

SUSTAINABLE CONSUMPTION BEHAVIOUR AMONG MALAYSIAN MUSLIMS: INTEGRATING VBN THEORY AND ISLAMIC VALUES

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Abstract. This study investigates the interplay between psychographic dimensions, specifically values, beliefs, and norms, in relation to sustainable consumption behavior (SCB) among Muslim consumers in Malaysia. The research uses a quantitative methodology to evaluate the relationship between the Values-Beliefs-Norms (VBN) Theory and sustainable consumption practices. Furthermore, an exploratory approach is employed to elucidate the influence of these psychographic factors on SCB. A questionnaire, meticulously developed through a prior research framework, which underwent a thorough adaptation process, was subsequently evaluated by industry professionals and esteemed scholars. The results reveal a significant positive effect of Islamic values on the New Environmental Paradigm (NEP). Furthermore, both biospheric and egoistic values showed strong correlations with the NEP. This study's findings are of great importance, providing essential insights for various organizations, especially Islamic institutions and marketers, in formulating strategic plans that align with Sustainable Development Goal 12 (SDG 12). By incorporating Islamic values into the VBN Theory, this research presents important perspectives on the relationship between values, beliefs, norms, and sustainable consumption behavior among Muslim consumers in Malaysia.

Keywords: *sustainable consumption, VBN, Islamic values, sustainability*

Introduction

The global community is experiencing significant ecological disasters, largely driven by rapid population growth in emerging economies, that threaten the biosphere. This surge in population markedly amplifies human activities. Consequently, it is widely acknowledged that these actions adversely affect the three fundamental pillars of sustainability: economic, environmental, and social. Among the various factors influencing human environmental impacts, consumption has become a central concern. Over the past thirty years, researchers and professionals have become increasingly interested in sustainable consumption and production, as these concepts are vital to achieving the shared prosperity vision laid out in the SDGs (Vargas-Merino et.al, 2023). Scholars also agree that the existing consumption pattern is unsustainable for the global ecosystem (Vargas-Merino et al., 2023; Baden and Frei, 2022). From an Islamic perspective, consumption is regarded as a beneficial activity that enhances human well-being (Furqani, 2017). Islam perceives consumption as linked to ethical values and commendable goals, not merely as a way to fulfill personal cravings. In 2015, Islamic leaders called on the 1.6 billion Muslims worldwide to actively combat climate change, alongside the Islamic Declaration on Global Climate Change that took place that same

year in Istanbul. Nonetheless, earlier research often overlooked the impact of specific psychological factors, such as religiosity, on this behavior (Kumar et al., 2025). As most SCB studies have focused on developed countries, specific traits may be over-represented in this corpus of literature, revealing a related gap (Mukhtar et al., 2026). This research explores the impact of religiosity, particularly within Islam, on sustainable consumption habits among Muslim consumers in Malaysia, highlighting the importance of understanding this psychological influence. Notably, Malaysia is a predominantly Islamic country, with about 61.4% of the population being Muslim, comprised of 50.4% Malays and 11% from other ethnic groups (Statistica, 2019). Thus, this study seeks to elucidate the impact of religiosity on sustainable consumption, particularly within Islam.

Literature review

The meaning of sustainable consumption

Everyday consumption significantly affects the environment. Human activities, such as the generation of solid waste and recycling, pose risks to our surroundings. Without changes in consumer lifestyles, individuals will hinder efforts to enhance the quality of life. In recent decades, promoting environmentally sustainable consumer behavior has gained importance in the marketplace and academic discussions (Dong et al., 2020). Sustainable consumption is closely related to several concepts, including ecologically responsible behavior, environmentally friendly practices, ethical consumption, green consumption, pro-environmental actions, and responsible consumption practices (Wang et.al, 2020; Kiatkawsin and Han, 2017). It typically refers to the use of resources and energy, whether by consumers or in the creation of products and services, in ways that foster sustainability and safeguard the well-being of future generations.

