Determinants of Sustainable Consumption Intention

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Abstract

Sustainable consumption has received a lot of attention from many regions and countries around the world recently. This study investigates factors that influence consumers' sustainable consumption intentions in Vietnam. Despite the growing importance of sustainable consumption, marketing managers still lack adequate information on how to promote it to consumers. This study aims to address this gap by examining the impact of environmental knowledge, man-nature orientation, environmental advertising, and demographic factors such as income, major, degree, age, and gender on sustainable consumption intention. An online survey was used to collect data from 460 people in Vietnam. The data was processed using multivariate linear regression analysis, Cronbach alpha, ANOVA, and other methods to identify factors affecting sustainable consumption intentions in Vietnam. The results show that man-nature orientation and environmental advertising have a positive impact on sustainable consumption intentions. Furthermore, the study also found a strong relationship between environmental advertising and man-nature orientation as well as natural and environmental knowledge. In contrast, the study did not find a relationship between environmental knowledge and sustainable consumption intentions. These results provide theoretical and practical implications for marketing managers in developing effective communication strategies to promote sustainable consumption and encourage environmentally friendly consumption intentions.

Keywords: environmental knowledge; environmental advertising; sustainable consumption, Vietnam

Introduction

In light of climate change and the increasingly precarious condition of the natural environment, individuals in contemporary society are compelled to modify their patterns of consumption in order to foster enduring sustainability. The significance of this adaptation cannot be overstated in terms of preserving sustainable and secure ecosystems for both current and future populations (IPCC, 2018). There persists a prevailing belief among individuals that the economy is predominantly linked to manufacturing and utilizing physical commodities. However, human consumption behaviors surpass the sustainable capacities of natural ecosystems in terms of regeneration, processing, and recycling (Rees, 2020; Wackernagel et al., 2002). Over the last several decades, researchers have identified many environmental hazards that pose risks to both human and ecological health (Tanner, Kast, 2003). Consequently, the issue of sustainable development has emerged as a critical concern within contemporary society. According to Princen et al. (2002), the challenges associated with attaining sustainable development may be attributed to the magnitude and nature of unsustainable consumption. While several factors such as technological improvements, social initiatives, economic policies, and production systems contribute to societal progress, it is crucial to acknowledge that without a corresponding shift in consumption patterns, the impact of these developments may be limited (Peattie, 2010). In recent years, there has been recognition of the significance attributed to individuals' behaviors in relation to the promotion of sustainable development. Consequently, the adoption and recognition of sustainable consumerism are becoming prevalent and regarded as fundamental phenomena. In contemporary society, there is a heightened level of awareness and prioritization of environmental issues, leading to a notable inclination toward the use of environmentally friendly products. This necessitates the engagement of companies, marketers, and suppliers in the development of innovative methods aimed at reducing carbon emissions and mitigating environmental impact. According to Chiou et al. (2011), firms that prioritize environmental sustainability may experience both financial and social benefits.

Vietnam saw significant changes more than thirty years ago due to the implementation of the Doi Moi policy, which included comprehensive reforms in both the economic and political domains (Nguyen et al., 2018). In the year 2019, the World Bank acknowledged Vietnam's notable transformation from being one of the most impoverished nations globally to being an emerging economy.[1] Alterations in consumption patterns have a pivotal role in societal dynamics (Nguyen

et al., 2018). Despite the increasing affluence of the middle class in Vietnam and their growing purchasing patterns, especially in metropolitan regions, scholarly investigations on this subject remain few (de Koning et al., 2015). There is a dearth of scholarly investigation pertaining to the young urban middle class in Vietnam (King et al., 2008).

Vietnam has made significant progress in establishing a self-sustaining society. The Vietnamese government and populace exhibit a notable inclination toward embracing novelty and displaying enthusiasm in their endeavors. The results of a Nielsen survey conducted in 2015 indicate that among all residents of the Asia-Pacific region countries, Vietnamese consumers exhibit the most pronounced levels of social awareness (Le, Kieu, 2019). Specifically, these consumers have a significant inclination to allocate their financial resources toward businesses that prioritize humanitarian and ecological considerations. Despite the stated objectives, many scholars argue that the Vietnamese populace continues to exhibit a deficiency in environmental awareness (Hoon, Hyun Park, 2017), despite the diligent efforts undertaken by the nation. For example, a minority of the Vietnamese populace holds the belief that they have personal accountability for the protection of the environment and the preservation of resources. The Vietnamese government has initiated measures to address the issue of plastic pollution since 2019[2].

The topic of sustainable consumption has gained critical relevance in Vietnam due to the rising trend in consumption habits and the growing young population. In 2012, around 65% of Vietnam's population consisted of individuals below the age of 30, with this particular demographic constituting approximately 30% of the nation's work force (de Koning et al., 2015). The labor market in Vietnam has a youthful demographic and is experiencing rapid growth, which may be attributed to the concurrent expansion of the country's middle class (PWC, 2018). Insufficient research has been conducted on the expanding middle class in Vietnam and their consumption patterns, particularly within the urban areas of the nation (de Koning et al., 2015). This study assesses the interest of Vietnamese consumers on issues of sustainable consumption through factors such as Environmental Knowledge, Man–Nature Orientation, and Environmental Advertising on sustainable consumption intentions.

Literature Review
Concept of Sustainable Consumption

Sustainable consumption refers to the act of consuming commodities and associated products in order to fulfill fundamental requirements and enhance over-

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[1] https://www.worldbank.org/en/country/vietnam, accessed 22.10.2023.

