

Consumer Awareness towards Green Durable Products and its Effects: A Comprehensive Analysis

Ms. Sangeeta

Department of Commerce & Management, Baba Mastnath University, AsthalBohar, Rohtak, India
Department of Commerce, Government College Behrampur (Bapauli), Panipat

Dr. Anil Kanwa

Department of Commerce & Management, Baba Mastnath University, Asthal Bohar, Rohtak, India

Abstract

The objective of this research is to investigate the awareness of consumers in relation to green products. The present research used a descriptive cum exploratory research design. Individual consumer from Haryana only is included in the present study. The study's demographic comprises adult consumers who are 18 years old or older residing Haryana, India. The research study is employed a simple random sampling technique. In light of the heterogeneous nature of the population, a sample including 500 participants have been chosen. The researchers conducted face-to-face interviews in many places across the state. The awareness scale is utilized to assess the level of awareness that respondents possess regarding green products, eco-labels, and environmental claims. The findings of the study are reported that there is significant difference is found the consumer awareness, consumer knowledge and overall consumer awareness regarding green consumer durables on the basis of gender, marital status and age of the consumers. It also found that younger married females are having high level awareness, knowledge and overall consumer awareness regarding green durable products than others.

Keywords: Consumer Awareness, Green Product, Consumer Behavior, Haryana, India.

INTRODUCTION

The concept of "green products" has emerged as a pivotal force in shaping consumer behaviors and market dynamics in an era marked by increasing environmental concerns and the pressing need for sustainable practices. This era is characterized by an increasing need for sustainable practices. Green products are those that are designed to have a reduced impact on the environment throughout their entire lifecycle. These products may also be referred to as eco-friendly, sustainable, or environmentally conscious products. Consumers are becoming more aware of the potential environmental impacts of their purchasing decisions as the level of global awareness of issues such as climate change, resource depletion, and pollution increases. The purpose of this research paper is to delve into the multifaceted realm of consumer awareness towards green products and its consequential effects on consumer behavior, industry practices, and the overall sustainability landscape.

BACKGROUND AND RATIONALE

The idea of environmentally friendly products has its origins in the broader concept of sustainable development, which seeks to strike a balance between the promotion of economic development, social advancement, and the protection of the natural environment. This idea gained traction

following the publication of seminal reports such as the Brundtland Report (1987), which emphasized the necessity of striking a balance between economic growth and the protection of the environment. Following this, a growing body of research has investigated various aspects of green products, including their design, production, distribution, and consumption patterns, amongst other topics. Green goods have emerged as a key instrument for addressing the challenges posed by climate change, resource scarcity, and pollution, and for promoting more responsible consumption as a result of this. The global community is currently struggling to deal with the challenges posed by climate change, resource scarcity, and pollution.

CONSUMER AWARENESS AND GREEN PRODUCTS

A growing emphasis has been placed on environmentally friendly practices and sustainable development in recent years (WCED, 1987; UN, 2015). This can be attributed to the fact that global environmental issues such as climate change, resource depletion, and pollution are getting worse as time goes on. According to Euro monitor International, 2020, the market for green products, which are defined as “goods that have a lesser or reduced negative impact on the environment than their traditional counterparts” (Ottman, 2011), have seen a significant surge in growth over the past several years. This shift is generally regarded as positive; however, it is essential to gain an understanding of the extent to which consumers are aware of green products, as well as how this awareness translates into purchasing behavior and lifestyle choices. Although studies on these topics are conducted frequently in the fields of environmental economics, marketing, and consumer behavior (Peattie & Crane, 2005; D'Souza, Taghian, Lamb, & Peretiatko, 2006), there is still a need for comprehensive studies that can inform both policy and practice (Peattie & Crane, 2005; D'Souza, Taghian, Lamb, & Peretiatko, 2006). The purpose of this study is to investigate the level of awareness that consumers have regarding environmentally friendly products, as well as the subsequent effects that this awareness has on the purchasing decisions of consumers and the larger societal transition toward sustainability.

Consumers have a multi-faceted awareness of green products, which includes an understanding of environmental claims, the ability to identify eco-labels, and an evaluation of the actual environmental impact that products have (Gleim & Lawson, 2014; Thgersen, 2000). In addition, the awareness is affected by a complicated interaction between the individual, the social environment, and the cultural context (Mostafa, 2007; Tanner & Kast, 2003). For this reason, stakeholders, such as policymakers, corporations, and consumer advocates, who want to foster a more sustainable marketplace, need to have a nuanced understanding of these elements.