Theoretical foundation

The Values, Beliefs, and Norms (VBN) theory outlines a causal chain that progresses from general values and beliefs to specific behavioral beliefs, then to norms, and ultimately results in behavior itself. This theory posits that general values relate to a person's environmental concerns, which are articulated through the new ecological paradigm (NEP). Consequently, individuals' values reflect their perceptions of their relationship with the environment. Stern and colleagues (Stern, 2000) identified three distinct value orientations: egoistic (values aimed at optimizing personal outcomes), altruistic (values showing concern for others' welfare), and biospheric (values prioritizing the environment and biosphere). Furthermore, this study incorporates Islamic values into the framework to assess how religiosity influences sustainable consumption. The research framework for the current study is presented below.

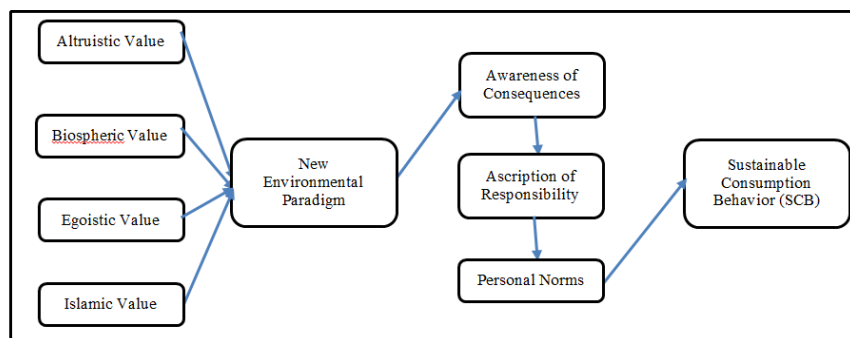


Figure 1. Research framework.

Consequently, the study tests the following hypotheses: (H1a): Altruistic values positively affect NEP; (H1b): Biospheric values positively affect NEP; (H1c): Egoistic values positively affect NEP; (H1d): Islamic values positively affect NEP. NEP in the VBN chain denotes general views regarding the connection between humans and the natural world (Stern, 2000). Research indicates that individuals with less emphasis on egoistic values, and a stronger focus on altruistic and biospheric values, are generally more receptive to NEP. Consequently, this study aimed to test the following hypothesis: (H2): NEP positively affects awareness of consequences. As a next step, Awareness of consequences (AC) refers to a person's conviction that environmental factors pose a risk to personal values (Sawitri et.al, 2015). The VBN framework indicates that individuals who are more environmentally conscious will have a greater awareness of the environmental consequences of their actions. Hence, the following hypothesis was tested in this study: (H3): AC positively affects the ascription of responsibility Increased awareness of these consequences leads individuals to take more responsibility for environmental issues. Ascription of Responsibility (AR) refers to an individual's belief that they bear significant (Stern et.al, 1999) responsibility for the consequences of their behavior. This study defines AR as a person's belief in their responsibility for the outcomes of engaging in sustainable consumption practices, which will trigger personal motivation norms. As such, the following hypothesis was tested: (H4): AR positively affects personal norms. Finally, moral obligation is believed to be positively associated with the readiness to participate in pro-environmental activities behavior. Personal norms (PN) refer to innate feelings of obligation that initiate the requirement to change one's behavior (Choi et.al, 2015). Therefore, the following hypothesis was tested: (H5): PN positively impacts sustainable consumption behavior among Muslims consumers in Malaysia.

Materials and Methods

Research design

This research employed a deductive, quantitative approach to investigate sustainable consumption patterns among Muslim consumers in Malaysia. Cross-sectional data were collected, and the causal-predictive analysis method, PLS-SEM, was applied to evaluate all hypotheses. This research targeted the Muslim consumer population. Using G-Power 3.1, the sample size was determined with a power of 0.95 and an effect size of 0.15. Accordingly, the minimum necessary sample size was established at 98 based on G-Power analysis. Furthermore, small samples (minimum 30-50) are acceptable in PLS.

This study achieved the required sample size with 109 participants. We utilized a convenience sampling method by incorporating a qualifying question in the survey and obtaining consent from respondents. Data were collected online through Microsoft Forms from December 2024 to January 2025. Additionally, a well-organized questionnaire acted as the survey tool for this study. We made minor adjustments to all items from prior research to ensure their relevance to the participants.