[2] https://saigoneer.com/vietnam-news/16685-vietnam-pm-endorses-national-campaign-to-eliminate-single-use-plastic, accessed 12.05.2023.

all welfare, all the while mitigating environmental hazards and preserving finite resources (Ofstad et al., 1994). Sustainable consumption comprises a diverse array of strategies aimed at mitigating adverse environmental effects. It also refers to the acquisition and use of products and services that do not have adverse effects on the environment in terms of depleting natural resources, containing dangerous compounds, or emitting pollutants (Svarstad et al., 1994). SCP, or Sustainable Consumption and Production, is a concept that involves fulfilling fundamental needs and improving overall well-being by utilizing goods and services that minimize the consumption of limited natural resources, the emission of harmful byproducts, and the generation of unnecessary waste and pollutants in all stages of their existence. The objective of the methodology is to ensure the protection of the interests of future generations by minimizing the potential for mistakes. The objective of Goal 12 in the 2030 Agenda for Sustainable Development is to attain Sustainable Consumption and Production (SCP) via the adoption of comprehensive transformations in the methods by which societies manufacture and use commodities and services.[3] The "green consumption" campaign has been in operation from 2009 to 2019.

"Green consumption" or "sustainable consumption" has been defined as the practice in which consumers engage in the use of environmentally friendly and sustainable green products (Le et al., 2019). There has been a surge in scholarly attention toward green consumption practices due to an increasing awareness of environmental issues and the need to address them (Nguyen et al., 2019). The concept of green consumption has been widely recognized as a crucial element of promoting sustainable development (Kim et al., 2012; Lee, 2008). Additionally, it has been acknowledged as a means to stimulate global green marketing efforts (Ottman, 1993; Lee, 2008; Miniero et al., 2014). The aforementioned writers (Peattie, 2001; Dietz et al., 2005; Nguyen et al., 2015; Wu, Chen, 2014) are engaged in the pursuit of comprehending green behaviors and elucidating the determinants that impact intentions toward engaging in such activities. The majority of the 15 publications within our compilation focus on the correlation between intention and environmentally conscious behavior on the Vietnamese market. Furthermore, much research has been conducted on practical approaches aimed at enhancing public comprehension of green consumption, with a specific focus on the younger demographic. Moreover, sustainable consumerism advocates for the adoption of ecologically and socially responsible buying behaviors in order to mitigate the ecological footprint of individuals. The impact of environmental knowledge, people orientation, and environmental advertising on the intention to engage in sustainable consumption has been demonstrated in

various studies (Ulla et al., 2021; Awan et al., 2021; Xu et al., 2019; Hamzah, Tanwir, 2021; Klockner, 2011; Diyah, Wijaya, 2017; Wijaya et al., 2017; Chang et al., 2019; Moraes et al., 2021).

Numerous academic studies have provided empirical evidence about the environmental ramifications associated with sustainable consumerism, a prevalent environmental approach seen within the private sector (Stern, 2000). The concept of pro-environmental consumption behavior, which entails individuals taking actions to reduce their adverse environmental effects, is often associated with sustainable consumer behavior (Dhandra, 2019). Pro-environmental behavior encompasses actions that are beneficial for the environment or have little negative impact on it (Steg, Vlek, 2009).

Noteworthy is a comprehensive analysis of the many perspectives and academic disciplines undertaken by (Reisch et al., 2016) that have made notable contributions to the advancement of sustainable consumption. The field of sustainable consumption research has seen significant advancements due to the valuable contributions from several interdisciplinary perspectives. Environmental sociology has provided valuable perspectives on the social dimensions of individual behavior under many social settings and situations. Empirical research has provided support for the acknowledgment of consumer biases, heuristics, and contextual dependencies by behavioral economics. Extensive scholarly study in the field of political science has focused on examining the role of customers as engaged citizen-consumers. Nevertheless, considerable theoretical advancements have been made in the field of applied philosophy about the ethical foundations of this concept.

Sustainable consumption has made significant progress throughout time, mostly due to the inclusion of several theoretical, behavioral, and social frameworks. Consequently, a substantial and intricate body of literature has emerged on the subject of sustainable consumption, including several academic fields (Liu et al., 2016). This study focuses on the prevailing comprehension of sustainable consumption in relation to the Sustainable Development Goals (SDGs) for the year 2030, given the complexity of this concept.

Research in the Past

Numerous techniques and ideas have been published in response to the expanding corpus of research concerning sustainable consumption (Liu et al., 2016). The field of sustainable consumption research has garnered attention from scholars across several disciplines due to its intricate nature, multidisciplinary approach, and relatively recent emergence (Reisch et al., 2016).

Additional investigation into the fundamental structures is needed, given the complexity of the issue

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[3] https://www.undp.org/sustainable-development-goals/responsible-consumption-and-production?gad_source=1&gclid=Cj0KCQiA3uGqBhDdARIsAFeJ5 r3MqBhymEJG6eGc-BaawnNe3DCv56Uf6kpUc0tAMCbmiZt34nDZnDsaAqDPEALw_wcB, accessed 18.10.2022.

and the many operationalizations that are required. Sustainable consumer behavior has been a subject of scholarly discourse since at least the 1980s, as shown by academic discussions (Dunlap, 2017). Previous research has focused on analyzing the interplay between pairs of components rather than on studying individual variables when investigating the predictive capacity of environmental concerns (Tam, Chan, 2018). The objective of this study is to enhance general comprehension of the underlying factors that motivate individuals to engage in environmentally aware consumer behavior.