In addition, the effects of increased consumer awareness on changes in purchasing behavior and changes in lifestyle are not always straightforward. There is a disconnect between consumer awareness and actual purchasing behavior, which is often referred to as the "attitude-behavior gap" (Carrington, Neville, & Whitwell, 2010; Young, Hwang, McDonald, & Oates, 2010). Some studies suggest that increased awareness leads to a higher propensity to buy green products (Lin & Huang, 2012). However, other studies indicate that there is a gap between consumer awareness and actual purchasing behavior. As a result, it is vitally important that research endeavors be directed toward dissecting the impact of awareness on the various consumer actions.

Given the significant environmental, social, and economic implications of green products, it is essential to conduct in-depth research into the level of consumer awareness regarding these products, as well as the factors that influence it and the outcomes of such awareness. As a consequence, this research paper will provide valuable insights into the current state of consumer

awareness, influencing factors, and resultant behaviors, thereby providing actionable guidance for various stakeholders in the search for a sustainable future.

LITERATURE REVIEW

For a number of years, academic research has concentrated on the awareness of consumers toward green goods. This has been particularly true in the fields of environmental economics, consumer behavior, and marketing. However, the specific effects of consumer awareness on various demographic groups continue to receive a lower priority in terms of research. This literature review intends to provide an in-depth analysis of previous research, with a primary focus on how consumer awareness toward products that are green varies across different demographics and the implications that this has.

CONSUMER AWARENESS

Consumer awareness of green products is not a singular construct; rather, it involves multiple dimensions such as understanding environmental claims, recognizing eco-labels, and assessing the actual environmental impact of products (Gleim & Lawson, 2014; Thgersen, 2000). This awareness can be broken down into three categories: understanding environmental claims; recognizing eco-labels; and assessing the actual environmental impact of products. There have been studies that have investigated how dimensions like these influences buying behavior in general, but there hasn't been a lot of research done to investigate how these effects vary across different demographic categories.

DEMOGRAPHIC FACTORS AND GREEN CONSUMER BEHAVIOR

Age

Age According to research conducted by Diamantopoulos et al. (2003) and Roberts (1996), younger age groups of consumers are generally more inclined towards environmental awareness than older age groups of consumers. However, there is not a consistent pattern across age groups in terms of the degree to which this awareness leads to the purchase of green products. According to the findings of some studies (Pickett-Baker & Ozaki, 2008), older consumers, possibly as a result of greater financial stability, are more likely to actually purchase environmentally friendly products.

Gender

Gender Another important demographic variable to consider in the context of green consumer behavior is a person's gender. According to a number of studies (Mostafa, 2007; Zelezny et al. 2000), there is a general consensus that women are more environmentally conscious than men and are more likely to purchase green products. On the other hand, Davari and Strutton (2014) contend that the gender gap in environmentally conscious purchasing behavior narrows when other factors such as education and income are taken into account.

Socioeconomic Status

According to Gilg, Barr, and Ford (2005) and Grunert et al. (2011), socioeconomic factors, specifically income and education level, play a significant role in environmentally conscious consumer behavior. According to Kumar and Ghodeswar (2015), people with higher incomes are more likely to purchase green products despite the generally higher cost of these products. This is because they have the financial means to do so.

The present section provides an overview of the research methodology employed in this study.

In order to comprehensively examine the complex relationships pertaining to consumer awareness regarding green products and its impact on diverse demographic cohorts, it is imperative to employ a rigorous study technique. This section provides a comprehensive overview of the research design, data collection methods, sample methodologies, and data processing procedures employed in the study.

OBJECTIVE OF STUDY

The objective of this research is to investigate the awareness of consumers in relation to green durable products.

RESEARCH METHODOLOGY

The research design refers to the overall plan and structure that guides the collection and analysis of data in a research study. The present research used a descriptive cum exploratory research design. This particular design offers a concise representation of the current circumstances and is very appropriate for comprehending the level of consumer awareness and its impact on demographic factors at a certain moment in time (Sekaran&Bougie, 2016).

POPULATION AND SAMPLING

Individual consumer from Haryana only is included in the present study. The study's demographic comprises adult consumers who are 18 years old or older residing Haryana.

The research study is employed a simple randomnessampling technique. The population have been stratified into several groups based on age, gender, and socioeconomic level, with a major emphasis on demographic factors. To verify the representativeness of the sample, random sampling conducted inside each stratum (Bryman& Cramer, 2005).

