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SUSTAINABLE CONSUMPTION BEHAVIOR AMONG GENERATION Z IN CROATIA: UNDERSTANDING ACTIONS AND ATTITUDES IN THE CONTEXT OF GLOBAL ECOLOGICAL CHALLENGES

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Abstract

Addressing growing environmental and economic pressures requires a better understanding of how younger consumers engage in sustainable consumption. This study examines sustainable consumption behavior among Generation Z in Croatia, focusing on the effects of unneeded consumption, saving orientation, and product reusability on environmentally sustainable behavior (ESB). A quantitative survey was conducted on a sample of 334 respondents, and the data were analyzed using confirmatory factor analysis and linear regression. The results reveal that unneeded consumption has no statistically significant effect on ESB, while saving orientation and product reusability positively influence pro-environmental behavior. These findings suggest that Croatian Gen Z consumers adopt sustainable practices primarily when they provide tangible economic or practical benefits. By integrating the Theory of Planned Behavior and the Value-Belief-Norm framework, the study contributes to understanding the role of economic pragmatism and moral motivation in shaping youth sustainability, offering context-specific insights for post-transition EU economies.

Keywords: *sustainable consumption, environmentally sustainable behavior, product reusability, unneeded consumption, saving orientation, Generation Z.*

JEL classification: *M31*

1. INTRODUCTION

In the contemporary era, humanity faces an array of profound challenges that impact the economy and business sectors. These challenges include environmental degradation, public health crises, demographic shifts, and other significant global issues. As these factors intertwine, they pose a complex influence on economic stability and business operations worldwide, necessitating a strategic response that aligns with sustainable development principles.

The United Nations' Sustainable Development Goals (SDGs) emphasize the urgent need to address global challenges, with almost half out of the 17 goals directly related to environmental sustainability. These goals call for a systemic transformation in resource consumption

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and production, highlighting the broader imperative of aligning economic growth with environmental stewardship (UN 2015). In this context, the European Union has embraced global sustainability initiatives. The European Green Deal, which sets ambitious targets for climate neutrality by 2050, underscores the importance of creating a framework that supports a sustainable transition across all member states, aligning with the UN SDGs on environmental sustainability and beyond (European Commision 2024). Croatia, as an EU member, has implemented a range of sustainability measures aligned with EU and UN initiatives, focusing on renewable energy, energy efficiency, and waste management, while also enhancing sustainable across all sectors of economy to mitigate climate change (Knez, Štrbac, and Podbregar 2022).

To achieve the ambitious goals set forth by the UN and the EU, it is imperative that all segments of society, including the economy, public institutions, and the general population, actively participate in sustainability efforts. Engaging a broad spectrum of stakeholders, from businesses to individuals, is essential for fostering a culture of sustainability that supports long-term environmental and economic resilience. The involvement of young consumers is particularly crucial, as their choices and behaviors can significantly influence the success of sustainability initiatives (Aceleanu et al. 2015; Gajović et al. 2023; Tewari et al. 2022). This influence is particularly salient given that younger generations of consumers have the potential to shape the pro-environmental behaviors of their peers and family members, thereby amplifying the impact of sustainability efforts across broader social networks (Muralidharan and Xue 2016).

Generation Z constitutes 40% of the global population (Andruszkiewicz et al. 2023), and as they increasingly enter the workforce and assume specialist, expert, and leadership roles within the business sector, they are poised to become a pivotal force in driving the global economy. Compared to previous generations, Generation Z's technological savviness makes them more inclined toward ethical consumerism, showing a stronger preference for green products and a deeper commitment to environmental sustainability (Djafarova and Foots 2022; Francis and Hoefel 2018; Lavuri, Jusuf, and Gunardi 2021; Robichaud and Yu 2021). However, despite their stated environmental values, there is often a discrepancy between their expressed attitudes and actual behaviors regarding sustainability (Aschemann-Witzel and Niebuhr Aagaard 2014; Nguyen et al. 2018; Lisboa, Vitorino, and Antunes 2022), also observed when comparing Generation Z to older generations (Ham et al. 2022). Although many consumers express intentions to buy ethically or sustainably, only a small proportion translate these intentions into actual purchasing behavior (Campbell 1963; Weigel 1983). Research further suggests that the alignment between attitudes and behaviors is stronger when individuals hold specific attitudes toward engaging in particular environmentally friendly actions, such as recycling, rather than toward general environmental concerns (Gupta 2021). This attitude-behavior gap highlights the need for further research into strategies for promoting consistent eco-friendly behavior among young people, especially in today's challenging economic context where motivating sustainable consumption is crucial.

The objective of the research was to assess and explore sustainable consumption behaviors among young consumers. The analysis is based on a sample of 334 Generation Z consumers in Croatia. A regression analysis was conducted to determine the effect of three independent variables (unneeded consumption, saving orientation, and product reusability) on the dependent variable environmental sustainability behavior (ESB). These variables were measured using a four-dimensional Sustainable Consumption Behavior scale (Doğan, Bulut, and Kökalan 2015).

Given the importance of aligning Croatia's practices with the European Union's sustainability goals, understanding the sustainable consumption patterns of young consumes, Generation Z, is essential for shaping effective strategies (Fischer, Böhme, and Geiger 2017; Ziesemer, Hüttel, and Balderjahn 2021) at both national and EU levels. As this demographic group is poised to drive future economic trends, their consumption habits and the potential alignment, or discrepancy, between their attitudes and behaviors are critical areas of investigation.

2. THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESIS

2.1. The multi-faceted nature of sustainability and sustainable consumption among Generation Z

The concept of sustainability is broad and evolving, defined across various fields in ways that reflect its multi-dimensional nature. The most widely recognized definition, introduced by the Brundtland Report in 1987, emphasizes intergenerational equity in resource use, describing it as a development approach that meets current needs without compromising the ability of future generations to fulfill their own (Hajian and Kashani 2021). Sustainability is also viewed as a balance encompassing environmental, health-related,

ethical, and economic dimensions (Reisch, Eberle, and Lorek 2013).

Furthermore, the concept is increasingly approached through systems thinking, focusing on maintaining the resilience and health of ecological and social systems amid growing pressures from human activities (Olsson, Galaz, and Boonstra 2014). From a business perspective, sustainability involves practices that promote long-term economic growth while preserving natural resources and avoiding irreversible environmental damage, thereby aligning profitability with ethical responsibility (Rausch, Baier, and Wening 2021). These perspectives converge on a core principle: achieving development that harmonizes environmental, social, and economic goals to secure well-being now and in the future (Booi-Chen and Teck-Chai 2009), while also encompassing the continuous delivery of adaptable programs, interventions, and behaviors that maintain benefits over time (Moore, Mascarenhas, and Straus 2017).