The empirical evidence indicates that consumers' inclination toward good environmental attitudes, reduced perception of risks, and reliance on certifications together lead to a significant augmentation in consumer expenditures. Numerous research studies have consistently shown the significant influence that consumers' attention and environmental awareness exert on their decision-making processes when it comes to purchasing goods and services. Consumers' environmental attitudes and knowledge experienced notable changes upon being exposed to information about environmental concerns (Mostafa, 2007; Wang et al., 2021). Green advertising is a prevalent strategy used within the commercial sphere, with the primary objective of communicating ethical principles and promoting environmental awareness. Numerous studies (Ruiz, Sicilia, 2004; Kao et al., 2011; Nagar, 2015) have shown that buyers exhibit more brand engagement and have elevated purchase expectations when commercials align with their beliefs and preferences. In fact, many well-known brands are now offering more sustainable products and solutions. For example, Patagonia, a well-known outdoor clothing brand, uses recycled materials in its products and has the goal of becoming carbon neutral by 2025. Another example is Unilever, a global consumer goods company. Unilever has set a goal of becoming carbon positive by 2030 and halving its use of virgin plastic by 2025. Concerning brands' attitudes toward compliance with environmental standards and trends, research suggests that many brands are taking sustainability seriously. More than 80% of global consumers trust brands that are committed to sustainability (Nielsen, 2021). However, there are still some challenges that brands face in meeting the growing demand for sustainable products. One challenge is the cost of implementing sustainable practices. Another challenge is the lack of clear and consistent environmental standards. Despite these challenges, it is clear that consumers are increasingly demanding sustainable products and brands are responding to this demand. This suggests that there is a growing alignment between consumers' choice of environmentally friendly products and their propensity to buy well-known brands.

Student participants have a greater positive response toward advertisements promoting environmentally friendly and durable items compared to those endorsing economically advantageous alternatives (Biswas, Roy, 2015). This finding demonstrates the advantages of sustainable products above those promoted via green advertising channels. The examination of sustainable modes of communication, such as "green advertising," assumes significant importance due to its ability to enhance consumers' consciousness about environmental issues and foster their inclination toward ethical consumption (Moraes et al., 2021). Despite the inherent unpredictability and sometimes inaccuracy associated with norms, they possess the capacity to have a significant impact on an individual's behavior and daily intentions (Ajzen, 1991; Chung et al., 2012). The ethics of buyer behavior (also known as ethical purchasing behavior) is a field of study that examines the ethical implications of consumer behavior. It considers the impact of consumer choices on individuals, society, and the environment. Some examples of ethical purchasing behaviors include: buying products and services from companies that are committed to social and environmental responsibility, avoiding products and services that are produced using unethical or harmful practices, supporting local businesses.

In short, buyer behavior ethics is a complex field that includes many ethical considerations. It engages with the basic principles of bioethics, but it also challenges them in a number of ways.

Research Hypotheses

Environmental Knowledge

The concept of "environmental knowledge" encompasses the comprehension of various environmental concerns and the recognition of the interdependence between ecosystems and human civilization (Haron et al., 2005). The measurement of consumers' environmental consciousness and commitment to a sustainable future may be assessed via the evaluation of their level of environmental literacy, an individual's disposition and understanding of environmental issues (Eren, Yaqub, 2015; Lin, Niu, 2018; Hamzah, Tanwir, 2021).

H1: Environmental knowledge has a positive impact on sustainable consumption intentions among consumers in Vietnam.

Man–Nature Orientation

The concept of "man-nature orientation" as defined by (Samovar et al., 1981) refers to the inclination of persons to either exercise control over natural processes or to be subservient to them. The theoretical construct of man-nature orientation, as posited by (Chan, 2001; Marcela, 2010), offers a conceptual framework for understanding the factors that impact consumers' inclination toward engaging in environmentally aware consumer behavior. Sustainable Purchase Intention is primarily shaped by two key elements, namely Man-Nature Orientation and a Healthy Consumption Lifestyle (Diyah, Wijaya, 2017).

H2: Man–nature orientation has a positive impact on sustainable consumption intentions among consumers in Vietnam.

Environmental Advertising

Green advertising, sometimes referred to as environmental advertising, is a marketing tactic that places focus on the favorable environmental impacts associated with a product or service throughout all stages of its existence, including its inception and final disposal. The prevailing consensus acknowledges that the fundamental aim of advertising is to enhance the sales of a company's goods or services via the strategic targeting of consumers' logical and emotional demands. Customers tend to assign more importance to environmental product attributes in comparison to physical elements in isolation (Phau, Ong, 2007).

H3: Environmental advertising has a positive impact on sustainable consumption intentions among consumers in Vietnam.

H4: Environment advertising has a positive impact on environmental knowledge among consumers in Vietnam.

H5: Environment advertising has a positive impact on man-nature orientation among consumers in Vietnam.

The conceptual model of the study that presents the links between considered variables as illustrated by hypotheses is reflected in Figure 1. Their dimensions as illustrated by the statements evaluated by respondents are summarized in Table 1.
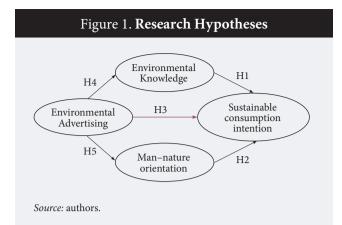
Result Analysis

Our survey was conducted among a sample of 460 Vietnamese consumers to obtain insights about their opinions and behaviors surrounding ecologically responsible shopping. Table 2 presents the demographic characteristics of the participants, including variables such as gender, age, work status, and monthly income. The sample has a balanced distribution of gender, with men comprising 46.7% and females comprising 53.3% of the total population. The sample data reveals that a significant percentage, namely 65%, of the customers fall within the age bracket of under thirty, indicating a notable overrepresentation of young consumers. Based on the statistical data published by the General Statistics Office of Vietnam in 2022, it can be inferred that around 57.2% of the individuals surveyed may be categorized as employees or workers. Significantly, a considerable proportion of the participants, namely 41.3%, reported a monthly pay range of 5 to 10 million VND. In comparison to the salary levels in other regions of Vietnam, this particular wage level might be considered quite satisfactory. The findings suggest that there is a notable level of concern among young customers about sustainability, as well as a strong inclination toward eco-friendly products. Furthermore, within the sample, a significant proportion of individuals (specifically 26.7%) fall within the age range of 40

to 60 and exhibit a strong inclination toward products that prioritize safety and health.