Data analysis

This research utilized different analyses to assess the validity and reliability of the data. Initially, this study employed factor loading, average variance extracted (AVE), and composite reliability to evaluate the convergent validity. As noted by Hair et.al, (2019), a factor loading greater than 0.5 is deemed statistically significant because it indicates that the factor captures enough variance from the variable, thereby supporting convergent validity. An AVE of at least 0.5 is necessary. A high AVE suggests that the items account for a significant part of the variance in the latent construct. This demonstrates a solid link between the items and the intended concept, fostering trust in the measurement model's accuracy and reliability (Hair et.al, 2019). In contrast, composite reliability functions as an alternative means to assess internal consistency. This method appraises the reliability of the latent construct by considering both factor loadings and error variances in the model. A composite reliability greater than 0.7 is regarded as acceptable and reliable. This study utilized a second-generation data analysis method, PLS-SEM, to explore the relationship between independent and dependent variables. PLS-SEM is an effective statistical technique that enables researchers to understand how various factors interact and influence one another. As a subset of SEM, it is particularly advantageous when working with small sample sizes. Therefore, it is ideal for exploratory research aimed at theoretical development, especially when modeling non-normal data or examining relationships between latent and observable variables (Hair et al., 2019).

Results and Discussion

Demographic results

Table 1 presents the demographic characteristics of the respondents, with a total of 109 responses gathered. More than half of the respondents are female (76.1%), while males constitute 23.8%. Regarding the generational cohorts of the respondents, 42.2% are from Generation X, followed by Millennials at 37.6%, and 20.2% from the Baby Boomers group. Additionally, 34.9% of respondents hold a Bachelor's Degree, followed by Master's Degrees at 22.9% and Diplomas at 20.2%. PhD holders constitute 11.9%, SPM/SPMV holders represent 6.4%, and the lowest representation comes from STPM/Matriculation/Foundation holders at 3.7%. Regarding the monthly income, over half of the respondents belong to the B40 group (B1 to B4). 28.4% of the respondents are employed in the government sector, while 27.5% work in the private sector. This is followed by retirees, who comprise 21.1%, self-employed individuals at 14.7%, and housewives at 6.4%. Respondents working in semi-government agencies represent only 1.8% of the total respondents. The results also reported that more than half of respondents reside in urban areas (69.7%), 29.4% live in sub-urban areas, and only 0.9% reside in rural areas. It also reported that 58.7% of the respondents had attended

the environmental-related seminar, and 41.3% had not attended the seminar. For environmental organization membership, the majority of the respondents (89.9%) do not join any environmental club or movement.

Table 1. Demographic profile.

Criteria	Category	Number (n)	Percentage (%)
Gender	Male	26	23.8%
	Female	83	76.1%
Year of Birth	1945 – 1964 (Baby Boomers)	22	20.2%
	1965 – 1985 (Generation X)	46	42.2%
	1986 – 2000 (Millennials)	41	37.6%
Education Level	STPM/Matriculation/Foundation	4	3.7%
	SPM/SPMV	7	6.4%
	Doctorate (PhD)	13	11.9%
	Diploma	22	20.2%
	Master's Degree	25	22.9%
Monthly Income	Bachelor's Degree	38	34.9%
	B1: Less than RM2,500	22	20.2%
	B2: RM2,501 – RM3,170	10	9.2%
	B3: RM3,171 – RM3,970	10	9.2%
	B4: RM3,971 – RM4,850	13	11.9%
	M1: RM4,851 – RM5,880	12	11.0%
	M2: RM5,881 – RM7,100	11	10.1%
	M3: RM7,101 – RM8,700	7	6.4%
	M4: RM8,701 – RM10,970	7	6.4%
	T1: RM10,971 – RM15,040	11	10.1%
	T2: More than RM15, 041	6	5.5%
Employment Status	Government Sector	31	28.4%
	Housewife	7	6.4%
	Private Sector	30	27.5%
	Retiree	23	21.1%
	Self-Employed	16	14.7%
	Semi-Government	2	1.8%
Residing Area	Rural	1	0.9%
	Sub-Urban	32	29.4%
	Urban	76	69.7%
Attended Environmental Related Seminar	No	45	41.3%
	Yes	64	58.7%
Environmental Organization Membership	No	98	89.9%
	Yes	11	10.1%