When it comes to consumer behavior, sustainable practices involve consumption patterns that minimize negative environmental, social, and economic impacts while still satisfying personal needs and desires. According to Carrero et al. (2020), sustainable consumption includes purchasing environmentally friendly products, reducing consumption by simplifying lifestyles, and engaging in activism to promote societal change. Such behavior is influenced by intrinsic factors like personal values and ethics, as well as extrinsic factors such as social norms, available infrastructure, and economic incentives (Lisboa, Vitorino, and Antunes 2022), and it can also result from anti-consumption practices, where intentionally limiting or avoiding consumption reduces environmental impact (Ziesemer, Hüttel, and Balderjahn 2021).

Given the increasing societal emphasis on sustainability, it becomes important to understand how different consumer groups interpret and adopt sustainable consumption. Among them, Generation Z has emerged as a particularly influential cohort, both as current consumers and as future decision-makers shaping sustainability trends.

Generation Z, born roughly between the mid-1990s and early 2010s, is recognized as a cohort of digital natives who are highly informed about global issues and deeply aware of the importance of sustainability (Chen, Yan, and Liew 2023; Ewe and Tjiptono 2023). As tech-savvy individuals with constant access to digital platforms (Ninan, Roy, and Cheriyan 2020), they are particularly engaged with environmental and social issues through digital channels, which significantly shape their attitudes and expectations toward sustainability (Silveira et al. 2024). Their relationship with sustainability is driven by a mix of personal values, social influences, and growing demands for companies to adopt ethical practices. This is reflected in their support for brands that prioritize corporate social responsibility (CSR), with many actively rewarding such companies through their purchasing choices (Narayanan 2022; Wang et al. 2021). The consumer behavior of this cohort signals a shift toward more value-driven and ethical consumption patterns, influencing both market trends and societal norms (Bogueva and Marinova 2022).

While this generation expresses a strong preference for eco-friendly products and sustainable practices, factors such as convenience, cost, and the availability of green alternatives continue to pose significant barriers (Liang, Li, and Lei 2022; Ziesemer, Hüttel, and Balderjahn 2021). Research also indicates that many young consumers have a limited understanding of broader sustainability concepts like the circular economy, which restricts their ability to fully engage in sustainable consumption (Gazzola et al. 2020).

In Croatia, these global trends are similarly observed. Croatian Generation Z consumers are digitally savvy and active online (Perić, Mamula, and Delić 2020). While they acknowledge the significance of sustainability, they often view sustainability as a responsibility of those in leadership positions (Krstinić, Nižić, and Butković 2023). Financial constraints, limited information, and perceived inconveniences related to sustainable choices are among the significant barriers to sustainable consumption (Nikolić et al. 2022; Šebek, Sarajlić, and Jurković 2022), aligning with global research findings (Dąbrowski et al. 2022; Sheoran and Kumar 2020).

2.2. Theoretical framework and research hypotheses

The study of sustainable consumption behavior has drawn on multiple theoretical frameworks attempting to explain why individuals engage, or fail to engage, in environmentally responsible behavior. Among these, two complementary approaches have been particularly influential: the Theory of Planned Behavior (TPB) (Ajzen 1991) and the Value-Belief-Norm (VBN) theory (Stern 2000).

The TPB explains behavior through three key determinants: attitude toward the behavior, subjective norms, and perceived behavioral control. Together, these shape the individual's behavioral intention, which predicts actual behavior. The model has been extensively applied to sustainable consumption (Kara and Min 2024), as it accounts for rational and

volitional processes driving consumer decision-making. However, TPB has also been criticized for overlooking moral and normative motivations, which are key factors when analyzing behavior tied to environmental values (Harland, Staats, and Wilke 1999).

The VBN theory complements this limitation by embedding sustainability behavior in a moral and values-based process. It postulates a causal chain linking personal values (biospheric, altruistic, or egoistic) to environmental beliefs, awareness of consequences, and activation of personal norms that motivate pro-environmental actions (Stern 2000). Recent research further supports this perspective, showing that sustainability-related decisions among younger generations are primarily driven by internalized moral values and identity-based responsibility (Lopes et al. 2024), while the development of sustainability competencies and knowledge from diverse sources reinforces these values and strengthens pro-environmental attitudes (Cyfert et al. 2024).

Integrating TPB and VBN offers a comprehensive framework connecting cognitive–rational determinants (attitudes, perceived control) with moral–normative forces (values, personal norms). While TPB clarifies how individuals form intentions to act sustainably, VBN explains why they feel morally compelled to do so (Loo et al. 2023; Theocharis et al. 2025). The integration of these theories thus enhances explanatory power, capturing the complex mechanisms behind sustainability behavior among younger consumers.

Unneeded consumption and ESB. Unneeded consumption, characterized by impulsive or excessive purchasing, often contradicts sustainable behavior. The phenomenon is well-documented in studies highlighting the negative environmental impact of overconsumption. Consumers engaging in unneeded consumption prioritize immediate gratification over long-term sustainability, resulting in higher levels of waste and resource depletion (Klug and Niemand 2021). It reflects low perceived behavioral control within TPB and weak norm activation within VBN (Lopes et al. 2024). Research reveals that younger generations, particularly Generation Z, generally show lower tendencies toward unneeded consumption compared to older generations, as they are more attuned to sustainability concerns (Bulut, Kökalan Çımrin, and Doğan 2017). However, other studies indicate that Generation Z's strong online presence makes them susceptible to impulsive purchasing behaviors driven by digital platforms, leading to overconsumption (Ah Fook and McNeill 2020). The ease of access to online shopping options and tailored marketing strategies significantly influence their impulsive buying behavior (Xiong 2020; Yusak, Mohd, and Yusran 2022), and excessive buying behavior (often influenced by digital marketing, peers, and social comparison) undermines sustainability goals (Bloodhart and Swim 2020). This duality within Generation Z highlights the complexity of their consumption habits and the tension between their sustainability aspirations and behaviors influenced by digital convenience. Within the integrated TPB-VBN framework, unneeded consumption reflects both low perceived behavioral control and weak norm activation, leading to a lower likelihood of engaging in sustainable actions. Individuals who frequently engage in unneeded or impulsive consumption are expected to demonstrate lower levels of ESB, therefore the following hypothesis is proposed:

H1: Unneeded consumption negatively affects ESB.