This study investigates the impact of age on individuals' environmental literacy, social maturity, susceptibility to environmental advertising, and inclination toward sustainable consumption. The use of analysis of variance (ANOVA) is a recommended statistical approach for the examination and assessment of mean disparities across various age cohorts. Table 3 presents empirical evidence that substantiates the premise of a significant correlation between age and individuals' propensity for sustainable consumption, with statistical significance seen at the 1% level. Hence, there exists a range of perspectives and patterns of conduct pertaining to environmentally conscious consumerism among different age cohorts. Upon examination of the mean values, it is evident that the age group ranging from 50 to 60 exhibits the highest mean value (4.472b), whilst those aged between 18 and 25 have the lowest mean value (4.123a). Based on these findings, individuals belonging to the senior population exhibit a higher level of environmental consciousness compared to their counterparts in the younger demographic. The findings of the study indicated that individuals across different age groups were exposed to varying degrees of environmental advertising. However, it was observed that there were no statistically significant variations in these exposures. The observed phenomenon may be attributed to the limited targeting of certain demographic groups, such as age-defined segments, in environmental advertising. Instead, the emphasis is placed on tailoring campaigns to individual clients.

The study examined the impact of individuals' occupations on their level of environmental awareness, attitudes toward human behavior, responsiveness to environmental advertising, and inclination toward adopting sustainable purchasing practices. An analysis of variance (ANOVA) was conducted to examine variations in means across different occupations. Significant statistical differences were observed across occupational groups for all three variables (refer to Table 4), with a threshold of significance set at 1%. This suggests that there are significant variations in educational attainment, perspectives, and consumer behavior across different occupational groups. Upon careful analysis of the three components, it becomes evident that environmental knowledge exhibits the highest degree of variability across various occupations. The average values vary between 4,118ac for the group including workers and employees (1) and 4,401cd for the group containing civil servants and public employees (2). This conclusion posits that those employed in public service and government positions possess a more profound comprehension of the environment in comparison to the broader populace. There is no statistically significant variation seen among sectors in relation to environmental advertising. The current tendency may be attributed to the use of personalized environmental advertising strategies that cater to individual prefer-

Figure 1. **Research Hypotheses**

Source: authors.

Table 1. **Statements Proposed for Evaluation by Respondents to Measure Studied Dimensions**

Sustainable Consumption Intention   ***(Ofstad et al., 1994; Lee, 2014)***
• I am willing to pay for sustainable products   • I like to consume sustainable products   • I will prioritize using sustainable products   • I will choose brands with good environmental protection policies
Environmental Knowledge   ***(Eren, Yaqub, 2015; Haron et al., 2005)***
• I buy the product because the packaging is reusable   • Encourage and prioritize the use of renewable, available energy sources such as solar energy   • Garbage collection and recycling are very important in contributing to environmental protection   • I prefer to read the document on the computer instead of taking its print on paper   • I turn off electrical appliances when not in use to save energy   • I think the choice of public transport is important for a sustainable environment   • I attended any project or seminar to acknowledge the environmental awareness   • Promotions of renewable energy resources are necessary for a sustainable environment.
Man–Nature Orientation (Chan, 2001)
• I would maintain harmony with nature   • I need to understand the ways of nature and act accordingly   • Human beings are part of nature and are always connected to nature   • We should adapt instead of mastering the environment
Environmental Advertising (Rahbar, Abdul-Wahid, 2011)
• Environmental advertisements enhance my knowledge about sustainable consumption   • I enjoy watching environmental advertisements via social media   • Environmental advertisement guide customers in making an informed purchasing decision   • I think brands that advertise sustainable products are serious about protecting the environment

Source: Author synthesis.

ences and inclinations, rather than only targeting certain occupational groups.

Wang and Rhemtulla (2021) used advanced statistical techniques, such as structural equation modeling (SEM), to examine the associations among various variables. The team used the AMOS.22 software and utilized the Structural Equation Modeling (SEM) approach to evaluate their hypotheses. Confirmatory factor analysis (CFA) and other statistical techniques were used to assess the validity and reliability of the theoretical constructs. The significance and level of certainty associated with each notion are shown in Table 5. The constructs of environmental knowledge, man-nature orientation, environmental advertising, and sustainable consumption intentions have strong internal consistency, as shown by high Alpha Cronbach coefficients. The study reveals a range of Alpha Cronbach values for different constructs. Specifically, the coefficients for Environment Knowledge (EK) range from 0.855 to 0.871, while those for Man-Nature Orientation (MNO) range from 0.730 to 0.774. Sustainable Consumption Intention (SCI) and Environment Advertising (EA) also exhibit variation, with coefficients ranging from 0.734 to 0.790 for both constructs. The presence of Alpha Cronbach values more than 0.7, as seen in Table 5, indicates a strong and enduring association between latent and observable variables (de Leeuw et al., 2019).

