NAVIGATING GREEN CONSUMER BEHAVIOR: INSIGHTS FROM SLOVENIAN CONSUMERS ON ENVIRONMENTALLY SUSTAINABLE PRODUCT PURCHASE INTENTION

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Utilizing the theory of planned behavior, our study focuses on environmental concern, environmental knowledge, attitude toward environmentally sustainable products, subjective norms, and perceived behavioral control as predictors of environmentally sustainable product purchase intention among Slovenian consumers. Previous studies have consistently demonstrated the theory's effectiveness in predicting and explaining voluntary behavior variances. Data were collected through an online questionnaire, and analyses were conducted using scales adopted from prior studies. Confirmatory factor analysis and covariance-based SEM (CB-SEM) were deployed to assess construct validity and reliability, and to test proposed hypotheses. Results indicate that environmental knowledge, attitude toward environmentally sustainable products, subjective norms, and perceived behavioral control positively influence environmentally sustainable product purchase intention. Notably, subjective norms exert the strongest influence, followed by environmental knowledge, perceived behavioral control, and attitude, with environmental concern having no impact. The study's implications lie in offering actionable recommendations for marketing managers to develop effective strategies for environmentally sustainable products. By addressing factors influencing environmentally sustainable product purchase intention, marketers can expedite environmentally sustainable consumerism, contributing to the resolution of environmental issues. Overall, the findings provide valuable insights to guide marketing strategies promoting sustainable practices.

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1 Introduction

Rapid economic growth and excessive consumption have led to environmental degradation worldwide, raising concerns about consumption-related issues (Taufique & Vaithianathan, 2018). Environmentally sustainable consumption is therefore crucial for sustainable development, as it involves using products and services that meet basic needs while minimizing resource consumption and pollution throughout their entire life cycle (Maichum et al., 2016; Wu & Chen, 2014). However, the adoption, purchase, and consumption of environmentally sustainable products remains low, with even established products having limited market share (Bonini & Oppenheim, 2008; Lim et al., 2013). Consumers typically prioritize product features that enhance their immediate utility, while environmentally sustainable products bring long-term benefits to society as a whole (Gan et al., 2008; Kim & Choi, 2005). Addressing environmental degradation, therefore, requires a better understanding of the factors influencing the decision to purchase environmentally sustainable products (Taufique & Vaithianathan, 2018). Thus, this research aims to enhance knowledge of consumer values that can improve the effectiveness of environmentally sustainable marketing strategies (Lee, 2017).

2 Literature review

Theory of Planned Behavior

Our research is based on the Theory of Planned Behavior, commonly employed in studies of environmentally sustainable behavior (Lee, 2017), as it effectively predicts and explains voluntary behavior and examines the relationships between values, beliefs, attitudes, intentions, and actions (Chekima et al., 2016). The Theory of Planned Behavior suggests that behavioral intention, influenced by attitude, subjective norms, and perceived behavioral control, is the primary predictor of human behavior (Ajzen, 1991; Sreen et al., 2018). While the theory acknowledges these three aforementioned factors, it suggests enhancing its predictive power by integrating new constructs, which Yadav and Pathak (2016) have proved by incorporating environmental knowledge and concern in the model. Similarly, Mostafa (2006) found that including environmental factors increases the explanatory power of intention to purchase environmentally sustainable products. Therefore, environmental knowledge and environmental concern were incorporated in our research.

Environmental concern

Environmental concern refers to an individual's awareness of environmental issues, support for addressing them, and willingness to contribute personally to them (Paul et al., 2016). Khaola et al. (2014) define it as the recognition that environmental degradation results from resource overexploitation and human pollution. Lasuin and Ng (2014) discovered a significant, direct link between environmental concerns among Malaysian university students and their intention to buy environmentally sustainable products. Mostafa (2006) reported similar findings in Egypt, and Maichum et al. (2016) in Thailand, while Kim and Choi (2005) observed a direct positive impact of environmental concern on sustainable purchasing behavior. Yadav and Pathak (2016) concluded that environmental concern has the greatest influence on intention. According to that we hypothesize:

H1: Environmental concern positively influences the intention to purchase environmentally sustainable products.