Measurement model

Following Hair et al. (2019), the reliability of the latent constructs in the study was assessed using Cronbach's alpha (CA), Dijkstra-Henseler's rho, and composite reliability (CR). Each construct's Cronbach's alpha values significantly exceed the 0.70 threshold, with the lowest value being 0.82. These results are presented in *Table 2*. Additionally, all Dijkstra-Henseler's rho values for the study constructs significantly exceed the threshold of 0.70, with the minimum value being 0.849 (Hair et.al, 2014). Moreover, CR values significantly exceeded the 0.70 threshold, with the minimum CR value recorded at 0.873 (Hair et al., 2014). To demonstrate sufficient convergent validity supporting the concept of uni-dimensionality for each construct, the average variance extracted (AVE) for all items must exceed a score of 0.50 (Hair et.al, 2019). The items show that constructs have adequate convergent validity (see *Table 2*). In conjunction with the AVE, the factor loading for each item reflects its statistical significance to a particular construct by analyzing the relationship between items and constructs in SmartPLS 4.0. *Table 2* demonstrates that the factor loading values exceed the suggested threshold of 0.70 (Hair et al., 2019), except for items NEP3 and NEP4, indicating a good convergence validity of the constructs. The model for further analysis excluded these two items because of their low factor loading. Additionally, to assess

discriminant validity, the correlation coefficient of constructs was analyzed by calculating the square root of each construct's AVE. *Table 3* demonstrates that the square root of each construct's AVE significantly exceeds its correlation coefficient with other constructs, confirming sufficient discriminant validity (Hair et al., 2019) (Fornell and Larcker, 1981).

Table 2. Reliability and validity.

Construct	Item	Factor Loading	Cronbach alpha (CA)	Dijkstra-Henese's rho (DG rho)	Composite reliability (CR)	Average variance extracted(AVE)
Altruistic Value	A1	0.742	0.825	0.849	0.942	0.734
	A2	0.727				
	A3	0.868				
	A4	0.892				
Biospheric Values	B1	0.790	0.878	0.893	0.916	0.733
	B2	0.854				
	B3	0.878				
	B4	0.898				
Egoistic Values	E1	0.802	0.828	0.885	0.894	0.739
	E2	0.902				
	E3	0.872				
Islamic Values	IV1	0.945	0.919	0.922	0.943	0.806
	IV2	0.894				
	IV3	0.843				
	IV4	0.905				
New Environmental Paradigm	NEP1	0.633	0.826	0.853	0.873	0.538
	NEP2	0.629				
	NEP3	0.473				
	NEP4	0.518				
	NEP5	0.653				
	NEP6	0.807				
	NEP7	0.787				
	NEP8	0.858				
Awareness of Consequences	AOC1	0.918	0.923	0.936	0.942	0.734
	AOC2	0.882				
	AOC3	0.934				
	AOC4	0.888				
	AOC5	0.877				
	AOC6	0.593				
Ascription Responsibility	AR1	0.871	0.923	0.927	0.942	0.766
	AR2	0.919				
	AR3	0.779				
	AR4	0.899				
	AR5	0.900				
Personal Norms	PN1	0.865	0.953	0.955	0.961	0.754
	PN2	0.918				
	PN3	0.902				
	PN4	0.820				
	PN5	0.773				
	PN6	0.894				
	PN7	0.907				
	PN8	0.858				
SCB	SCB1	0.815	0.939	0.936	0.942	0.734
	SCB2	0.770				
	SCB3	0.848				
	SCB4	0.877				
	SCB5	0.930				
	SCB6	0.875				
	SCB7	0.873				

Table 3. Discriminant validity.