In light of the heterogeneous nature of the population, a sample including 500 participants have been chosen. According to Krejcie and Morgan (1970), this approach is considered sufficient for assuring the generalizability of findings.

DATA COLLECTION

A systematic questionnaire is utilized, including of demographic data encompasses several socio-economic factors, including age, gender, income, education, and other relevant variables.

The Awareness Scale is utilized to assess the level of awareness that respondents possess regarding green products, eco-labels, and environmental claims.

To ensure the validity and reliability of the questions, we will adapt them from established scales as suggested by Lin and Huang (2012) and Gleim and Lawson (2014).

DATA COLLECTION METHOD

The researchers conducted face-to-face interviews in many places across the state, including retail malls, parks, and educational institutions, in order to ensure a representative and varied sample of respondents.

EXPLORATORY FACTOR ANALYSIS ON CONSUMER AWARENESS

Table: 1. Sampling Adequacy

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.892
Bartlett's Test of Sphericity	Approx. Chi-Square	3949.281
	Degree of Freedom	66
	Significance	.000

Source: Primary Data

Tables shows the results of KMO and Bartlett's Test which are used for measure the sampling adequacy. KMO value is .892 which much higher than minimum acceptable value of .70. the significance value of Bartlett's test found significant. The results of both KMO and Bartlett's test indicating that sample is adequate for further analysis.

Table: 2 Mean Factor Loading, Communalities, Eigen Value, Variance Explained, Cronbach Alpha

Factors	Items	Mean	Factor Loading	Communalities	Eigen Value	Variance Explained	Cronbach Alpha
Knowledge	CA11	3.5520	.872	.766	5.077	37.191	.861
	CA7	3.6120	.869	.765			
	CA8	3.5680	.864	.760			
	CA9	3.5640	.850	.727			
	CA10	3.6840	.847	.748			
Awareness	CA6	3.3320	.887	.800	3.017	30.253	.929
	CA4	3.3320	.858	.772			
	CA2	3.2880	.763	.584			
	CA3	3.4400	.735	.542			
	CA5	3.2360	.719	.533			
	CA1	3.4680	.632	.402			
Overall Awareness						67.444	.868

Source: Primary Data

Table 2 shows the results exploratory factor analysis. Rotated varimax component matrix has been used for the data reduction. Items with factor loading higher than .50 were retained and Eigen value more than 1 is considered for each factor. The total variance explained by both factors is 67.444 and Cronbach alpha for overall awareness is .868. In total two factors were extracted with 11 items i.e., knowledge and awareness.

First Factor: Knowledge

Knowledge is the first extracted factor which included 5 items i.e., I believe there is sufficient information regarding green product attributes available when purchasing items, I believe that the quality and performance of green items are superior than those of conventional ones, Natural components are used in the manufacturing of green products and Low harmful emission levels are present in environmentally friendly items and Green products are having biodegradability. The factor loading for items from range of .847 to .872. Eigen value for this factor is 5.077 and total explained variance is 30.252. The mean value range from 3.5500 to 3.6840. The internal

consistency or reliability of the data is measured by Cronbach Alpha. The value of Cronbach is .861 which much higher than minimum acceptable value of .70 and reported scale is reliable.

