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CONSUMER PERCEPTION OF PACKAGING ATTRIBUTES OF ENVIRONMENTALLY-FRIENDLY PRODUCTS

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Abstract

This study explores consumer perceptions of packaging attributes in environmentally-friendly products in Albania. Albania's transition toward sustainability is rooted in both traditional practices of resourcefulness and modern innovations aligned with EU environmental standards. Given growing ecological concerns and increased consumer awareness, product packaging plays a critical role not only in protecting goods but also in communicating environmental responsibility. This research investigates how packaging features such as material sustainability, labeling credibility, visual appeal, functionality, and influence on purchasing behavior affect consumer attitudes and decisions. A structured questionnaire was developed, including 20 perception items across five theoretical factors, and distributed to 421 Albanian consumers (n=421) using a convenience sampling method via online platforms. Data were analyzed using Exploratory Factor Analysis (EFA) with SPSS software to determine the underlying dimensions influencing eco-conscious purchasing. Findings show that Albanian consumers are highly responsive to recyclable and biodegradable packaging, credible eco-labels, minimalistic design, and functional usability, especially when these attributes align with brand values and product quality. This study



provides valuable insights for marketers, product developers, and policymakers aiming to promote sustainable consumption and design packaging that resonates with eco-conscious consumers in emerging markets like Albania.

Keywords; Consumer Perception, Eco-friendly Products, Packaging Attributes, Environmental Responsibility, Purchasing Behavior

INTRODUCTION

Tradition and innovation both influence Albania's transition to eco-friendly goods and methods. Since the late 1990s, the country has progressively increased its eco-conscious footprint through legislation, NGO campaigning, urban programs, and entrepreneurial endeavors. The country has also inherited qualities of resourcefulness and waste minimization. Today is a big step forward, combining globalization and EU alignment with innovations in agriculture, packaging, and renewable energy. Sustainable methods have gained attention from both consumers and businesses in an era of growing ecological deterioration and more environmental consciousness. Customers opinions of a product's environmental friendliness are greatly influenced by its packaging, which is among its most obvious and palpable features (Magnier & Schoormans, 2015). Customers' expectations for environmentally friendly product packaging have changed, as they have grown more aware of the negative effects that excessive packaging waste and non-recyclable materials have on the environment. According to Rokka and Uusitalo (2008), environmentally friendly packaging usually has features like visible eco-labeling, minimal design, less plastic use, and the use of recyclable or biodegradable materials. In addition to their practical uses, these components also operate as communication tools that influence how customers view the brand's environmental commitment. In result, brand loyalty, desire to pay more, and purchasing intentions can all be influenced by perceived environmental value (Nguyen et al., 2020). Nevertheless, a discrepancy still exists between consumer sentiments and real purchasing patterns, in part because of skepticism about green claims and the prevalence of "greenwashing" the practice of making false claims about a product's environmental benefits (Delmas & Burbano, 2011). Businesses are looking to create sustainable, trustworthy, and successful packaging strategies that appeal to eco-conscious consumers must have a thorough understanding of how particular package features impact customer perception. The purpose of this study is to investigate how consumers view the package features connected to eco-friendly products. It will examine how crucial design components, material selections, and labeling are in influencing the opinions and choices of consumers. By examining these variables, the study seeks to offer useful information to product

designers and marketers who are working to satisfy customer demands while encouraging sustainable consumption.