The term of "convergent validity" pertains to the degree of correlation between one set of assessment items and another set of questions, including several elements. Factor loading, composite reliability, and average variance extracted (AVE) are used as measures to assess the degree of convergent validity. The minimal threshold for factor loading, which is the correlation between an item and its associated factor, is reported to be 0.40 in the studies conducted by Hsieh and Hiang (2004) as well as Hashmi et al. (2021). According to the research conducted by Hashmi et al. (2021) and Khan et al. (2022), it is recommended that the composite reliability, which evaluates the internal consistency of the items used to evaluate a certain component, should be equal to or greater than 0.70. The measure of the varia-

tion captured by the indicators of a concept is known as the average variance extracted (AVE), as shown by Fornell and Larcker (1981) and Khan et al. (2022). It is recommended that the average value of the variable under consideration (AVE) should exceed 0.50. The concurrent validity of the study is shown in Table 3, which presents the observed values ranging from 0.511 to 0.515. In order to be deemed genuine, the aforementioned numerical values must exceed 0.5. The average value (AVE) exceeds the predetermined cutoff threshold of 0.5. Both the relative and absolute values of the composite dependability (CR) exceeded the threshold of 0.70. The data is presented in a summary fashion in Table 6. The constructs of Environment Knowledge (EK), Man-Nature Orientation (MNO), Environment Advertising (EA), and Sustainable Consumption Intention (SCI) demonstrated satisfactory levels of convergent validity.

All the factor loadings shown in Table 6 have values above 0.5. Based on the findings of Al-Lozi et al. (2018) and Sung et al. (2019), it can be concluded that this statement holds true. Factor loading, as described by

Table 2. Demographic Profile of Respondents

Description	N	Percentage (%)
Gender		
Male	215	46.7
Famale	245	53.3
Age (years)		
18 – 25	195	42.4
25 – 30	106	23.0
30 – 40	36	7.8
40 – 50	63	13.7
50 – 60	60	13.0
Major Occupations		
Workers – Employees	263	57.2
Civil servants and state employees	118	25.7
Merchandise,Trade	41	8.9
Student	28	6.1
Housework	10	2.2
Income (dongs)		
Less than or equal to 5 million	105	22.8
From 5 to 10 million	190	41.3
From 5 to 15 million	83	18.0
From 15 to 20 million	39	8.5
From 20 to 30 million	33	7.2
More than 30 million	10	2.2

Source: authors, based on field survey data, 2023.

Al-Lozi et al. (2018), is a statistical technique used to evaluate the magnitude of a connection between variables. The assessment of discriminant validity among the variables may be conducted by the use of a comparison approach, as proposed by Rimkeviciene et al. (2017) within the framework of covariance-based structural equation modeling (SEM). The researchers used the Kaiser-Meyer-Olkin (KMO) analysis to assess the suitability of the relationship performance indicators for inclusion in the factor analysis of the scale. All of the obtained results exceeded the threshold value of 0.5. In order to establish statistical significance, the Kaiser-Meyer-Olkin (KMO) score in the research must exceed 0.5, with a threshold of 0.930 being the critical value. One specific element with an eigenvalue beyond one (1.066) was also removed. According to Sung

et al. (2019), the eigenvalue may serve as a statistical measure for objectively assessing the level of volatility shown by a certain component. In order to ascertain the relationships among the observed variables inside the factor, a statistical test known as Bartlett's test of sphericity was conducted. A statistically significant correlation ($p < 0.05$, $r2 = 0.00$) was identified between the observed variables inside the factor, as shown by Bartlett's test. A statistically significant association was observed upon computation of a factor loading coefficient of 0.7 for the relevant variable. The sum of the loadings for all seven components exceeded 0.70. Previous studies have shown empirical evidence for loadings that are equal to or greater than 0.5 (Yu et al., 2013). During the measurement phase, mean values were obtained for each multivariate characteristic. In order to effectively meet the criteria of the structural equation modeling (SEM) framework, it is essential to accurately situate the factors within the designated dimensions, as determined by the outcomes of exploratory factor analysis (EFA).

Discriminant validity is examined by comparing the ratio between the square root of AVE and the correlation coefficient (Fornell, Larcker 1981). As Table 7 shows, the diagonal elements of the matrix, corresponding to the square root of the constructs, are all higher than the correlation coefficients between the constructs, confirming discriminant validity (Agan et al., 2013). The correlation coefficient between the latent composite constructs and all other constructs is also less than 0.7, indicating that the constructs are sufficiently different from each other (Urbach, Ahlemann 2010).

In this study, the overall fit indexes show that the model has a high degree of fit to the data. The P value is less than 0.01, indicating that the difference between the observed covariance matrix and the expected covariance matrix is not statistically significant. The $\chi 2$ value is 1289,551 with degrees of freedom of 266,859, indicating that this difference is small. The GFI index is 0.900 and the CFI index is 0.934 both greater than or equal to 0.900, showing that the model has a large improvement compared to the model without hid-

Table 3. Aspect of Sustainable Consumption Is Based on Age

Factor	Age, years (number of respondents)					Robust Test Sig.Welch ≤0.05
	18–25 (N=195)	25–30 (N=106)	30–40 (N=36)	40–50 (N=63)	50–60 (N=60)	
Environment Knowledge (EK)	4.123[a]	4.129[ac]	4.142[ac]	4.3[ab]	4.472[b]	***
Man-nature Orientation (MNO)	4.241[a]	4.164[a]	4.366[a]	4.425[a]	4.313[a]	0.015*
Environment Advertising (EA)	4.228[a]	4.257[a]	4.381[a]	4.420[a]	4.350[a]	-
Sustainable Consumption Intention (SCI)	4.289[a]	4.306[a]	4.430[a]	4.447[a]	4.454[a]	0.029*

Note: * — p-value < 0.1; **— p-value < 0.05; *** — p-value < 0.001. Significant at the 0.05 level. If the value of Levene is less than 0.05, the Robust test is used. If the value of Levene is more than 0.05, the Anova test is used. The numbers in the same row followed by different letters are significant at the 5% level via the statistical Anova or Robust test.