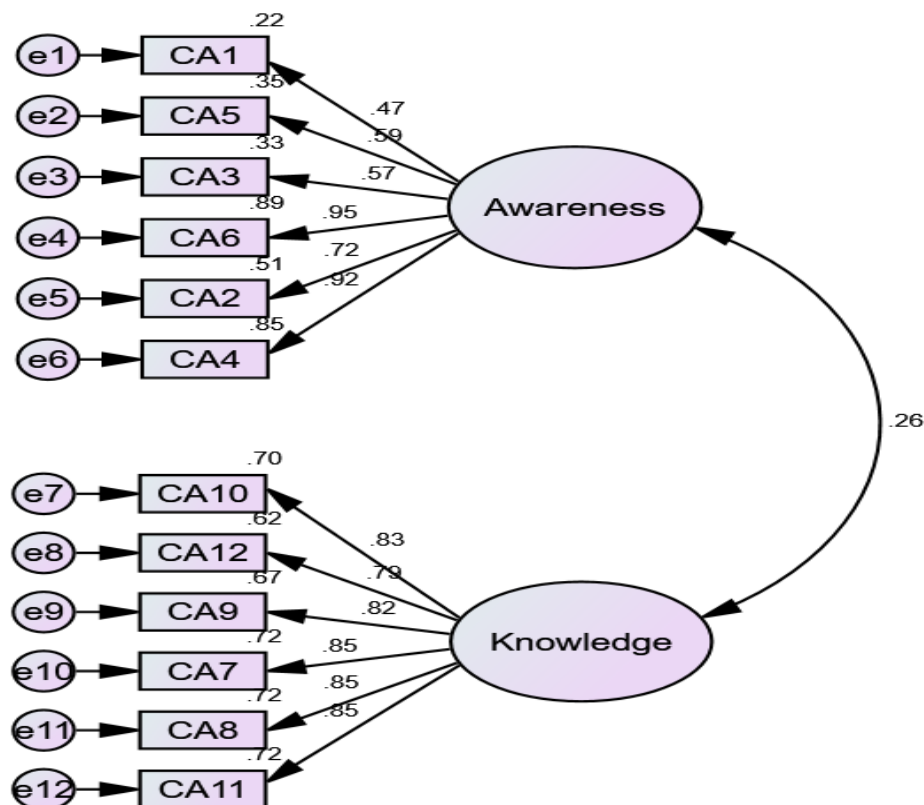
Second Factor: Awareness

Awareness is the second extracted factor which included 6 items i.e., I understand the health advantages of eco-friendly products, I am aware of the advantages of green products to society, I am aware of the qualities of eco-friendly purchases, I am aware of a lot of businesses that produce eco-friendly products, I am aware of the many marks, certificates, and other identifiers that signify an eco-friendly product and I am aware that buying environmentally friendly items will contribute to a more sustainable future. The factor loading for items from range of .632 to .887. Eigen value for this factor is 3.017 and total explained variance is 37.191. The mean value range from 3.2360 to 3.4680. The internal consistency or reliability of the data is measured by Cronbach Alpha. The value of Cronbach is .929 which much higher than minimum acceptable value of .70 and reported scale is reliable.

Confirmatory Factor Analysis (CFA)

First order CFA has been used to validate the scale of consumer awareness. Figure 1 shows the measurement model of the scale. Large circle indicates the latent variables and rectangles indicates observed variables. Values on arrows indicate the standardized regression weights.

Figure: 1 First Order CFA



Source: Amos Output

Table: 3 Model Fit Indices

Model Fit Indices	Default Model	Acceptable Value	Recommended by
CMIN	217.198		(Hu and Bentler, 1999)
DF	53		
P	.000		
CMIN/DF	4.099	Below 5	
GFI	.928	Above .900	
NFI	.946	Above .900	
IFI	.958	Above .900	
TLI	.948	Above .900	
CFI	.958	Above .900	
RMSEA	.079	Below .10	

Source: Primary Data

Table 3 shows the different model fit indices. CMIN for the present measurement model is 2107.198 with the degrees of freedom 53 and probability value of .000. CMIN/DF is 4.099 which less than maximum acceptable value of model fit. All goodness of fit indices e.i., GFI, NFI, IFI, TLI & CFI are greater than minimum acceptable value of .900 which indicate the better fitness of the model. RMSEA should be greater than .10 for better fitness of the model. RMSEA value is .079 which indicate the excellent fitness of the model.

Table: 4 Model Validity Measures

Factors	CR	AVE
Awareness	0.862	0.526
Knowledge	0.931	0.691

Source: Primary Data

Table 4 shows the model validity measures. Composite Reliability (CR) values for awareness and knowledge are 0.862 and 0.931 respectively which are much higher than minimum acceptable value of 0.70 and indicate the no validity concern in the scale. The Average Variance Extracted (AVE) values for awareness and knowledge are 0.526 and 0.691 respectively which are much higher than minimum acceptable value of 0.50 (Hu and Bentler, 1999) and indicate the no validity concern in the scale. It can be concluded that the scale of the consumer awareness is reliable and valid.