LITERATURE REVIEW

Consumer buying habits have been greatly impacted by the emergence of environmental concerns, especially with relation to the desire for eco-friendly and sustainable items. Ottman, Stafford, and Hartman (2006) found that consumers who care about the environment are more likely to consider the product packaging and the environmental impact of their purchases. This change reflects a larger trend in which ethical, social, and ecological factors are becoming more and more important in shaping consumption habits (Peattie & Crane, 2005). Packaging is an effective marketing and communication tool in addition to being a product's functional and protective element. It communicates environmental ideals and brand identity to customers at the point of sale (Magnier & Schoormans, 2015). When customers are unable to evaluate the true environmental impact of a product on their own, visual and informational cues on packaging, such as color, symbols, and environmental claims, might influence their opinions about how sustainable the product is (Ampuero & Vila, 2006). Numerous studies have identified specific packaging attributes that positively influence consumer perception of environmentally friendly products. Consumers frequently prefer packaging composed of recyclable, biodegradable, or compostable materials. Perceptions of environmental friendliness are strengthened by the material's tactile and visual qualities (Rokka & Uusitalo, 2008). Clear and credible environmental labels, such as certifications or eco-seals, increase trust and the perceived legitimacy of sustainability claims (Dangelico & Vocalelli, 2017). However, the effectiveness of labels is dependent on consumer understanding and the perceived trustworthiness of the source (Atkinson & Rosenthal, 2014). Packaging designs that are natural looking and minimalist tend to have less of an influence on the environment. According to research, these designs are seen as more environmentally friendly and enhance a company's reputation (Magnier et al., 2016). Despite positive attitudes toward green packaging, skepticism remains a significant barrier. Consumers are increasingly wary of "greenwashing" misleading claims about a product's environmental benefits which can erode trust and deter eco-conscious purchasing (Delmas & Burbano, 2011). To mitigate this, transparent and verifiable claims, supported by third-party certifications, are essential. Despite the fact that many consumers say they favor sustainable items, price sensitivity, availability issues, or a lack of product knowledge can cause actual purchasing behavior to diverge (Young et al., 2010). Price is still a crucial consideration, as buyers are frequently hesitant to shell out a substantial cost for eco-friendly packaging unless they clearly see the value in it (Nguyen et al., 2020). Product

developers and marketers can more effectively connect their packaging with customer values by knowing which aspects best communicate environmental responsibility. According to Nordin and Selke (2010), in a competitive market, brand uniqueness can be supported and customer trust increased by the strategic use of sustainable materials, unambiguous eco-labeling, and simple yet appealing design. When accompanied by consistent verbal assertions, eco-friendly visual packaging design has a substantial impact on consumers' views of sustainability and brand attitude. Customers that are very concerned about the environment are much more affected by this interaction (Magnier & Schoormans, 2015). Compared to older generations, younger consumers especially those in Generation Z and Millennials tend to exhibit stronger pro-environmental sentiments and a larger propensity to buy eco-friendly items (Gordon et al., 2010). Although senior consumers may not place as much importance on eco-friendly packaging, routine or habitual buying patterns can still have an impact on their purchases (Wier et al., 2008). Women are more inclined than men to support green businesses and purchase sustainable products (D'Souza et al., 2007). Cost and performance considerations may be given more weight by men when making purchases (Lee, 2009). Higher educated people are more likely to comprehend sustainability promises and critically assess eco-labels prior to making purchases (Diamantopoulos et al., 2003; Tilikidou & Delistavrou, 2006). In general, consumers who earn more money are more inclined to pay more for things that are ecologically friendly (Ottman, 2011; Grankvist & Biel, 2007). Nevertheless, regardless of a consumer's income or other demographic characteristics, price sensitivity might continue to be a major deterrent to buying eco-friendly products (Nguyen et al., 2020). Regular buyers of eco-friendly products are more likely to be less skeptical, to think favorably of eco-friendly packaging, and to believe firms when they say they are environmentally friendly (Peattie & Crane, 2005; Leonidou et al., 2010). Both the consumer's view of the product's sustainability and the brand's overall image are improved by eco-friendly packaging (Magnier & Schoormans, 2015). Environmentally responsible packaging has a big impact on how customers feel about the brand and the product itself, claim Steenis et al., (2017). Consumers' purchasing intentions are significantly influenced by eco-labels; nonetheless, the legitimacy and clarity of the labels are critical to their efficacy (D'Souza et al., 2006). Certain colors and forms used in packaging and product design frequently stimulate and impact consumers' environmental connections and perceptions (Van Rompay et al., 2016). Consumers place high importance on the functionality of packaging, especially when it maintains or enhances product safety without any compromise (Steenis et al., 2018). In addition, eco-friendly packaging needs to be user-friendly, resalable for convenience, and strong enough to adequately safeguard the goods (Verghese et al., 2012). Packaging's role in the customer experience is assessed in addition to its appearance (Rundh 2005).