Environmental knowledge

Environmental knowledge encompasses an individual's familiarity with environmental issues and their knowledge of facts, concepts, and relationships concerning the natural environment and its ecosystems (Mostafa, 2006). Mei et al. (2012) define it as the level of knowledge that significantly influences decisionmaking processes. Chan and Lau's (2000) study of Chinese consumers revealed a positive correlation between environmental knowledge and the intention to purchase environmentally sustainable products, a result corroborated by Lee (2017) in a study among Korean and Chinese consumers. Further studies also suggest that environmental knowledge positively influences the intention to buy sustainable products among Egyptian and Malaysian consumers (Mei et al., 2012; Mostafa, 2006). Hence, we set H2:

H2: Environmental knowledge positively influences the intention to purchase environmentally sustainable products.

Attitude toward environmentally sustainable products

Attitude toward purchasing environmentally sustainable products reflects an individual's favorable or unfavorable evaluation of that behavior (Ajzen, 1991). It's shaped by behavioral beliefs about the consequences of the behavior in question and the individual's positive or negative assessment of those consequences (Yadav & Pathak, 2017). Several authors found that consumer attitudes toward purchasing environmentally sustainable products positively influence their intention to buy them (Chan, 2001; Mostafa, 2006; Naalchi Kashi, 2020). Kumar et al. (2021) identified a positive attitude among Indian consumers toward environmentally sustainable clothing as a key factor driving purchase intentions. Anvar and Venter (2014) also noted a positive link between attitude and purchase behavior in South Africa, suggesting that consumers with more positive attitudes are more likely to buy environmentally sustainable products than those with negative attitudes. According to that, we propose the following:

H3: Attitude toward environmentally sustainable products positively influences the intention to purchase environmentally sustainable products.

Subjective norms

Subjective norms reflect the opinions of people who are important to the individual and how they influence their decision-making processes (Yadav & Pathak, 2016). Normative beliefs, or perceptions of others' expectations, and motivation for compliance, or an individual's desire to align with the opinions of others drive subjective norms (Yadav & Pathak, 2017). Kumar and Ghodeswar (2015) and Kumar et al. (2021) found a significant positive impact of subjective norms on environmentally sustainable purchasing behavior. Mei et al. (2012) noted that peer pressure or guilt from not conforming to others' actions can lead to behavioral shifts and intentions to purchase sustainable products. However, Paul et al. (2016) found subjective norms to be the weakest link in the intention-to-purchase model. According to that, we propose:

H4: Subjective norms positively influence the intention to purchase environmentally sustainable products.

Perceived behavioral control

Perceived behavioral control refers to an individual's perception of the ease or difficulty of performing a specific behavior (Ajzen, 1991). Control beliefs, rooted in past experiences, shape perceived control power, which evaluates the impact of facilitating or hindering factors on behavior (Wu & Chen, 2014; Yadav & Pathak, 2017). Paul et al. (2016), Ruangkanjanases et al. (2020), and Mostafa (2006) found that perceived behavioral control positively influences consumers' intentions to purchase environmentally sustainable products. Taufique and Vaithianathan (2018) explored perceived consumer effectiveness among young consumers, finding it to be the most significant influencing factor on environmentally sustainable behavior, with both direct and indirect effects. Additionally, Ellen et al. (1991) identified perceived consumer effectiveness as a significant predictor of environmentally sustainable behaviors such as purchasing, recycling, and supporting environmental groups. Hence, we hypothesize:

H5: Perceived behavioral control positively influences the intention to purchase environmentally sustainable products.

3 Methodology

We adapted the scales for measuring selected factors based on previous research studies. Environmental knowledge and environmental concern were assessed using adapted scales deployed by Mostafa (2006), Chen and Chai (2010), Maichum et al. (2016), and Lee (2017). Attitude toward environmentally sustainable products, subjective norms, perceived behavioral control, and purchase intention were measured using scales adopted from the research of Straughan and Roberts (1999), Mostafa (2006), Wu and Chen (2014), Couto et al. (2016), Maichum et al. (2016), Arli et al. (2018) and Sreen et al. (2018). Five-point Likert scale type scales from 1 – completely disagree to 5 – completely agree were used to measure the response.