Table: 5 Standardized Regression Weights

Items	Path	Factors	Estimate	S.E.	C.R.	P
CA5	<---	Awareness	.592	.124	9.329	***
CA3	<---	Awareness	.572	.121	9.157	***
CA6	<---	Awareness	.945	.156	11.268	***
CA2	<---	Awareness	.716	.147	10.218	***
CA12	<---	Knowledge	.788	.058	20.791	***
CA9	<---	Knowledge	.816	.054	21.923	***
CA7	<---	Knowledge	.850	.049	23.354	***
CA8	<---	Knowledge	.848	.052	23.277	***
CA4	<---	Awareness	.925	.153	11.217	***

Items	Path	Factors	Estimate	S.E.	C.R.	P
CA1	<---	Awareness	.569	-	-	-
CA10	<---	Knowledge	.834	-	-	-
CA11	<---	Knowledge	.849	.052	23.316	***

Source: Primary Data

Table 5 shows the standardized regression weights. The standardized regression weights of each items should be higher than .5 for the fitness of the model (Hu and Bentler, 1999). The standardized regression weights for all the 11 items are in range of .569 to .945 which indicate the excellent fitness of the measurement model,

Table: 5 Results of T-test regarding Consumer Awareness across the Gender

Factors	Gender	N	Mean	SD	T-Value	P-Value
Awareness	Male	299	3.2837	.65286	-2.431	.016
	Female	201	3.4469	.78701		
Knowledge	Male	299	3.4945	.69535	-1.992	.047
	Female	201	3.6368	.83702		
Overall Awareness	Male	299	3.4122	.55279	-2.444	.015
	Female	201	3.5531	.68003		

Source: Primary Data

Table 5 shows the results of T-test regarding consumer awareness across the gender. The significance values (p-values) of the t-test are found less than .05 which are significant at the 5 percent of significance level which indicated that there is significant difference is found in the consumer awareness, consumer knowledge and overall consumer awareness regarding the green durables across the gender. On the basis of mean value, it can be concluded that female consumers are having higher awareness, knowledge and overall awareness of the green durables than male consumers.

Table: 6 Results of T-test regarding Consumer Awareness across the Marital Status

Factors	Gender	N	Mean	SD	T-Value	P-Value
Awareness	Married	374	3.2830	.70250	-3.626	.000
	Unmarried	126	3.5463	.71263		
Knowledge	Married	374	3.4996	.75170	-2.653	.009
	Unmarried	126	3.7063	.75815		
Overall Awareness	Married	374	3.4107	.59976	-3.683	.000
	Unmarried	126	3.6415	.61149		

Source: Primary Data

Table 6 shows the results of T-test regarding consumer awareness across the marital status. The significance values (p-values) of the t-test are found less than .05 which are significant at the 5 percent of significance level which indicated that there is significant difference is found in the consumer awareness, consumer knowledge and overall consumer awareness regarding the green durables across the marital status. On the basis of mean value, it can be concluded that unmarried consumers are having higher awareness, knowledge and overall awareness of the green durables than married consumers.

Table: 7 Results of T-test regarding Consumer Awareness across the Age

Factors	Age	N	Mean	SD	F-Value	P-Value
Awareness	15-25 year	88	3.5587	.71654	6.769	.000
	25-35 year	186	3.4265	.72822		
	35-45 year	161	3.1822	.69217		
	Above 45 year	65	3.2590	.62084		
	Total	500	3.3493	.71359		
Knowledge	15-25 year	88	3.8295	.72321	5.066	.002
	25-35 year	186	3.5207	.83634		
	35-45 year	161	3.4720	.67575		
	Above 45 year	65	3.4615	.68641		
	Total	500	3.5517	.75791		
Overall Awareness	15-25 year	88	3.7206	.61433	7.603	.000
	25-35 year	186	3.4785	.66643		
	35-45 year	161	3.3546	.53043		
	Above 45 year	65	3.3833	.52659		
	Total	500	3.4688	.61043		

Source: Primary Data

Table 7 shows the results of ANOVA-test regarding consumer awareness across the age. The significance values (p-values) of the ANOVA-test are found less than .05 which are significant at the 5 percent of significance level which indicated that there is significant difference is found in the consumer awareness, consumer knowledge and overall consumer awareness regarding the green durables across the age. On the basis of mean value, it can be concluded that younger (15-25 & 25-35 years old) consumers are having higher awareness, knowledge and overall awareness of the green durables than older.

CONCLUSION

From the results of present study, it is concluded that majority of consumers were having knowledge and overall awareness of green durable products. The findings of the study also reported that there is significant difference is found the consumer awareness, consumer knowledge and overall consumer awareness regarding green consumer durables on the basis of gender, marital status and age of the consumers. Further, the study also found that younger married females are having high level awareness, knowledge and overall consumer awareness regarding green durable products than others.