Saving orientation and ESB. A saving mindset is closely linked to optimizing resource use, aligning with sustainability goals by promoting behaviors like purchasing energy-efficient products and effectively managing electricity consumption (Bulut, Kökalan Çımrin, and Doğan 2017). Future-oriented consumers are especially inclined to prioritize long-term savings by investing in pro-environment products, recognizing that these choices benefit both financial savings and pro-environmental goals (Tangari and Smith 2012). This suggests a strong correlation between saving orientation and environmentally sustainable behavior, with those who are saving-oriented more likely to adopt sustainable practices focused on resource management and energy-saving devices (Chiu, Kuo, and Liao 2020; Gadenne et al. 2011; Shrestha et al. 2021; Tan, Ooi, and Goh 2017). This also aligns with TPB's perceived control and with the VBN's altruistic values, where financial self-discipline is perceived as part of responsible resource management (Kara and Min 2024). A stronger saving orientation indicates higher self-control and an awareness of the consequences of overconsumption, promoting environmentally responsible behavior. Saving-oriented individuals are therefore more likely to translate their pro-environmental intentions into action, as saving behavior simultaneously satisfies rational (economic) and moral (sustainability-related) motivations. Based on this reasoning, the following hypothesis is proposed:

H2: Saving orientation positively affects ESB.

Product reusability and ESB. Product reusability is a key component of sustainability, emphasizing the importance of extending product lifecycles and reducing waste. In the context of this research, product reusability encompasses both the reuse of products or their components after their originally intended lifecycle and the practice of borrowing instead of purchasing new products. Consumers who prioritize reusability are more likely to adopt sustainable practices, seeking to maximize the value of products while minimizing environmental impact (Muranko et al. 2021). Additionally, there is broad consumer support for product reuse, with second-hand products generally being well-accepted (Cao, Lu, and Zhu 2022). This is particularly relevant for Generation Z, who are increasingly aware of the environmental consequences of disposable products but still consume fewer sustainable goods compared to other generations (Park and Lin 2018), therefore encouraging greater engagement in reuse practices among this cohort is critical. By focusing on product reusability, consumers can significantly reduce resource consumption and environmental degradation, thereby aligning their behavior with broader sustainability goals (Narayanan 2022). Product reusability links to personal moral norms and awareness of consequences in VBN (Stern 2000; Cyfert et al. 2024), as well as to the behavioral control dimension of TPB, since the ease or feasibility of reusing products directly affects action. Studies suggest that young consumers' willingness to reuse products reflects both moral concern and perceived capability to engage in circular behavior (Pšurný et al. 2024). Within the TPB-VBN integration, reusability behavior represents the alignment of perceived behavioral control and moral obligation: individuals act sustainably when they both believe they can and feel they should. Given this reasoning, H3 is as follows:

H3: Product reusability positively affects ESB.

3. DATA AND METHODOLOGY

3.1. Sample and data collection

Quantitative research was used to collect data from respondents regarding their attitudes about ESB and how this behavior is correlated with unneeded consumption, saving orientation, and product reusability. The questionnaire was distributed in two waves. First from July 28th to August 11th 2023, and second, from 20th to 26th October 2025, through various channels, including WhatsApp, Instagram Story, Reddit, Discord, and Facebook groups. A snowball sampling technique was used for data collection. In parallel, an initial group of participants was selected from graduate students of Digital Marketing at Algebra Bernays University College in Zagreb, Croatia. The final sample, collected across both waves, consisted of 334 respondents aged 18–30. Females represented 62.6% of the sample, with the 18–21 age group being the most dominant (49.4%). Two software packages were used for data analysis: SPSS and JASP (for CFA).

3.2. Measurement instrument

Questionnaire is based on the Sustainable Consumption Behavior Scale (SCBS) developed by Doğan et al. (2015). The SCBS is a tool for assessing sustainable consumption practices across four dimensions: ESB, unneeded consumption, saving orientation, and product reusability. It originally consists of 17 items, rated on a five-point Likert scale (1 = never, 5 = always). Each dimension captures a specific aspect of consumption behavior: ESB assesses eco-conscious purchasing, unneeded consumption reflects impulsive or excessive shopping, saving orientation measures resource conservation efforts (e.g., energy efficiency), and product reusability evaluates the tendency to reuse products rather than discard them. The item "I buy products from companies that support environmental responsibility" was excluded from the original ESB construct in this research due to conceptual inconsistency. As Delmas and Burbano (2011) explain, corporate environmental claims are frequently affected by greenwashing, which creates significant information asymmetry and leads to consumer misperception. Because consumers cannot reliably evaluate the actual environmental responsibility of companies, this item would capture perceived corporate image rather than genuine pro-environmental behavior, thereby compromising the construct's validity. In contrast, while the first item in the scale ("I buy cleaning products that cause less environmental harm") also refers to product-related information, it reflects a decision that consumers can directly evaluate and control through observable cues such as eco-labels or ingredient lists (Testa et al. 2015). Assessing corporate environmental responsibility, however, requires information beyond consumers' immediate knowledge and control, and therefore does not align with the theoretical definition of behavioral measures within the TPB and VBN frameworks. In this study, an attempt was made to examine whether unneeded consumption, saving orientation, and product

reusability, as independent variables, have an effect on ESB as the dependent variable through a linear regression model.

To assess the internal consistency of the measurement scales, Cronbach's alpha coefficients were calculated for each construct included in the study. According to Hair et al. (2019), Cronbach's alpha values of 0.70 or higher are generally considered acceptable, indicating satisfactory internal reliability. The initial analysis for ESB produced an alpha coefficient of 0.54, indicating low internal consistency. Item-level diagnostics revealed that the statement "I do not buy single-use packaged products." in ESB construct had a very low corrected item - total correlation (r = 0.09), suggesting that it did not align well with the underlying construct. After removing this item, Cronbach's alpha increased to 0.637, representing a noticeable improvement in internal reliability. Although the coefficient remains slightly below the conventional 0.70 threshold suggested by Hair et al. (2019), the revised scale demonstrates a satisfactory level of consistency for exploratory research. The scale measuring unneeded consumption demonstrated a Cronbach's alpha of 0.83, indicating very good internal consistency. This suggests that the items consistently measure the same underlying construct and provide reliable results. The saving orientation scale achieved a Cronbach's alpha coefficient of 0.84 after removing the item "In my household we use energy saving bulbs." (with the item included, the Cronbach alpha was 0.82), confirming very good reliability and strong internal consistency among items. This value exceeds the recommended threshold of 0.70, supporting the reliability of this measurement instrument. The scale assessing product reusability obtained a Cronbach's alpha value of 0.65. While this falls slightly below the ideal level of 0.70, it still indicates an acceptable level of internal consistency for early-stage or exploratory research (Hinton et al. 2014; Hair et al. 2019). After removing conceptually inconsistent items, the final version of the questionnaire comprised 14 items that were used for all subsequent analyses.