Constructs	AOC	AOR	Altruistic	Biospheric	Egoistic	Islamic	NEP	PN	SCB
AOC	0.857								
AOR	0.804	0.875							
Altruistic	0.660	0.607	0.810						
Biospheric	0.669	0.672	0.660	0.856					
Egoistic	0.215	0.104	0.120	0.138	0.860				

Islamic	0.620	0.590	0.537	0.669	0.194	0.898			
NEP	0.755	0.742	0.524	0.664	0.142	0.620	0.734		
PN	0.697	0.847	0.581	0.682	0.100	0.583	0.666	0.868	
SCB	0.473	0.529	0.409	0.661	0.140	0.408	0.493	0.611	0.857

Hypothesis testing

Table 4 displays the outcomes of the PLS-SEM path hypotheses evaluated using SmartPLS 4.0. All proposed paths are significant ($p < 0.001$) based on bootstrapping conducted in SmartPLS 4.0, indicating that the proposed model is compelling and convincing, except for H1a and H2. Specifically, the NEP is positively influenced by biospheric values, egoistic values, and Islamic values, verifying H1b, H1c, and H1d. Awareness of consequences positively impacts ascription responsibility; therefore, H3 is also confirmed. Additionally, ascription responsibility positively influences personal norms, confirming H4. The findings also indicate that personal norms positively affect sustainable consumption behavior among Muslim consumers in Malaysia; hence, H5 is also confirmed.

Table 4. Hypothesis testing results.

Hypothesis	Path	Coefficients	P-values	Decision
H1a	Altruistic -> NEP	0.107	0.136	Not Supported
H1b	Biosphere -> NEP	0.805	0.000	Supported
H1c	Egoistic -> NEP	0.847	0.000	Supported
H1d	Islamic -> NEP	0.396	0.000	Supported
H2	NEP -> Awareness of Consequences	0.028	0.395	Not Supported
H3	Awareness of Consequences -> Ascription of Responsibility	0.286	0.002	Supported
H4	Ascription of Responsibility -> Personal Norms	0.759	0.000	Supported
H5	Personal Norms -> Sustainable Consumption Behavior	0.602	0.000	Supported

Conclusion

This study extends the Value-Belief-Norm (VBN) theory by incorporating Islamic values to explain sustainable consumption behavior among Muslim consumers in Malaysia. The findings indicate that biospheric, egoistic, and Islamic values significantly influence the New Environmental Paradigm (NEP), whereas altruistic values do not. The positive effect of biospheric values is consistent with the original VBN theory, reaffirming that concern for nature promotes pro-environmental beliefs. More importantly, the significant role of Islamic values highlights the importance of religious teachings such as stewardship (khalifah), moderation (wasatiyyah), and accountability in shaping environmental worldviews, thereby extending the applicability of VBN theory within a religious context. Interestingly, egoistic values were found to positively influence NEP, contradicting the traditional VBN assumption that self-interest weakens environmental concern. This finding suggests that sustainability may also be motivated by perceived personal benefits, including health, financial well-being, and quality of life, while the non-significant effect of altruistic values implies that environmental beliefs among Malaysian Muslim consumers may be driven more strongly by religious and ecological considerations than by general concern for others.

The study further revealed that NEP did not significantly influence awareness of consequences, suggesting a gap between environmental beliefs and the recognition of the environmental impacts of everyday consumption practices. Nevertheless, the remaining VBN causal chain was supported, with awareness of consequences significantly influencing the ascription of responsibility, which in turn strengthened

personal norms. Consistent with previous VBN studies, personal norms emerged as a significant predictor of sustainable consumption behavior, underscoring the crucial role of moral obligation in translating environmental concern into action. Overall, the findings confirm the relevance of VBN theory for explaining sustainable consumption behavior and demonstrate the value of integrating religious dimensions into environmental behavior models. The study suggests that sustainability initiatives targeting Muslim consumers should move beyond purely rational appeals and instead emphasize Islamic environmental ethics, moral responsibility, stewardship, and moderation to encourage more sustainable consumption practices and support the achievement of Sustainable Development Goal 12 (Responsible Consumption and Production).

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Conflict of interest

The authors declare no conflicts of interest related to this research study.

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