Source: authors.

Factor	1 N=263	2 N=118	3 N=41	4 N=10	5 N=28	Robust Test Sig.Welch ≤0.05
Environment Knowledge (EK)	4.118[ac]	4.401[bd]	4.259[cd]	4.375[cd]	4.080[cd]	0.001**
Man-nature Orientation (MNO)	4.423[ac]	4.418[bd]	4.219[cd]	4.120[cd]	4.085[cd]	0.006**
Environment Advertising (EA)	4.219[a]	4.389[a]	4.493[a]	4.650[a]	4.089[a]	0.001**
Sustainable Consumption Intention (SCI)	4.275[ac]	4.489[bd]	4.481[cd]	4.47[cd]	4.241[cd]	0.002**

Table 4. **Interest in Aspects of Sustainable Consumption Is Based on Occupation**

Note: Workers – Employees (1), Civil servants and state employees (2), Merchandise, Trade (3), Student (4), Housework (5). * — p-value < 0.1; **— p-value < 0.05; ***— p-value < 0.001. Significant at the 0.05 level. ANOVA Sig.F ≤0.05. If the value of Levene is less than 0.05, the Robust test is used. If the value of Levene is more than 0.05, the Anova test is used. The numbers in the same row followed by different letters are significant at the 5% level via the statistical Anova or Robust test.

Source: authors.

den factors. The TLI index is 0.924, also greater than or equal to 0.900, showing that the model has a large improvement compared to the independent model. The RMSEA index of 0.042, less than or equal to 0.080, indicates that the model has a high fit to the sample size. These indicators help to test hypotheses about the relationships between the variables in the model. Collected data are presented in Table 8.

This study focused on the impact of environmental knowledge, man-nature orientation, and environmental advertising on sustainable consumption intentions. The authors used the correlation coefficient method and regression analysis to test the hypotheses. Table 9 shows that there is a close and statistically significant relationship between the independent variables and the dependent variable. The coefficient of determination R^2 is 0.595, showing that 59.5% of the variation in sustainable consumption intentions is explained by the independent variables. Among the independent variables, man-nature orientation and environmental advertising have a positive and statistically significant impact on sustainable consumption intentions. This is consistent with previous studies. Specifically, the regression coefficient β of natural human orientation is 0.240, with a P value less than 0.05. The regression coefficient β of environmental advertising is 0.447, also

Sustainable Consumption Intention (SCI)		0.803
SCI1	I am willing to pay for sustainable products	0.734
SCI2	I like to consume sustainable products	0.739
SCI3	I will prioritize using sustainable products	0.752
SCI3	I will choose brands with good environmental protection policies	0.790
Environmental Knowledge (EK)		**0.877**
EK1	I buy the product because the packaging is reusable	0.866
EK2	Encourage and prioritize the use of renewable, available energy sources such as solar energy	0.864
EK3	Garbage collection and recycling are very important in contributing to environmental protection	0.869
EK4	I prefer to read the document on the computer instead of taking its print on paper	0.871
EK5	I turn off electrical appliances when not in use to save energy	0.859
EK6	I think the choice of public transport is important for a sustainable environment	0.855
EK7	I attended any project or seminar to acknowledge the environmental awareness	0.857
EK8	Promotions of renewable energy resources are necessary for a sustainable environment	0.855
Man–Nature Orientation (MNO)		**0.782**
MNO1	I would maintain harmony with nature	0.730
MNO2	I need to understand the ways of nature and act accordingly	0.732
MNO3	Human beings are part of nature and are always connected to nature	0.774
MNO4	We should adapt instead of mastering the environment	0.738
Environmental Advertising (EA)		**0.783**
EA1	Environmental advertisements enhance my knowledge about sustainable consumption	0.751
EA2	I enjoy watching environmental advertisements via social media	0.746
EA3	Environmental advertisement guide customers in making an informed purchasing decision	0.700
EA4	I think brands that advertise sustainable products are serious about protecting the environment	0.723

Table 5. **Factor Loading and the Cronbach's Alpha Estimates**

Source: authors, based on field survey data, 2023.

Table 6. Assessment of the Measurement Model

a) Parameters of test

Kaiser-Meyer-Olkin (KMO)	0.930
Cumulative % (Initial Eigenvalues)	58.768
Bartlett's Test of Sphericity (Sig.)	0.000
Initial Eigenvalue	1.066

b) Convergent validity items

Construct	AVE	Composite Reliability
Environment Knowledge (EK)	0.512	0.882
Man-nature Orientation (MNO)	0.515	0.794
Environment Advertising (EA)	0.511	0.787
Sustainable Consumption Intention (SCI)	0.514	0.807

c) Factor loadings for studied constructs

Item	Loading
Environmental Knowledge (EK)	
EK 1	0.631
EK2	0.685
EK3	0.652
EK4	0.628
EK5	0.699
EK6	0.818
EK7	0.743
EK8	0.739
Man – Nature Orientation (MNO)	
MNO 1	0.609
MNO 2	0.697
MNO 3	0.721
MNO4	0.602
Environmental Advertising (EA)	
EA1	0.652
EA2	0.728
EA3	0.714
EA4	0.702
Sustainable Consumption Intention (SCI)	
SCI1	0.665
SCI2	0.715
SCI3	0.666
SCI3	0.737

Source: authors, based on field survey data, 2023.

with a P value less than 0.05. Therefore, hypotheses H2 and H3 are accepted. However, environmental knowledge did not have a statistically significant impact on sustainable consumption intentions. The regression coefficient β of environmental knowledge is only 0.034, with a P value greater than 0.05. Therefore, hypothesis H1 is rejected. This may be because environmental knowledge does not reflect consumer attitudes and values.