To confirm the dimensionality and validity of the measurement model, a confirmatory factor analysis (CFA) was conducted using maximum likelihood estimation. CFA was applied to assess how well the observed variables represent the underlying latent constructs: unneeded consumption, saving orientation, product reusability, and ESB. The procedure allowed for an evaluation of factor loadings, model fit indices, and construct validity (Hu and Bentler 1999). The confirmatory factor analysis supported the hypothesized four-factor structure, indicating that the items loaded significantly on their respective constructs. All standardized factor loadings exceeded the recommended threshold of 0.50 (Hair et al. 2019), demonstrating satisfactory indicator reliability. The fit indices (CFI, TLI, RMSEA, and SRMR) met the recommended cut-off values, confirming an acceptable overall model fit. Specifically, unneeded consumption, saving

Table 1. Kaiser-Meyer-Olkin (KMO) test

Indicator	MSA
I buy cleaning products that do not harm the environment.	0.834
I buy clothes made from natural materials.	0.805
I encourage my family and friends not to buy products that harm the environment.	0.837
I replace technological devices like phones even when unnecessary.	0.785
I buy new clothes even when I do not need them.	0.855
I buy products without prior thought or when they are unnecessary.	0.758
I buy new products even when I already have similar ones.	0.780
I buy food and drinks even when they are not necessary.	0.857
In my household, we buy energy-efficient appliances.	0.772
In my household, we buy electronic devices that consume less energy.	0.753
In my household, we are mindful of electricity consumption.	0.824
I reuse product packaging like glass or cardboard instead of throwing it away.	0.875
I borrow or rent products instead of purchasing them.	0.829
I reuse paper for taking notes or other purposes.	0.842
Overall	0.808

orientation, product reusability, and ESB were found to be distinct yet related dimensions of environmentally sustainable consumer behavior. Therefore, the CFA results confirm that the measurement model adequately represents the theoretical structure underlying the data.

As presented in Table 1, all MSAs are higher than 0.7. Bartlett's test of sphericity (df = 91) indicated that the correlation matrix differs significantly from an identity matrix ($p < .001$), confirming that the data are suitable for factor analysis.

The comparison between the baseline (independence) model and the hypothesized factor model indicated a substantial improvement in model fit. The baseline model, which assumes that all observed variables are uncorrelated, yielded a chi-square value of $\chi^2(91) = 2194.99$, representing a poor fit to the data. In contrast, the hypothesized factor model achieved a significantly lower chi-square value of $\chi^2(77) = 809.01$, $p < .001$, demonstrating a much better fit.

This large and statistically significant reduction in the chi-square statistic confirms that the specified factor structure explains the observed covariances far better than a model assuming no relationships among variables. Therefore, the results provide strong support for the adequacy of the proposed measurement model (Hair et al. 2019).

Values in Table 2 represent the contribution of each individual item within the factor model. Since the factor model was specified with independent factors, the values reflect the contribution of each item to its corresponding latent construct.

The standardized factor loadings obtained from the confirmatory factor analysis (CFA) are all statistically significant ($p < .001$), confirming that each observed item meaningfully contributes to its respective latent construct. The loadings presented in Table 3 ranged from 0.52 to 0.98, exceeding the commonly accepted minimum threshold of 0.50 (Hair et al. 2019).

Within the ESB construct, the loadings ranged between 0.57 and 0.82, indicating that all items consistently capture pro-environmental behavioral tendencies. The construct unneeded consumption demonstrated high loadings (0.68-0.98), suggesting a strong and homogeneous representation of impulsive or excessive buying behavior. Similarly, saving orientation showed factor loadings from 0.76 to 1.02, reflecting a stable and well-defined construct associated with cost-conscious purchasing behavior. Lastly, product reusability displayed loadings between 0.74 and 0.95, confirming that items measuring reuse and recycling practices contribute strongly to this latent factor. The results confirm the convergent validity of all four constructs, as each indicator loads significantly and substantially on its intended latent variable, indicating that the measurement model demonstrates strong indicator reliability and adequately represents the theoretical structure of ESB.

To further assess the convergent validity of the constructs, the Average Variance Extracted (AVE) was

Table 2. R-Squared

Item	R^2
I buy cleaning products that do not harm the environment.	0.386
I buy clothes made from natural materials.	0.295
I encourage my family and friends not to buy products that harm the environment.	0.440
I replace technological devices like phones even when unnecessary.	0.291
I buy new clothes even when I do not need them.	0.523
I buy products without prior thought or when they are unnecessary.	0.588
I buy new products even when I already have similar ones.	0.737
I buy food and drinks even when they are not necessary.	0.414
In my household, we buy energy-efficient appliances.	0.539
In my household, we buy electronic devices that consume less energy.	0.901
In my household, we are mindful of electricity consumption.	0.518
I reuse product packaging like glass or cardboard instead of throwing it away.	0.335
I borrow or rent products instead of purchasing them.	0.371
I reuse paper for taking notes or other purposes.	0.457