LIMITATIONS

This research may have certain limitations. Firstly, the study will rely on self-reported data, which may be subject to response biases. Secondly, the convenience sampling technique may limit the generalizability of the findings to the broader population. Finally, the research focused only on consumer awareness and may not fully capture actual purchasing behaviors regarding green consumer durable products.

REFERENCES

1. Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2010). Why ethical consumers don't walk their talk: Towards a framework for understanding the gap between the ethical purchase intentions and actual buying behaviour of ethically minded consumers. *Journal of Business Ethics*, 97(1), 139-158.
2. Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2010). Why ethical consumers don't walk their talk: Towards a framework for understanding the gap between the ethical purchase intentions and actual buying behaviour of ethically minded consumers. *Journal of Business Ethics*, 97(1), 139-158.
3. D'Souza, C., Taghian, M., Lamb, P., & Peretiatko, R. (2006). Green products and corporate strategy: An empirical investigation. *Society and Business Review*, 1(2), 144-157.
4. Davari, A., & Strutton, D. (2014). Marketing mix strategies for closing the gap between green consumers' pro-environmental beliefs and behaviors. *Journal of Strategic Marketing*, 22(7), 563-586.
5. Diamantopoulos, A., Schlegelmilch, B. B., Sinkovics, R. R., & Bohlen, G. M. (2003). Can socio-demographics still play a role in profiling green consumers? A review of the evidence and an empirical investigation. *Journal of Business Research*, 56(6), 465-480.
6. Euromonitor International. (2020). The global market for eco-friendly products.
7. Gilg, A., Barr, S., & Ford, N. (2005). Green consumption or sustainable lifestyles? Identifying the sustainable consumer. *Futures*, 37(6), 481-504.
8. Gleim, M. R., & Lawson, S. J. (2014). Spanning the gap: An examination of the factors leading to the green gap. *Journal of Consumer Marketing*, 31(6/7), 503-514.
9. Grunert, S. C., Hieke, S., & Wills, J. (2011). Sustainability labels on food products: Consumer motivation, understanding and use. *Food Policy*, 44, 177-189.
10. Hu, L., Bentler, P.M. (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives" SEM vol. 6(1), pp. 1-55.
11. Kumar, P., & Ghodeswar, B. M. (2015). Factors affecting consumers' green product purchase decisions. *Marketing Intelligence & Planning*, 33(3), 330-347.
12. Lin, P. C., & Huang, Y. H. (2012). The influence factors on choice behavior regarding green products based on the theory of consumption values. *Journal of Cleaner Production*, 22(1), 11-18.
13. Mostafa, M. M. (2007). Gender differences in Egyptian consumers' green purchase behaviour: The effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies*, 31(3), 220-229.
14. Ottman, J. A. (2011). *The new rules of green marketing: Strategies, tools, and inspiration for sustainable branding*. Berrett-Koehler Publishers.
15. Peattie, S., & Crane, A. (2005). Green marketing: Legend, myth, farce or prophesy? *Qualitative Market Research: An International Journal*, 8(4), 357-370.
16. Pickett-Baker, J., & Ozaki, R. (2008). Pro-environmental products: marketing influence on consumer purchase decision. *Journal of Consumer Marketing*, 25(5), 281-293.

17. Roberts, J. A. (1996). Green consumers in the 1990s: Profile and implications for advertising. *Journal of Business Research*, 36(3), 217-231.
18. Tanner, C., & Kast, S. W. (2003). Promoting sustainable consumption: Determinants of green purchases by Swiss consumers. *Psychology and Marketing*, 20(10), 883-902.
19. Thøgersen, J. (2000). Psychological determinants of paying attention to eco-labels in purchase decisions: Model development and multinational validation. *Journal of Consumer Policy*, 23(3), 285-313.
20. United Nations (UN). (2015). *Transforming our world: The 2030 agenda for sustainable development*. United Nations.
21. World Commission on Environment and Development (WCED). (1987). *Our common future (The Brundtland Report)*. Oxford: Oxford University Press.
22. Young, W., Hwang, K., McDonald, S., & Oates, C. J. (2010). Sustainable consumption: green consumer behaviour when purchasing products. *Sustainable Development*, 18(1), 20-31.
23. Zelezny, L. C., Chua, P. P., & Aldrich, C. (2000). Elaborating on gender differences in environmentalism. *Journal of Social Issues*, 56(3), 443-457.