In addition, the study also explores the role of environmental advertising in enhancing environmental knowledge and man-nature orientation. Environmental advertising has a strong positive correlation with these two variables, with coefficients of determination R2 of 0.422 and 0.614, respectively. The detailed results are as follows: H4: Environmental advertising has a positive impact on environmental knowledge (β = 0.864, P < 0.05), H5: Environmental advertising has a positive impact on man-nature orientation (β = 0.925, P < 0.05). Therefore, hypotheses H4 and H5 are accepted.

Discussion

In order to gain a deeper comprehension of how intrinsic orientation impacts goals for sustainable consumption, this study used structural equation modeling. The present study's findings support the conclusions of previous studies conducted by (Marcela, 2010; Klockner, 2011; Diyah, Wijaya 2017; Wijaya et al., 2017; Chekima, 2016), which have shown similar results. Numerous studies have shown a correlation between the inclination to engage in sustainable consumption and an inherent orientation factor, which subsequently promotes the acceptance and use of environmentally friendly products and services. The study conducted by (Chan, 2001) offers empirical support for the significance of inherent disposition in shaping individuals' daily experiences and influencing their actions, which are influenced by the surrounding situation.

The results suggest a positive association between environmental advertising and the adoption of sustainable consumption practices. This finding is illustrated in Table 9. The conclusions gained in this study are supported by the results of (Xue, 2014; Moraes et al., 2021; Biswas, Roy, 2015). The findings of this study indicate

Table 7. Discriminant Validity (Intercorrelations) of Constructs

Construct	MSV	Max R(H)	SCI	EK	MNO	EA
SCI	0.513	0.819	**0.717**			
EK	0.477	0.898	0.531	**0.716**		
MNO	0.478	0.803	0.709	0.691	**0.718**	
EA	0.478	0.795	0.716	0.561	0.716	**0.714**

Source: authors.

Indicators	Cut-off values	Calculated values	Conclusion
Chi-square/df	≤ 3.000	2.493	Fit
CFI	≥ 0.900	0.934	Fit
GFI	≥ 0.900	0.910	Fit
TLI	≥ 0.900	0.924	Fit
RMSEA	≤ 0.080	0.057	Fit

Table 8. Model Fit Indicators in SEM

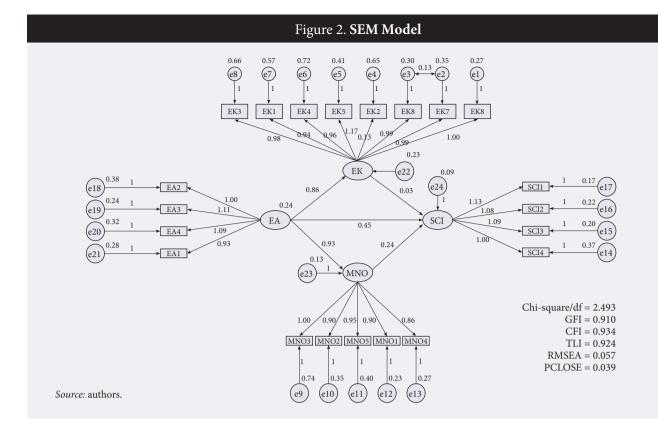*Source*: authors, based on field survey data, 2023.

that those who are exposed to environmental advertising exhibit a more favorable attitude and a heightened level of knowledge about the benefits associated with the use of environmentally friendly products.

This study provides support for the hypothesis that environmental advertising has a substantial impact on consumers' level of awareness about environmental concerns. The assertion is substantiated by the scholarly investigation conducted by (Xue, 2014). This study also examined the hypothesis that exposure to environmentally conscious advertising would enhance individuals' inclination toward adopting a focus on the environment (man-nature orientation) and found a significant positive association between the two variables. The findings of this study are in line with the previous research conducted by (Ruiz, Sicilia, 2004; Kao et al., 2011; Nagar, 2015). However, the findings of our study indicate that there is no significant correlation between individuals' level of environmental consciousness and their inclination to participate in environmentally conscious consumer behavior. There seems to be no significant correlation between an individual's level of environmental literacy and their inclination to engage in certain purchasing behaviors (Chekima et al., 2016; Tanner, Kast, 2003). Several studies have shown a significant association between the environmental information market and consumers' inclination to engage in environmentally conscious buying behaviors (Awan et al., 2021; Xu et al., 2019; Hamzah, Tanwir, 2021).

