that they shop every two weeks.

Table 1: Pearson Correlation between Environmental Value and Reusable Shopping Bag Usage

| Variables | Correlation (r-value) | Significance (p-value) | Interpretation |
|-----------------------------------|-----------------------|------------------------|---|
| Biospheric and Consumer Behaviour | 0.747 | <0.01 | Significant relationship with strong positive correlation |
| Altruistic and Consumer Behaviour | 0.751 | <0.01 | Significant relationship with moderate positive correlation |
| Egoistic and Consumer Behaviour | 0.320 | <0.01 | Significant relationship with weak positive correlation |

The strength and direction of the relationship between the different environmental value orientations and consumer behaviour in reusable shopping bag usage were assessed using the Pearson correlation analysis. As shown in Table 1, the results indicated a statistically significant positive relationship between biospheric values and the use of reusable shopping bags ($r = 0.747$, $p < 0.01$). This indicates that individuals prioritising environmental protection are more likely to adopt practices that reduce plastic waste, such as using their own bags when shopping. Similarly, the results showed a significant correlation between altruistic values and sustainable shopping behaviour ($r = 0.751$, $p < 0.01$). This implies that an individual's concern for the well-being of others and future generations positively serves as a meaningful driver of their environmentally conscious consumption choices.

Moreover, egoistic values showed a minimal and statistically significant association with consumer behaviour ($r = 0.320$, $p < 0.01$), reflecting limited predictive capacity. This finding indicates that individuals motivated primarily by self-interested factors, such as convenience or personal benefit, are less likely to adopt reusable bags. The lack of a meaningful correlation between egoistic values and environmentally friendly behaviour supports the idea that genuine concern for the environment or others is a stronger motivator for sustainable actions than self-serving motivations.

Overall, the findings of the study support its main hypotheses, underscoring the significance of biospheric and altruistic values in fostering pro-environmental behaviour. These results are consistent with the value-belief-norm theory, which posits that personal values, particularly those related to environmental issues and community welfare, play a crucial role in influencing pro-environmental actions.

Discussion

This study provides empirical evidence supporting the core principle of the Value-Belief-Norm (VBN) theory, indicating that pro-environmental behaviour is significantly shaped by individuals' internalised values, beliefs, and moral obligations. The notable positive correlation between biospheric and altruistic values and the utilisation of reusable shopping bags highlights the essential influence of intrinsic value systems in driving sustainable consumption behaviours.

Biospheric values, which indicate a profound concern for the natural environment, significantly predict environmentally responsible behaviour. This is consistent with earlier studies (de Groot & Steg, 2008; Steg et al., 2014) and supports the notion that individuals who emphasise biospheric wellbeing are more inclined to adopt environmental norms, which then manifest in

daily behaviours, such as opting for reusable bags instead of single-use plastic options. The internalisation of these norms demonstrates a moral commitment based on environmental beliefs, suggesting that these behaviours are influenced not solely by external incentives but also by a sense of ethical responsibility.

The study emphasises that biospheric values affect both behavioural intentions and perceptions, especially about the convenience and cost-effectiveness of sustainable alternatives. Individuals with elevated biospheric values regarded reusable bags as both practical and effective, indicating that environmental values can influence the assessment of sustainable alternatives (Tan & Ota, 2024). This perceptual shift is essential, as it diminishes psychological barriers to adoption and enables a more seamless transition to sustainable lifestyles.

Altruistic values significantly influence consumption decisions. Individuals motivated by altruism and collective welfare are more likely to perceive environmentally sustainable behaviours as expressions of social responsibility (Piao & Managi, 2025). Using reusable bags serves as both an ecological measure and a moral stance, reflecting alignment with broader societal and environmental objectives (Yulianti et al., 2023). The findings align with existing literature indicating that altruistic motivations strengthen the sense of obligation to mitigate harm to others, particularly future generations and vulnerable communities impacted by environmental degradation.

The implications for retailers and policymakers are significant. From a behavioural perspective, marketing campaigns and public awareness initiatives that engage biospheric and altruistic values may prove more effective than those that rely exclusively on economic or regulatory incentives (Perera, Kalantari, & Johnson, 2022; Nguyen et al., 2023). Framing reusable bags as an expression of concern for environmental and community health can foster moral engagement, thereby increasing the likelihood of sustained behavioural change. Retailers that align their branding with these values by promoting reusable bags as symbols of environmental stewardship can enhance consumer loyalty and engagement (Bollinger & Karmarkar, 2015; Dunn, 2012).

For theoretical implications, these findings support the VBN theory, suggesting that biospheric and altruistic values encourage personal norms that promote pro-environmental behaviour. However, the limited impact of egoistic values suggests that, in the Malaysian context, self-interest may have a constrained role in promoting sustainability. This limitation could be due to inadequate financial incentives or a cultural emphasis on communal well-being.

This study enhances the understanding of the influence of value-based frameworks on sustainable behaviour and offers practical insights for developing interventions that leverage individuals' intrinsic motivations. Incorporating biospheric and altruistic values into behavioural change strategies is promising for fostering more resilient and lasting pro-environmental habits in daily life.

Conclusion

Value-Belief-Norm (VBN) theory is important in explaining pro-environmental behaviour, especially in the context of reusable shopping bags. The results show that people with strong biospheric and altruistic values have a significantly higher propensity towards sustainable consumer behaviour. The intrinsic values analysed are essential for shaping personal norms

and perceptions of environmental responsibility, convenience and cost-effectiveness, which are crucial for promoting pro-environmental behaviour. Biospheric values significantly influence ethical responsibility towards the environment, emphasising their crucial role in promoting sustainable practices. Altruistic motivations are a solid foundation for enhancing collective environmental awareness and encouraging consumer participation in sustainability initiatives.

The findings of this study provide important insights for policymakers, educators, and business leaders seeking to promote a culture of sustainability through values-based strategies and targeted behavioural interventions. Most importantly, policymakers should emphasise integrating environmental values education into national curricula. In addition, it is important to support public awareness campaigns that emphasise the ethical and community benefits of sustainable practices. Promoting sustainability can be effectively achieved by incentivising reusable shopping bags through regulations or subsidies.

However, the study does have some limitations. The study is limited in scope, as it only covers one urban locality, which limits the generalizability of the findings to other areas with different demographic backgrounds. Additionally, the study focused solely on environmental values, while other factors, such as family or peer influence, cost, and convenience, were not examined. These factors could provide further insight into the reasons for using reusable shopping bags. Therefore, future research could address these limitations by expanding the study area and incorporating additional factors.

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