Data collection and sample

An online survey questionnaire was developed, and distributed via Facebook. Data was collected on a final convenient sample of 216 respondents.

Among the respondents, 34% were male and 66% were female. The majority of respondents fell into the 18 to 26 age group (58.8%), followed by 27 to 35 (15.7%), 46 to 55 (12.5%), 36 to 45 (6.5%), and 56 and above (6.5%). Regarding education level, 47.2% had completed a higher vocational or university program, while 35.2% had secondary education. Additionally, 8.3% had lower or middle vocational education, and the same percentage held a master's or doctoral degree. Only 0.9% had primary or incomplete primary education.

Validity and reliability of the scales

Covariance-based SEM with AMOS 29.0 was used to assess the validity and reliability of the scales and to test the proposed hypotheses. During the validation of the measurement model, certain items were excluded from the analysis to address concerns related to convergent and discriminant validity. As a result, the final model comprised 19 indicators distributed across seven latent variables. According to the results of the confirmatory factor analysis, environmental concern was conceptualized as a two-factor construct, namely environmental concern and environmental unconcern.

The evaluation of the measurement model encompassed various indices, including the chi-square statistic (χ^2), root mean square error of approximation (RMSEA), goodness of fit index (GFI), comparative fit index (CFI), normed fit index (NFI), and Tucker-Lewis index (TLI). Adhering to established criteria suggested by influential researchers in the field (Byrne, 1994; Hu & Bentler, 1999; MacCallum et al., 1996), the model's adequacy was assessed against specific cutoff values: RMSEA below 0.08, GFI exceeding 0.90, CFI surpassing 0.90, TLI exceeding 0.90, and IFI surpassing 0.90. Although χ^2 was non-significant, which is quite common with such a low sample size (Bollen, 1989), a χ^2 /df ratio of 1.55 shows an appropriate fit. Also, other fit indices were within suggested boundaries: GFI = .917, CFI = .959, TLI = .946, IFI = .959, RMSEA = .051.

The indicator loadings ranged from .559 to .926, with all but one item surpassing the recommended threshold of 0.6. Average variance extracted (AVE) values, ranging between .426 and .698, were close to the proposed threshold of 0.5. Only subjective norms and environmental attitude AVEs were slightly below 0.5. Still, composite reliabilities of these constructs were higher than 0.6, meaning that we could establish

convergent validity across all constructs (Fornell & Larcker, 1981). Composite reliabilities, spanning from .652 to .902, fell within the suggested intervals (above 0.6), confirming the reliability of the scales.

Table 1: Composite reliabilities (CR), average variance extracted, correlations between latent
variables, and Fornell and Larcker's test

	CR	AVE	1	2	3	4	5	6	7
1. Environmental knowledge	0,850	0,660	0,812						
2. Perceived behavioral control	0,737	0,603	0,279**	0,777					
3. Subjective norms	0,689	0,426	0,353***	0,291**	0,653				
4. Attitude toward environmentally sustainable products	0,652	0,486	0,412***	0,429**	0,570***	0,697			
5. Environmental concern	0,856	0,666	0,319***	0,073	0,309**	0,341***	0,816		
6. Environmental unconcern	0,660	0,493	-0,131	-0,138	-0,021	-0,183†	- 0,459***	0,702	
7. Purchase intention	0,902	0,698	0,530***	0,472***	0,605***	0,601***	0,315***	-0,245**	0,835

Significance of correlations: † p < 0.100, * p < 0.050, ** p < 0.010, *** p < 0.001

4 Results

The fit indices of the structural model, constructed in accordance with proposed hypotheses, yielded appropriate results, suggesting a satisfactory alignment between the hypothesized model and the observed data. The chi-square test (χ^2) value of 204.23 with 131 degrees of freedom reflects a significant but potentially acceptable discrepancy given the sensitivity of this index to sample size. The GFI index reached .917, while the NFI and IFI both were close to or over the .90 threshold at .894 and .959, respectively. Additionally, the TLI and CFI indices achieved values of .946 and .959, demonstrating substantial improvement over null and baseline models. The RMSEA was notably low at 0.051, confirming the model's adequacy in representing the observed data.