Table 3. Factor loadings

Factor	Indicator	Estimate	Std. Error	p	95% Confidence Interval	
					Lower	**Upper**
ESB	I buy cleaning products that do not harm the environment.	0.678	0.079	0.000	0.524	0.833
	I buy clothes made from natural materials.	0.578	0.078	1.117×10^{-13}	0.426	0.731
	I encourage my family and friends not to buy products that harm the environment.	0.815	0.089	0.000	0.640	0.991
Unneeded consumption	I replace technological devices like phones even when unnecessary.	0.676	0.067	0.000	0.545	0.806
	I buy new clothes even when I do not need them.	0.978	0.057	0.000	0.866	1.090
	I buy products without prior thought or when they are unnecessary.	0.889	0.050	0.000	0.791	0.987
	I buy new products even when I already have similar ones.	1.006	0.047	0.000	0.914	1.099
	I buy food and drinks even when they are not necessary.	0.765	0.061	0.000	0.645	0.885
Saving orientation	In my household, we buy energy-efficient appliances.	0.791	0.057	0.000	0.680	0.903
	In my household, we buy electronic devices that consume less energy.	1.023	0.050	0.000	0.925	1.121
	In my household, we are mindful of electricity consumption.	0.841	0.059	0.000	0.725	0.956
Product reusability	I reuse product packaging like glass or cardboard instead of throwing it away.	0.739	0.087	0.000	0.569	0.910
	I borrow or rent products instead of purchasing them.	0.811	0.090	0.000	0.635	0.986
	I reuse paper for taking notes or other purposes.	0.955	0.100	0.000	0.760	1.151

calculated for each latent variable (Table 4). According to Fornell and Larcker (1981), AVE values above 0.50 indicate that a construct explains more than half of the variance in its observed indicators, thus confirming adequate convergent validity. In this study, unneeded consumption achieved an AVE of 0.505, meeting the recommended threshold, while ESB obtained a slightly lower value of 0.381. Although this indicates that ESB items share a moderate rather than strong level of common variance, all factor loadings were significant and most exceeded 0.50, suggesting acceptable convergent validity for exploratory research (Hair et al. 2019). The relatively lower AVE for ESB therefore points to the need for refining or rewording certain items in future studies to better capture the construct's underlying dimension.

Internal reliability was further examined using McDonald's omega (ω), as shown in Table 4, and Composite Reliability (CR) coefficients for each construct (Table 4). Following Hair et al. (2019), reliability values above 0.70 are considered satisfactory for established constructs, while values between 0.60 and 0.70 are acceptable for exploratory research (Fornell and Larcker 1981). The results show that all constructs achieved satisfactory composite reliability (CR = 0.74–0.94), confirming strong internal consistency. While unneeded consumption and saving orientation demonstrated high reliability (ω > 0.80), product reusability and ESB displayed slightly lower coefficients (ω = 0.64-0.84), indicating some conceptual heterogeneity among items. Despite these moderate values, all constructs exhibit acceptable reliability for exploratory purposes, particularly given the theoretical novelty and multidimensional nature of the model. Accordingly, all constructs were retained for subsequent structural analysis, with a recommendation that future studies refine or expand certain scales to enhance internal consistency.

Table 4. Results for AVE and McDonald's omega coefficient

Construct	AVE	Coefficient ω
ESB	0.381	0.644
Unneeded consumption	0.505	0.832
Saving orientation	0.645	0.843
Product reusability	0.392	0.656

3.3. Hypothesis testing and results

After confirming the reliability and validity of the measurement model, the next step involved testing the hypothesized relationships between the constructs. The aim of this analysis was to examine whether unneeded consumption, saving orientation, and product reusability (as independent variables) have a statistically significant effect on ESB, which serves as the dependent variable in the model. A linear regression model was employed to assess the strength and direction of these relationships. Prior to the regression analysis, the overall significance of the model was evaluated using an ANOVA test, which determines whether the combination of independent variables explains a statistically significant portion of variance in the dependent variable.

The results of the ANOVA test confirmed that the overall regression model is statistically significant, F (3, 330) = 34.43, $p < .001$. The coefficient of determination (R^2 = 0.238) shows that approximately 23.8% of the variance in environmentally sustainable behavior can be explained by these three predictors (Table 5).

After confirming that the overall regression model is statistically significant, the next step involved testing the individual hypotheses proposed in the conceptual framework. The study has three hypotheses and the results of the regression analysis are shown in Table 6:

H1: Unneeded consumption negatively affects ESB.
H2: Saving orientation positively affects ESB.
H3: Product reusability positively affects ESB.

Unneeded consumption has no statistically significant effect on ESB (β = –0.030, t = –0.611, p = 0.542). Therefore, Hypothesis H1, which proposed that unneeded consumption negatively affects environmentally sustainable behavior, is not supported.

In contrast, both saving orientation (β = 0.290, t = 5.510, p < 0.001) and product reusability (β = 0.283, t = 5.268, p < 0.001) have statistically significant and positive effects on ESB, confirming that higher levels of saving orientation and product reusability tendencies are associated with stronger environmentally sustainable behavior. Thus, Hypothesis H2 and Hypothesis H3 are supported.

The results of the hypothesis testing provide partial support for the proposed conceptual model. Among the three examined predictors, saving orientation and product reusability emerged as significant positive determinants of ESB, confirming that consumers who are more financially cautious and who engage in reusing or repurposing products are more likely to exhibit environmentally responsible behavior.

Table 5. ANOVA model summary

R	R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
0.488	0.238	0.75463	0.238	34.431	3	330	0.000

Table 6. Regression analysis with ESB as dependent variable

	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Zero-order	Partial	VIF
(Constant)	1.208	0.227		5.326	0.000			
Unneeded consumption	-0.028	0.045	-0.030	-0.611	0.542	-0.139	-0.034	1.063
Saving orientation	0.259	0.047	0.290	5.510	0.000	0.410	0.290	1.203
Product reusability	0.236	0.045	0.283	5.268	0.000	0.408	0.279	1.247

5. DISCUSSION

The study explored how distinct consumption orientations, unneeded consumption, saving orientation, and product reusability, shape ESB among Croatian Generation Z consumers. The findings provide insights into the complex dynamics between sustainability awareness and actual consumption patterns within a post-transition, EU-member context.

The rejection of H1, indicating that unneeded consumption has no significant effect on ESB, reflects the coexistence of sustainable and unsustainable behaviors, representing a pattern widely discussed in the literature, where consumers' pro-environmental attitudes often fail to translate into consistent sustainable actions (Longoni, Gollwitzer, and Oettingen 2014; Ham et al. 2021). Similar findings have been reported in international studies showing that young consumers often engage in eco-friendly behaviors, such as recycling or energy saving, while simultaneously over-consuming or engaging in impulsive purchases (Ah Fook and McNeill 2020; Ziesemer, Hüttel, and Balderjahn 2021). In Croatia, this paradox may be further intensified by economic and social factors: limited purchasing power, the perception of sustainable products as expensive, and the strong influence of social media trends that promote impulsive buying. Generation Z's digital lifestyle, characterized by constant exposure to influencer marketing, short-form videos, and "fast fashion" culture, creates a consumption environment that simultaneously encourages sustainability signaling and impulsive purchases. This tension illustrates why environmental attitudes do not always translate into consistent behavioral outcomes.