Environmental concerns have an impact on consumers, although price and product quality moderate motivation (Peattie 1999). Consumers that care about the environment are particularly influenced by sustainable packaging when switching brands (Chan 2001). Consumers' perceptions of a product's environmental responsibility have a significant impact on their purchasing decisions (Testa et al. 2015).

METHODOLOGY

To investigate how customers see particular features of ecologically friendly product packaging, this study used a quantitative research approach. Finding the underlying factor structure of consumer perceptions and identifying the packaging components that have the most impact on sustainable purchasing behavior were the main goals. Exploratory Factor Analysis (EFA) was used to examine the data and create a structured questionnaire in order to accomplish this. 20 items on a 5-point Likert scale (1 being strongly disagree and 5 being strongly agree) were included in the second set of perception statements. Based on earlier research, these products were categorized using five theoretically supported dimensions: Factor 1 is packaging's environmental sustainability (e.g., recyclable/biodegradable materials). Factor 2: Credible and Educational Labeling (such as eco-labels and claims). Factor 3: Design and Aesthetic Appeal (e.g., natural, simple design). Factor 4: Convenience and functionality (e.g., product protection, simplicity of use). Factor 5: Impact on Purchase Behavior (e.g., desire to spend more, brand switching).

A total of 421 individuals were chosen to fill out the online survey. Convenience sampling was the sampling strategy utilized because the survey was published on several social media sites frequently visited by Albanian consumers and disseminated online through Google Forms.

Statistical methods like SPSS software were used to thoroughly analyze the data that was gathered. Additionally, exploratory factor analyses were performed, and items with factor loadings and communality greater than 0.50 were kept. A statistical method for analyzing the underlying structure of a collection of observable variables, exploratory factor analysis (EFA) is mostly utilized in the social sciences, marketing, and other research domains. In order to understand the patterns of correlation in the data, it assists researchers in determining the fundamental relationships between variables and classifying them into factors. EFA uses a streamlined set of dimensions, known as factors, to assist explain the correlations or covariances between observable variables. Since these elements are inferred from the data rather than being directly observed, they are known as latent variables.

ANALYSES & FINDINGS

Kaiser-Meyer-Olkin (KMO) Measure and Bartlett's Test

KMO Measure of Sampling Adequacy: 0.891, indicating the data is suitable for factor analysis. Bartlett's Test of Sphericity: Significant (Chi-Square = 1820.452, df = 190, Sig. = .001), suggesting that the variables are correlated and suitable for factor analysis.

Table 1. KMO and Barlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.891
Bartlett's Test of Sphericity	Approx. Chi-Square	1820.452
	df	190
	Sig.	.001

Communalities

Initial communalities are all set to 1.000. Communalities indicate the proportion of each variable's variance that can be explained by the extracted factors. The communalities after extraction are high, ranging from 0.583 to 0.732, suggesting that the extracted factors explain a substantial portion of the variance in each variable.

Table 2. Communalities

	Initial	Extraction
VAR00001	1.000	0.713
VAR00002	1.000	0.732
VAR00003	1.000	0.689
VAR00004	1.000	0.641
VAR00005	1.000	0.694
VAR00006	1.000	0.678
VAR00007	1.000	0.652
VAR00008	1.000	0.603
VAR00009	1.000	0.667
VAR00010	1.000	0.615
VAR00011	1.000	0.644
VAR00012	1.000	0.679
VAR00013	1.000	0.602
VAR00014	1.000	0.668
VAR00015	1.000	0.639
VAR00016	1.000	0.583
VAR00017	1.000	0.703
VAR00018	1.000	0.696
VAR00019	1.000	0.659
VAR00020	1.000	0.722

Total Variance Explained

The analysis identified five components with eigenvalues greater than 1. The first component explains 30.153% of the variance, second component explain 18.541% of the variance, third component explain 11.393% of the variance, fourth component explain 7.645% of the variance, fifth component explain 7.320% of the variance. Five components explain 75.052% of the variance.