Hypotheses and impacts	Path coefficients	Significance
H1: Environmental concern -> Purchase intention	027	n.s.
H1: Environmental unconcern -> Purchase intention	154	p<.1
H2: Environmental knowledge -> Purchase intention	.261	p<.001
H3: Attitude toward environmentally sustainable products -> Purchase intention	.189	p<.1
H4: Subjective norms -> Purchase intention	.353	p<.001
H5: Perceived behavioral control -> Purchase intention	.196	p<.01

Table X: Hypotheses and impacts

Environmental concern does not statistically impact purchase intention in this model, while environmental unconcern exhibits a negative and significant impact of -.154 (p < 0.1). The result suggests that individuals less concerned about environmental issues are more likely to have reduced intentions to make environmentally sustainable purchases, therefore H1 could not be supported.

Environmental knowledge has a significantly positive path coefficient of 0.261 (p < 0.001), suggesting that as individuals' environmental knowledge increases, their purchase intention also tends to rise. Attitude toward environmentally sustainable products demonstrates a positive path coefficient of .189 (p < 0.1). While the relationship is statistically significant at a lower level of probability, it still suggests that purchase intention increases as individuals' environmental attitude improves. Subjective norms play a notable role in shaping purchase intention, as evidenced by a positive and significant path coefficient of .353 (p < 0.001). Perceived behavioral control exhibits a similar pattern with a significant positive path coefficient of .196 (p < 0.01). This indicates that an increase in an individual's perceived behavioral control is associated with a higher purchase intention. These findings suggest that we can confirm hypotheses H2, H3, H4, and H5.

5 Discussion

The lack of a significant impact of environmental concern on environmentally sustainable product purchase intention may be surprising given the common assumption that individuals with higher environmental concern are more likely to engage in eco-friendly behaviors, including purchasing environmentally sustainable products. However, environmental unconcern may present a psychological distance between consumers and environmental issues. This distance can diminish the perceived relevance and importance of making environmentally sustainable choices, leading to a lower intention to purchase environmentally sustainable products.

The results of our study show that environmental knowledge is an important factor in the entire process of environmentally sustainable purchasing decisions, and the lack thereof often constitutes a barrier as early as in the initial phase of purchasing. Our findings further confirm the critical importance of raising awareness among consumers about environmentally sustainable products, their benefits, and environmentally sustainable alternatives available in every domain, as each choice significantly impacts the environment.

Our study suggests that consumers with a more positive attitude toward environmentally sustainable products will express a greater intention to purchase them. More insight into the desires and needs of consumers in this area will enable the development of products that meet environmental sustainability criteria and satisfy consumers' demands for quality, as they are unwilling to compromise in this area. The result also shows the importance of enhancing the reputation of environmentally sustainable products as solutions that genuinely contribute to addressing environmental issues.

The impact of subjective norms on purchase intention is the strongest in the model. This suggests that individuals may be more inclined to conform to these norms if there is a prevailing positive attitude toward purchasing environmentally sustainable products within one's social network. In the context of environmentally sustainable product purchases, individuals may feel compelled to align their behavior with what is socially expected or approved within their community or peer group. This desire for social approval and conformity can strongly influence their purchase intentions. Additionally, the desire to contribute to a more sustainable and responsible society can strongly influence the intention to choose environmentally sustainable products.

Perceived control over the behavior of purchasing environmentally sustainable products does not strongly influence the intention to make such purchases. This could be due to external barriers, lack of awareness, or other priorities that overshadow perceived control in the decision-making process. Respondents in our study perceive a reasonably strong control over implementing environmentally sustainable behavior. It seems their behavior is more significantly influenced by subjective norms.

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