In contrast, the acceptance of H2 and H3 confirms that saving orientation and product reusability are significant positive predictors of ESB. These results align with prior research emphasizing the dual nature of saving behavior: it satisfies both economic rationality and moral responsibility (Bulut, Kökalan Çımrin, and Doğan 2017; Chiu, Kuo, and Liao 2020; Kara and Min 2024). In the Croatian context, where economic uncertainty and inflation shape consumer priorities, sustainable practices are often adopted when they also lead to tangible financial benefits, such as lower energy costs or savings through product reuse. This pattern reinforces findings from Lopes et al. (2024), who note that Gen Z's green behavior is frequently driven more by pragmatic motives than by purely altruistic ones.

The strong association between product reusability and ESB suggests that Croatian Gen Z consumers are receptive to sustainability actions that are convenient, familiar, and cost-effective which are behaviors that require little additional effort or financial sacrifice. These findings are consistent with Muranko et al. (2021) and Pšurný et al. (2024), who highlight that reusability practices, such as repurposing or borrowing, are perceived as accessible entry points to sustainable living. The social dimension of these behaviors also resonates with VBN theory, as reusability often fosters moral satisfaction and social recognition within peer networks.

Overall, this study positions Croatian Generation Z within the broader European discourse as pragmatic - a cohort that values sustainability but approaches it through economic rationality rather than strict environmental activism. Their behavior mirrors trends observed in other emerging EU economies, where sustainability is interpreted through affordability and practicality (Cyfert et al. 2024).

From a theoretical perspective, the results confirm that economic motivations and perceived behavioral control, core elements of the integrated TPB-VBN framework, are essential for explaining sustainable behavior in this demographic. This supports the argument that Gen Z's sustainability is less a moral obligation and more a function of perceived self-efficacy and cost-benefit evaluation.

The study's limitations must also be acknowledged. First, although the CFA confirmed satisfactory validity and reliability, the product reusability and ESB constructs exhibited moderate internal consistency. This may reflect the multidimensional nature of these behaviors. Second, the snowball sampling limits generalizability, and self-reported data may be affected by social desirability bias. Finally, while economic and attitudinal determinants were examined, digital behavior, social media engagement, and peer influence were not directly measured but are likely critical mediating factors.

Future research should therefore extend beyond demographic or psychographic profiling and adopt mixed-method approaches to explore how online ecosystems, digital communication, and algorithmic exposure influence sustainable consumption. Moreover, cross-cultural comparisons with other post-transition EU countries could reveal whether the pragmatic orientation observed among Croatian Gen Z consumers represents a broader regional pattern.

6. CONCLUSION

This study provides empirical evidence on the determinants of ESB among Generation Z consumers in Croatia. By integrating TPB and VBN framework, the analysis confirms that sustainability-related behaviors are best understood as an interplay between economic pragmatism and moral intention.

The results reveal that unneeded consumption does not significantly influence ESB, reinforcing the persistence of the attitude–behavior gap and the coexistence of sustainable and unsustainable practices. In contrast, saving orientation and product reusability emerged as robust predictors of ESB, demonstrating that young consumers are more likely to adopt sustainable actions when such behaviors align with economic efficiency or personal convenience.

Practical and social implications. These findings have several implications for policymakers, educators, and businesses. Policymakers should design interventions that highlight financial incentives for sustainable choices, such as subsidies for energy-efficient products, product repair programs, or deposit-refund systems that reward reusability. Educational institutions can strengthen sustainability curricula by linking environmental responsibility to personal economic benefits and digital literacy, helping young people critically evaluate marketing stimuli in online environments. For businesses, emphasizing cost savings, product longevity, and reusability in marketing communications may prove more effective than relying solely on environmental appeals.

Directions for future research. Further studies should expand the model by incorporating digital consumption patterns, such as exposure to influencer marketing, greenwashing perception, or social media-driven purchasing, to better capture the digital-behavioral dimension of Gen Z's sustainability. Longitudinal and comparative studies across different EU contexts would also help determine whether the findings reflect transitional economic conditions or generational preferences more broadly.

In sum, the research enriches the understanding of sustainable consumption among Croatian Generation Z consumers by showing that sustainable behavior is less about idealistic commitment and more about feasible, economically rational action. Bridging the gap between ecological awareness and daily consumption thus requires aligning sustainability with personal benefit, convenience, and social validation as an approach that can make sustainability both realistic and achievable for the generations to come.

References

Aceleanu, M. I., Serban, A. C., and Burghelea, C. 2015. "Greening" the youth employment—a chance for sustainable development. Sustainability 7 (3): 2623-2643.

Ah Fook, L. and McNeill, L. 2020. Click to buy: The impact of retail credit on over-consumption in the online environment. Sustainability 12 (18): 7322.

Ajzen, I. 1991. The theory of planned behavior. Organizational behavior and human decision processes 50 (2): 179-211.

Andruszkiewicz, K., Grzybowska-Brzezińska, M., Grzywińska-Rąpca, M., and Wiśniewski, P. D. 2023. Attitudes and Pro-Environmental Behavior of Representatives of Generation Z from the Example of Poland and Germany. Sustainability 15 (20): 15068.

Bloodhart, B. and Swim, J. K. 2020. Sustainability and consumption: what's gender got to do with it? Journal of Social issues 76 (1): 101-113.

Bogueva, D. and Marinova, D. 2022. Australian Generation Z and the nexus between climate change and alternative proteins. Animals 12 (19): 2512.

Booi-Chen, T. and Teck-Chai, L. A. U. 2009. Examining sustainable consumption patterns of young consumers: is there a cause for concern?. Journal of International Social Research 2 (9): 465-472.

Bulut, Z. A., Kökalan Çımrin, F., and Doğan, O. 2017. Gender, generation and sustainable consumption: Exploring the behaviour of consumers from Izmir, Turkey. International journal of consumer studies 41 (6): 597-604.

Campbell, D. T. 1963. Social attitudes and other acquired behavioral dispositions. https://psycnet.apa.org/record/1964-06919-003. Accessed 4 May 2024.

Cao, Y., Lu, H., and Zhu, C. 2022. Consumer preference for end-of-life scenarios and recycled products in circular economy. Sustainability 14 (19): 12129.