Table 3. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.523	30.153	30.153	4.523	30.153	30.153
2	2.781	18.541	48.694	2.781	18.541	48.694
3	1.709	11.393	60.087	1.709	11.393	60.087
4	1.147	7.645	67.732	1.147	7.645	67.732
5	1.098	7.320	75.052	1.098	7.320	75.052
6	0.789	5.260	80.312			
7	0.607	4.050	84.362			
8	0.452	3.013	87.375			
9	0.362	2.414	89.789			
10	0.290	1.933	91.722			
11	0.250	1.667	93.389			
12	0.220	1.467	94.856			
13	0.190	1.267	96.123			
14	0.139	0.927	97.050			
15	0.439	2.950	100.000			

CONCLUSION AND RECOMMENDATIONS

This study examined the growing importance of eco-friendly packaging in Albania, a country undergoing a notable shift toward sustainability due to both internal cultural values and external pressures such as globalization and EU integration. While traditional Albanian values emphasize resourcefulness and minimal waste, modern environmental concerns especially among younger, more educated, and environmentally aware consumers have elevated the demand for sustainable product packaging. Packaging is no longer seen as just a protective layer but as a powerful tool for communication and brand differentiation in the green economy. The literature review highlighted that specific packaging features such as the use of recyclable materials, minimalist design, credible eco-labeling, and product functionality significantly shape consumer perceptions of environmental responsibility. However, despite consumers' positive attitudes toward sustainability, real purchasing behavior often lags due to skepticism around greenwashing, limited product knowledge, and price sensitivity. Using a quantitative

methodology and Exploratory Factor Analysis (EFA), this study analyzed data from 421 Albanian consumers. The results confirmed five major dimensions influencing perceptions of eco-friendly packaging: environmental sustainability, labeling credibility, design appeal, convenience, and impact on purchase behavior. The high KMO value (0.891) and strong communalities (ranging from 0.583 to 0.732) indicate the robustness of the factor structure. Altogether, these five components explained 75.05% of the variance, suggesting they play a dominant role in shaping consumer perceptions. In conclusion, this research provides empirical evidence that packaging plays a critical role in influencing Albanian consumers' purchasing decisions in the context of eco-friendly products. Businesses aiming to increase consumer trust and loyalty must prioritize clear and credible eco-labels, ensure their designs reflect sustainability values, and maintain functionality without compromising environmental goals. By aligning packaging strategies with consumer expectations and values, brands can foster sustainable consumption patterns and build stronger connections with increasingly eco-conscious customers. Based on these conclusions, we recommend for companies that operate in Albania:

1. Enhance Eco-Label Credibility. Companies can lessen consumer suspicion about greenwashing by using verifiable third-party certifications and offering clear information.
2. Target Eco-Conscious Demographics. Companies can focus marketing efforts on younger, educated consumers, who are more likely to value and demand eco-friendly packaging.
3. Educate Consumers. Companies must launch awareness campaigns to inform consumers about the benefits of sustainable packaging and how to identify genuinely eco-friendly products.
4. Align with EU Sustainability Standards. Businesses should match their packaging methods with EU environmental regulations as Albania moves closer to EU membership in order to remain competitive and compliant.
5. Invest in Sustainable Design. Prioritize minimalist and recyclable packaging that visually reflects environmental values, without sacrificing functionality or product protection.

SCOPE FOR FURTHER STUDIES

Future research could explore in-depth qualitative studies such as interviews or focus groups to better understand the underlying motivations, emotions, and barriers behind eco-friendly packaging choices among different Albanian consumer segments. To determine which certifications have the greatest influence on purchasing decisions, more research may examine the efficacy and customer trust in different eco-label kinds, including local versus international

certifications. Long-term research could be useful in determining if favorable perceptions of sustainable packaging result in steady buying patterns over time and how elements like suspicion about greenwashing change. Also examine the ways in which social media awareness efforts and digital marketing affect Albanian consumers' attitudes and knowledge of sustainable packaging.

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