Many variables affect whether or not a customer will really make an ecologically friendly purchase. A person's outlook, values, assumptions, motives, emotions,

experiences, societal pressures, practicalities, and satisfaction all play a role. Consumers' self-deprecation, self-enhancement, and consideration of both immediate and distant consequences are all influenced by man-nature orientation and environmental advertising. In this article, "environmental knowledge" refers to an awareness of environmental issues as well as an ability to address such issues. Environmental education may not have a significant effect on customers' intentions to make ecologically responsible purchases if there is a gap between knowledge and action. Many people are aware of environmental problems, yet they do little to address them. A lack of motivation and confidence are two of the main reasons behind this. Also, there are several possible extraneous impacts on learning about the environment, including economic interests and lifestyle choices. It is possible that customers may have a better understanding of environmental issues as a consequence of this trend, but they may still select for practices that are not sustainable. When taking the larger picture into account, it is possible that a person's attitude toward nature is influenced by a number of things, including their level of education, their life experiences, and their proximity to natural places. Consumers' attention to environmental concerns and their respect for nature may both rise as a result of environmental education efforts. Eco-friendly goods and services may be developed by companies and sold at affordable prices. Sustainable consumption is a multifaceted notion that involves awareness, conduct, and government restrictions.

Through the dissemination of information on the ecological consequences associated with consumer choices and the promotion of sustainable goods and services, advertising may have a beneficial influence on the practice of sustainable consumption. Nevertheless, it should be noted that advertising is not the only determinant of sustainable consumption. When assessing the variables influencing consumers' decision to engage in sustainable consumption, it is seen that internal elements, namely self-awareness and values, have more significance compared to external influences, such as advertising. This assertion is supported by the observation that there exists a negligible association between individuals' level of environmental awareness and their engagement in sustainable consumption practices. From a conceptual standpoint, it is logical to

Table 9. Summary of the Structural Model

Relationship	Estimate β	S.E	C.R	P – value	Hypothesis	Hypothesis Result
SCI ◄— EK	0.034	0.044	0.778	0.437	H1	Reject
SCI ◄— MNO	0.240	0.077	3.135	0.002	H2	Accepted
SCI ◄— EA	0.447	0.111	4.036	***	H3	Accepted
EK ◄— EA	0.864	0.088	9.873	***	H4	Accepted
MNO ◄— EA	0.925	0.103	8.9444	***	H5	Accepted

R^2 = 0.595 (SCI), R^2 = 0.422 (EK), R^2 = 0.614 (MNO)
Source: authors.

Figure 2. **SEM Model**

Source: authors.

assert that the choice to choose a sustainable lifestyle is inherently subjective and individualistic. The impact of advertising on our decision-making process is undeniable, but it lacks the ability to coerce us into making a predetermined choice. The present thesis posits a diminished stance about the impact of advertising on promoting sustainable consumption. Furthermore, it is worth noting that the correlation between advertising and sustainable consumption may possess a level of complexity that surpasses our present understanding. The influence of this connection might potentially be influenced by other factors, such as the qualities of advertising or the individual attributes of customers. Further investigation is necessary to enhance our understanding of the correlation between advertising and sustainable consumption.

Conclusion

The examination of green consumer behavior has significant value due to the imperative nature of comprehending the factors that influence intentions to engage in sustainable purchasing. The primary objective of this study is to enhance readers' understanding of the factors that impact consumers' sustainable purchase choices.

A study investigating the influence of age and occupation on the inclination of Vietnamese consumers toward sustainable consumption indicates that individuals in the age range of 50 to 60, particularly those employed in government and public service sectors, exhibit a greater propensity for sustainable consumption compared to younger age groups and individuals

involved in alternative occupations. This demographic has more financial stability and a higher level of discretionary income compared to other groups, enabling them to allocate resources toward the acquisition of premium, secure, and ecologically sustainable products and services. The present cohort exhibits a heightened comprehension of social and environmental concerns, resulting in an elevated level of concern for the well-being of themselves and their close relations. Consequently, there is a growing inclination among customers to seek out products and services that prioritize health, minimize risks, and demonstrate environmental sustainability.

The degree of an individual's engagement with the natural environment (MNO) has a substantial influence on their viewpoint about sustainable consumption. Customers exhibiting a high level of MNO (Materialism, Need for Cognition, and Openness to Experience) have a greater inclination toward prioritizing the security of their purchases and the promotion of sustainable development. In addition, customers exhibit a proclivity toward environmentally friendly products, namely those manufactured using recycled or biodegradable materials, as a means of showcasing their commitment to environmental preservation and harmonious coexistence with the natural environment.

Furthermore, empirical research has shown that environmental advertising has a substantial impact on individuals' inclination to engage in sustainable consumption behaviors ($\beta = 0.447$). The findings of this study indicate that an increase in consumers' confidence in environmental advertising has led to a cor-

responding increase in their knowledge of eco-friendly products and a greater recognition of their benefits. The facilitation of environmental consciousness and the enhancement of consumers' ability to differentiate between environmentally friendly products and conventional alternatives might potentially streamline the procedure of recognizing and choosing eco-conscious merchandise. Moreover, individuals' comprehension and valuation of the environment may be impacted by the depictions they see in various forms of media. The aforementioned marketing strategy effectively fosters a heightened appreciation for the environment and biodiversity by disseminating pertinent information, expertise, and educational resources.

The findings of the present study indicate that there is no significant correlation between environmental awareness and the inclination to practice sustainable consumption. This contrasts with previous research done in Western settings. One may posit that the purchasing power of consumers is impeded by their existing income levels, their insufficient environmental consciousness, or their lack of incentive to engage in sustainable consumption. Hence, it is essential to cultivate and sustain supplementary elements such as pro-environmental attitudes and values, risk awareness, individual effectiveness, supporting social influences, affordability, and accessibility to environmentally sustainable products and services. The aforementioned factors, in conjunction with heightened environmental knowledge, bolster consumers' dedication to engaging in ecologically conscious buying practices. Given the pivotal role that the younger generation plays in ensuring the enduring sustainability of a country, it is imperative to enhance educational efforts targeting students and schoolchildren about the importance of sustainability.

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