Carrero, I., Valor, C., and Redondo, R. 2020. Do all dimensions of sustainable consumption lead to psychological well-being? Empirical evidence from young consumers. Journal of Agricultural and Environmental Ethics 33: 145-170.

Chen, Y. S., Yan, X., and Liew, C. B. A. 2023. University Social Responsibility in China: The Mediating Role of Green Psychological Capital. International journal of environmental research and public health 20 (4): 3634.

Chiu, M. C., Kuo, T. C., and Liao, H. T. 2020. Design for sustainable behavior strategies: Impact of persuasive technology on energy usage. Journal of Cleaner Production 248: 119214.

Cyfert, S., Górka, J., Piórkowska, K., Dyduch, W., Glabiszewski, W., and Batko, R. 2024. Shaping sustainable development of tomorrow: generation Z competencies, green consumption values and the role of knowledge acquisition sources. Central European Management Journal.

https://doi.org/10.1108/CEMJ-07-2024-0213 Accessed 20 October 2025.

Dąbrowski, L. S., Środa-Murawska, S., Smoliński, P., and Biegańska, J. 2022. Rural–urban divide: Generation Z and pro-environmental behaviour. Sustainability 14 (23): 16111.

Delmas, M. A. and Burbano, V. C. 2011. The drivers of greenwashing. California management review 54 (1): 64-87.

Djafarova, E. and Foots, S. 2022. Exploring ethical consumption of generation Z: Theory of planned behaviour. Young Consumers 23 (3): 413–431.

Doğan, O., Bulut, Z. A., and Kökalan Çımrın, F. 2015. A scale development study to measure individuals' sustainable consumption behavior. Ataturk University Journal of Economics and Administrative Sciences 29: 659–678.

European Commission 2024. Achievements of the von der Leyen commission, The European Green Deal. https://commission.europa.eu/documents_en. Accessed 30 July 2024.

Ewe, S. Y. and Tjiptono, F. 2023. Green behavior among Gen Z consumers in an emerging market: eco-friendly versus non-eco-friendly products. Young Consumers 24 (2): 234-252.

Fischer, D., Böhme, T., and Geiger, S. M. 2017. Measuring young consumers' sustainable consumption behavior: Development and validation of the YCSCB scale. Young consumers 18 (3): 312-326.

Fornell, C. and Larcker, D. F. 1981. Evaluating structural equation models with unobservable variables and measurement error. Journal of marketing research 18 (1): 39-50.

Francis, T. and Hoefel, F. 2018. True Gen': Generation Z and its implications for companies. McKinsey & Company. http://www.drthomaswu.com/uicmpaccsmac/Gen%20Z.pdf. Accessed May 5 2024.

Gadenne, D., Sharma, B., Kerr, D., and Smith, T. 2011. The influence of consumers' environmental beliefs and attitudes on energy saving behaviours. Energy policy 39 (12): 7684-7694.

Gajović, A., Bjelica, D., Pavlović, D., and Vukmirović, D. 2023. Educating youth on project sustainability: project engagement and recognition of the green deal. Applied Ecology and Environmental Research 2023 21 (4): 2969–2989.

http://dx.doi.org/10.15666/aeer/2104_29692989. Accessed April 4 2024.

Gazzola, P., Pavione, E., Pezzetti, R., and Grechi, D. 2020. Trends in the fashion industry. The perception of sustainability and circular economy: A gender/generation quantitative approach. Sustainability 12 (7): 2809.

Gupta, V. 2021. Investigating the mediating role of green intention between green attitude-behaviour gap. Marketing in 2021, 33. https://www.researchgate.net/. Accessed 10 June 2024.

Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. 2009. Multivariate data analysis (7th ed.). Prentice-Hall.

Ham, C. D., Chung, U. C., Kim, W. J., Lee, S. Y., and Oh, S. H. 2022. Greener than others? Exploring generational differences in green purchase intent. International Journal of Market Research 64 (3): 376-396.

Hajian, M. and Kashani, S. J. 2021. Evolution of the concept of sustainability. From Brundtland Report to sustainable development goals. In Sustainable resource management (1-24). Elsevier.

Harland, P., Staats, H. and Wilke, H. A. 1999. Explaining proenvironmental intention and behavior by personal norms and the Theory of Planned Behavior 1. Journal of applied social psychology 29 (12): 2505-2528.

Hinton, P. R., McMurray, I., and Brownlow, C. 2014. SPSS explained. Routledge.

Hu, L. T. and Bentler, P. M. 1999. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural equation modeling: a multidisciplinary journal 6 (1): 1-55.

Kara, A. and Min, M. K. 2024. Gen Z consumers' sustainable consumption behaviors: influencers and moderators. International Journal of Sustainability in Higher Education 25 (1): 124-142.

Klug, K. and Niemand, T. 2021. The lifestyle of sustainability: Testing a behavioral measure of precycling. Journal of Cleaner Production 297: 126699.

Knez, S., Štrbac, S., and Podbregar, I. 2022. Climate change in the Western Balkans and EU Green Deal: status, mitigation and challenges. Energy, Sustainability and Society 12 (1): 1-14.

Krstinić Nižić, M. and Butković, I. 2023. Can Generation Z implement sustainable development in tourism? In 7th International Scientific Conference ToSEE–Tourism in Southern and Eastern Europe 2023 Engagement & Empowerment: A Path Toward Sustainable Tourism (231-248). University of Rijeka, Faculty of Tourism and Hospitality Management.

Lavuri, R., Jusuf, E., and Gunardi, A. 2021. Green sustainability: Factors fostering and behavioural difference between millennial and Gen Z: Mediating role of green purchase intention. Ekonomia i Środowisko: 8-38.

Liang, J., Li, J., and Lei, Q. 2022. Exploring the influence of environmental values on green consumption behavior of apparel: A chain multiple mediation model among Chinese Generation Z. Sustainability 14 (19): 12850.

Lisboa, A., Vitorino, L., and Antunes, R. 2022. Gen Zers' intention to purchase products with sustainable packaging: An alternative perspective to the attitude-behaviour gap. Journal of Marketing Management 38 (9-10): 967-992.

Longoni, C., Gollwitzer, P. M., and Oettingen, G. 2014. A green paradox: Validating green choices has ironic

effects on behavior, cognition, and perception. Journal of Experimental Social Psychology 50: 158-165.

Loo, W. H., Yeow, P. H., and Yee Yen, Y. 2023. Antecedents of the responsible acquisition of computers behaviour: Integrating the theory of planned behaviour with the value-belief-norm theory and the habits variable. Plos One 18 (6): e0286022.

Lopes, J. M., Gomes, S., Suchek, N., and Nogueira, S. 2024. The hidden reasons behind generation Z's green choices. Discover Sustainability 5 (1): 1-17.

Moore, J. E., Mascarenhas, A., Bain, J., and Straus, S. E. 2017. Developing a comprehensive definition of sustainability. Implementation Science 12: 1-8.

Muralidharan, S. and Xue, F. 2016. Personal networks as a precursor to a green future: A study of "green" consumer socialization among young millennials from India and China. Young Consumers 17 (3): 226-242.

Muranko, Ż., Tassell, C., Zeeuw van der Laan, A., and Aurisicchio, M. 2021. Characterisation and environmental value proposition of reuse models for fast-moving consumer goods: Reusable packaging and products. Sustainability 13 (5): 2609.

Narayanan, S. 2022. Does Generation Z value and reward corporate social responsibility practices? Journal of Marketing Management 38 (9-10): 903-937.

Nikolić, T. M., Paunović, I., Milovanović, M., Lozović, N., and Đurović, M. 2022. Examining Generation Z's attitudes, behavior and awareness regarding eco-products: A Bayesian approach to confirmatory factor analysis. Sustainability 14 (5): 2727.

Ninan, N., Roy, J. C., and Cheriyan, N. K. 2020. Influence of social media marketing on the purchase intention of Gen Z. International Journal of Advanced Science and Technolog 29 (1): 1692-1702.

Nguyen, T. N., Lobo, A., and Nguyen, B. K. 2018. Young consumers' green purchase behaviour in an emerging market. Journal of Strategic Marketing 26 (7): 583-600.

Olsson, P., Galaz, V., and Boonstra, W. J. 2014. Sustainability transformations: a resilience perspective. Ecology and society 19 (4).

Park, H. J. and Lin, L. M. 2020. Exploring attitude–behavior gap in sustainable consumption: Comparison of recycled and upcycled fashion products. Journal of business research 117: 623-628.

Perić, N., Mamula, N. T., and Delić, T. 2020. Analysis of attitudes of GenZ toward media and consumption: The region of Balkans. Marketing 51 (3): 210-218.

Pšurný, M., Mokrý, S., Langr, A., and Stavkova, J. 2024. A reusable product from the point of view of a young generation: How companies can increase their competitiveness. Journal of Competitiveness 16 (4): 128-148.

Rausch, T. M., Baier, D., and Wening, S. 2021. Does sustainability really matter to consumers? Assessing the importance of online shop and apparel product attributes. Journal of Retailing and Consumer Services 63: 102681.

Reisch, L., Eberle, U., and Lorek, S. 2013. Sustainable food consumption: an overview of contemporary issues and policies. Sustainability: Science, Practice and Policy 9 (2): 7-25.

Robichaud, Z. and Yu, H. 2021. Do young consumers care about ethical consumption? Modelling Gen Z's purchase intention towards fair trade coffee. British Food Journal 124 (9): 2740–2760.

Sheoran, M. and Kumar, D. 2022. Benchmarking the barriers of sustainable consumer behaviour. Social Responsibility Journal 18 (1): 19-42.

Shrestha, B., Tiwari, S. R., Bajracharya, S. B., Keitsch, M. M., and Rijal, H. B. 2021. Review on the importance of gender perspective in household energy-saving behavior and energy transition for sustainability. Energies 14 (22): 7571.

Silveira, P. D., Sandes, F. S., Xara-Brasil, D., and Menezes, K. 2024. Brands' Green Activism: An Empirical Comparison between Posts of Digital Influencers and Brands. Sustainability 16 (16): 6863.

Stern, P. C. 2000. Toward a coherent theory of environmentally significant behaviour. Journal of Social Issues 56 (3): 407-424.

Šebek, V., Sarajlić, H., and Jurković, N. 2023. Towards Sustainable Consumption: Attitudes, Barriers, and Practices. Marketing in multiverse 2023 : from real to virtual : conference proceedings / 28th CROMAR Congress: 373-392.

Tan, C. S., Ooi, H. Y., and Goh, Y. N. 2017. A moral extension of the theory of planned behavior to predict consumers' purchase intention for energy-efficient household appliances in Malaysia. Energy Policy 107: 459-471.

Tangari, A. H. and Smith, R. J. 2012. How the temporal framing of energy savings influences consumer product evaluations and choice. Psychology & Marketing 29 (4): 198-208.

Testa, F., Iraldo, F., Vaccari, A., and Ferrari, E. 2015. Why ecolabels can be effective marketing tools: Evidence from a study on Italian consumers. Business Strategy and the Environment 24 (4): 252-265.

Tewari, A., Mathur, S., Srivastava, S., and Gangwar, D. 2022. Examining the role of receptivity to green communication, altruism and openness to change on young consumers' intention to purchase green apparel: A multi-analytical approach. Journal of Retailing and Consumer Services 66: 102938.

Theocharis, D. and Tsekouropoulos, G. 2025. Sustainable consumption and branding for Gen Z: How brand dimensions influence consumer behavior and adoption of newly launched technological products. Sustainability 17 (9): 4124.

UN 2015. Resolution adopted by the General Assembly on Transforming our world: The 2030 agenda for sustainable development (A/RES/70/1). United Nations, October 2015. https://www.eea.europa.eu/policy-documents/resolution-adopted-by-the-general Accessed April 4 2024.

Wang, S., Liao, Y. K., Wu, W. Y., and Le, K. B. H. 2021. The role of corporate social responsibility perceptions in brand equity, brand credibility, brand reputation, and purchase intentions. Sustainability 13 (21): 11975.

Weigel, R. H. 1983. Environmental attitudes and the prediction of behavior. Environmental psychology: Directions and perspectives: 257-287.

Xiong, K. 2020. Research on Influencing Factors of Impulsive Buying in Online Shopping Environment Bases on Perspective of a Payment Method. In 2020 International Conference on E-Commerce and Internet Technology (ECIT) (109-112). IEEE.

Yusak, N. A. M., Mohd, Z., and Yusran, N. F. N. 2022. An empirical study of online impulsive buying behavior. Environment-Behaviour Proceedings Journal 7 (SI8): 27-32.

Ziesemer, F., Hüttel, A. and Balderjahn, I. 2021. Young people as drivers or inhibitors of the sustainability movement: The case of anti-consumption. Journal of Consumer Policy 44 (3): 427-453.